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PUBLIC DOCUMENTS

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 2



MADISON

DEMOCRAT PRINTING COMPANY, STATE PRINTER

1916

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SIXTH ANNUAL REPORT

OF THE

RAILROAD COMMISSION

OF WISCONSIN

From June 30, 1911, to June 30, 1912

PART I.



MADISON, WIS.

DEMOCRAT PRINTING COMPANY, STATE PRINTER

1912

MEMBERS
OF THE
RAILROAD COMMISSION OF WISCONSIN

JOHN H. ROEMER

Chairman

HALFORD ERICKSON

DAVID HARLOWE

J. M. WINTERBOTHAM

Secretary.

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LETTER OF TRANSMITTAL

MADISON, WIS., DEC. 2, 1912.

To his Excellency, FRANCIS E. MCGOVERN, *Governor.*

As required by law, we have the honor to submit our Annual Report containing an account of all matters pertaining to this office from June 30, 1911 to June 30, 1912.

RAILROAD COMMISSION OF WISCONSIN

By JOHN H. ROEMER,
Chairman.

PART I

The Work of the Commission

- A. GENERAL**
- B. STATISTICAL**
- C. ENGINEERING**

PART I.

THE WORK OF THE COMMISSION

INTRODUCTORY

The work of the Commission, as in previous years, will be discussed in our report under the three general divisions into which it most naturally subdivides itself. The general portion of this report includes a summary of the different matters which were before the Commission during the year, and a discussion of subjects bearing upon its administrative work. The statistical division of this report summarizes the principal facts relating to the organization and work of a statistical nature pertaining to railroads and public utilities and includes a resume of the development of railroad and utility business in the state during the year. The detailed statistical tables and the unit cost tabulations constitute a separate section of the report. The engineering work of the Commission is reported in the third section of part I of this report.

A. GENERAL

During the past year the number of hearings scheduled, as shown by our monthly calendar, amounted to 530, of which 326 involved railroad matters, 187 concerned utilities, and the remainder related to stock and bond issues and certificates of convenience and necessity. The number of cases of each class set for hearing during each month is shown in the following table:

REPORT OF THE RAILROAD COMMISSION.

COMMISSION CALENDAR.
SHOWING NUMBER OF CASES SET FOR HEARING EACH MONTH.

	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Total.
Railroad.....	9	2	37	31	26	37	33	24	40	31	31	25	326
Utility.....	5	1	32	15	18	16	12	12	15	23	21	17	187
Stock and bond.....	.....	1	1	2	1	.....	2	1	4	1	1	1	2
Convenience and necessity.....	.....	1	1	2	1	.....	2	1	4	1	1	1	15
Total.....	14	4	71	48	45	53	47	37	59	55	53	44	530

Complaints and Applications: During the year 1,095 complaints and applications were filed with the Commission, of which 541 were of an informal nature. The most marked increase was in the number of formal railway complaints and applications, which numbered 282, or 107 more than during any previous year, but increases in the other classes of complaints were not far short of this. The following table shows the number of complaints and applications of each class and the number of suits against the Commission during each year since its organization:

	Railways.		Utilities.		Stocks and bonds.	Convenience and necessity.	Suits against Commission.
	Formal.	In-formal.	Formal.	In-formal.			
June 30, 1905 to June 30, 1906	57	350	.....	.....	.....	.....	.....
June 30, 1906 to June 30, 1907	107	630	.....	.....	.....	.....	.....
June 30, 1907 to June 30, 1908	131	673	83	246	39	14	4
June 30, 1908 to June 30, 1909	175	642	67	496	45	12	3
June 30, 1909 to June 30, 1910	157	432	57	144	58	16	2
June 30, 1910 to June 30, 1911	167	285	98	87	54	12	5
June 30, 1911 to June 30, 1912	282	402	109	139	143	10	10

The next table is a statement of the number of complaints of each class, filed during each month of the past year. It will be noted that the number of subjects coming before the Commission during a single month ranged from a minimum of 58 to a maximum of 122.

	Railways.		Utilities.		Stocks and bonds.	Convenience and necessity.	Suits vs. Commission.	Total.
	Formal.	In-formal.	Formal.	In-formal.				
July	14	21	11	13	3	1	.....	63
August	20	36	11	24	9	.....	3	103
September	12	22	7	13	2	2	1	59
October	21	30	12	12	7	.....	3	85
November	24	36	8	9	4	1	.....	82
December	23	27	8	10	7	1	1	77
January	41	39	5	15	10	1	.....	111
February	33	55	6	16	6	3	.....	119
March	23	31	13	8	5	1	2	83
April	24	41	10	5	31	.....	.....	111
May	24	36	8	6	48	.....	.....	122
June	23	28	10	8	11	.....	.....	80
Total	282	402	109	139	143	10	10	1095

We have summarized and are showing in tabular form the character of the matters that have arisen in the formal cases during the past year. As shown in the following tables the number of matters involved exceeds the number of complaints filed. This is due to the fact that many of the complaints included more than one subject.

QUESTIONS INVOLVED IN FORMAL RAILROAD CASES.

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total
Station facilities	1	.....	1	.....	2	6	3	3	1	2	5	1	25
Track .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
Service	1	3	4	8	5	7	8	2	5	8	5	3	59
Claims .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Damages .....	.....	.....	.....	2	.....	.....	.....	1	.....	.....	.....	.....	3
Rates	5	3	2	3	7	5	10	11	7	3	4	8	68
Overcharges	3	7	1	2	1	1	2	2	1	6	1	1	28
Crossings	1	3	3	7	5	9	15	10	6	4	1	3	67
Demurrage .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	9
Discrimination .....	.....	2	.....	.....	.....	.....	.....	1	.....	.....	.....	1	4
Bridges	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Rules	1	1	1	.....	.....	.....	1	2	.....	.....	.....	.....	6
Switching charges	1	.....	.....	.....	1	.....	.....	.....	1	3	.....	.....	6
Miscellaneous .....	.....	1	.....	3	.....	2	1	.....	2	1	.....	1	11
Total	14	20	12	25	21	30	40	34	24	27	18	26	291

QUESTIONS INVOLVED IN FORMAL UTILITY CASES.

	Application to increase rates.	Complaint regarding rates.	Investigation by Commission on own motion, of rates.	Valuations	Rules	Physical connections	Service	Request for relief from furnishing meters	Failure to comply with Commission orders.	Request to approve or fix purchase price.	Miscellaneous	Total
Electric.....	8	4	2	15	.....	.....	1	.....	6	.....	7	43
Gas.....	4	4	.....	1	.....	.....	.....	.....	.....	1	.....	6
Telephone.....	9	5	.....	2	1	6	8	.....	.....	.....	4	40
Water.....	4	5	2	9	3	.....	2	5	.....	.....	2	32
Total.....	21	18	4	32	4	6	11	5	6	1	13	121

The informal railway and utility matters involved practically the same range of subjects as were under consideration in the formal cases. Following is a summary of the questions raised in informal cases. In the informal utility cases, as in the formal proceedings, the number of issues raised exceeded the total number of complaints, because of the inclusion of more than one subject in some of the complaints.

QUESTIONS INVOLVED
IN INFORMAL RAILROAD CASES.

Train service.....	57	Track.....	7
Claims and overcharge.....	59	Car shortage.....	58
Freight and express service.....	21	Rules.....	4
Freight and express rates.....	23	Demurrage.....	5
Crossings.....	17	Bridges.....	1
Passenger fare.....	25	Delayed shipments.....	6
Switching charges.....	11	Street car service.....	12
Station facilities.....	32	Miscellaneous.....	62

402

QUESTIONS INVOLVED
IN INFORMAL UTILITY CASES.

	Rates.	Rules affecting rates and charges.	Other rules and practices.	Service.	Physical connection.	Miscellaneous.	Total.
Electric.....	13	1	2	8	.....	2	26
Water.....	10	2	2	10	.....	2	26
Gas.....	1	.....	2	2	.....	.....	5
Telephone.....	22	3	2	43	5	10	85
Heating.....	.....	.....	.....	1	.....	.....	1
Total.....	46	6	8	64	5	14	143

Formal Decisions—Railway: During the year the Commission issued 136 formal decisions in matters arising under the provisions of the Railroad Law. The matters which have been most frequently involved in these orders were as follows:

Refunds.....	56	Rate cases.....	12
Dangerous crossings.....	17	Rehearing decisions.....	6
Station facilities.....	11	Passenger service.....	10

Of the other decisions, one involved switching charges, two were investigations of accidents on motion of the Commission, and others related to various matters involving facilities and charges.

During the year thirty-five formal cases were settled without formal action by the Commission; twenty-three cases were withdrawn, and nine were dismissed. At the end of the year one-hundred and forty-four railway cases were pending.

Formal Decisions—Utility: The formal utility decisions issued during the year numbered forty-one, exclusive of valuations. Twenty of these involved utility rates, seven related to service, and others concerned rules and regulations, municipal purchase, and other miscellaneous matters. During the year one decision was issued involving a toll bridge, under the amendment passed in 1911 by which toll bridges were classified as public utilities. Seven formal utility cases were withdrawn during the year, two were dismissed, and six were settled without formal order. At the end of the year seventy-three formal utility cases were pending.

Stock and Bond Issues: The applications for authority to issue stock and bonds reached a total of one-hundred and forty-eight, of which ten were pending on June 30. Issues of securities were authorized as follows:

Stock.....	\$5,132,678.00
Bond.....	61,330,900.00
Equipment trust certificates.....	10,055,000.00
Notes.....	1,097,166.66
Total.....	\$77,615,744.66

Certificates of Convenience and Necessity: During the year the Commission issued eight certificates of convenience and necessity. One case, that of the application of the city of Milwaukee for authority to construct a lighting plant, was pending at the close of the year. In one case the village of West Salem

asked for authority to construct a public lighting plant, or for an alternative order requiring the utility furnishing lighting service to the village to improve the service rendered. After an investigation it was concluded that the improvement of the service of the existing plant would be the best method of adjusting the difficulty and an order requiring such improvement was thereupon issued.

Of the applications disposed of during the year, seven were requests for authority to extend railroad lines. One certificate was issued to a public utility, and one application was disposed of as above stated. One application relating to a utility was pending at the end of the year.

Immigration Agents' Pass Reports: The number of certificates issued and the mileage reported are shown in the following table:

IMMIGRATION AGENT PASS REPORTS,

1911-1912.

Name of Railway.	July	Aug.	Sept.	Oct.	Nov.
Certificates issued.....	(1)	(1)	13	2	2
<i>Amount of Mileage Reported.</i>					
C. St. P. M. & O. Ry. Co.....					
C. & N. W. Ry. Co.....					
D. S. S. & A. Ry. Co.....					
Fairchild & N. E. Ry. Co.....					
M. St. P. & S. S. M. Ry. Co.....	28,165	26,007	25,767	26,617	19,330
Total.....	28,165	26,007	25,767	26,617	19,330

Name of Railway.	Dec.	Jan.	Feb.	March	April	May	June	Total.
Certificates issued.....	14	36	15	10	21	19	21	153
<i>Amount of Mileage Reported.</i>								
C. St. P. M. & O. Ry. Co..						1,168	4,507	5,675
C. & N. W. Ry. Co.....							214	214
D. S. S. & A. Ry. Co.....						826	625	1,451
Fairchild & N. E. Ry.....	100	126	159		138	245	222	990
M. S. P. & S. S. M. Ry. Co..	19,789	6,808	20,019	24,564	30,838	33,097	33,036	294,057
Total.....	19,889	6,934	20,178	24,564	30,976	35,336	38,604	302,387

¹ No certificates issued.

Passes, Other than to Immigration Agents: At the time of compiling this report the pass reports of the Chicago, Milwaukee & St. Paul Railway Company for the months of August

and June were not available, and the same applied to the May and June reports of the Chicago & North Western Railway Company. With these omissions the number of passes reported was as follows:

C. M. & St. P.....	1,072	La C. & S. E.....	469
C. & N. W.....	11,502	M. T. & W.....	119
C. St. P. M. & O.....	5,030	M. St. P. & S. S. M.....	1,123
C. B. & Q.....	3,136	Wis. & Nor.....	905
D. S. S. & A.....	1,069	Wis. P. S. Co.....	262
F. & N. E.....	70		
Gt. No.....	864	Total.....	26,218
G. B. & W.....	588		

TARIFF DEPARTMENT.

The work of this department during the fiscal year ending June 30, 1912, was of the same general character as that given in previous reports. The provisions of ch. 160, Laws of 1911, however, had the effect of increasing the work to a considerable extent. This law went into effect May 17, 1911. It provides, in substance, that no change shall be made in any schedule of rates, or in any classification, unless such change shall be first approved by the Commission. Prior to the enactment of this law the Commission's approval of changes in rates or classification was not required.

The approval by the Commission of changes in rates or classifications before such changes may be lawfully made, as provided in ch. 160, Laws of 1911, in effect requires the Commission to pass upon the reasonableness or expediency of all changes of this kind proposed by the railroads. During the year covered by the present report there were filed with the Commission 1,006 requests for approvals of changes in rates or classification, rules, etc., affecting rates which the railroads doing business in this state desired to make. Even under the most favorable conditions, that is, with full information at hand as to the effect of proposed changes, why such change is to be desired, etc., it is not quite clear in all cases just what action should be taken by the Commission. The applications for approval as filed by the railroads do not, however, as a general thing, furnish the complete information necessary to a full understanding of the conditions that exist, and the conditions that the changes proposed, if made, would bring about. It is, therefore, necessary for the

Commission to make an independent investigation into the merits of most changes proposed by the railroads.

As stated above, more than one thousand applications for approval of changes were filed with the Commission during the year ending June 30, 1912. The changes proposed in these applications vary from a single rate on one commodity from one point to another on the same railroad to changes that involve many rates on many commodities between many points on various railroads. Out of a total of one thousand and six applications passed upon by the Commission, nine hundred and fifty-six approvals were issued and approvals on the balance, fifty applications, withheld. Each approval issued did not cover the exact change applied for. The railroads interested were induced, in many instances, to modify or extend their application so as to eliminate certain features or add certain changes found on the Commission's investigation to be advisable. Nearly all of the approvals issued covered changes effecting reductions in rates. Applications on which approval was withheld or refused covered, except in one or two instances, changes that would, if put in force, effect advances in rates. Owing to the large amount of correspondence, tabulations, etc., accumulated in connection with this work, it is impracticable to enter into the details of each case for publication in this report. The full correspondence, etc., in connection with each application is filed with the Commission in such shape that it may be readily examined by anyone interested.

THE COMMISSION AS A BOARD OF ARBITRATION.

During the last year the Commission has on two occasions acted as a board of arbitration in matters involving public utilities, but which would not have come before it in the regular course of procedure outlined by the Public Utilities Law.

The first of these cases resulted from a joint application of the La Crosse Gas and Electric Company and the La Crosse Water Power Company, that the Commission act as arbitrator in interpreting the meaning of the term "actual station operating costs" as used in a contract between the parties. Because of its experience in dealing with matters of a similar nature in connection with its utility decisions, the Commission was asked

to decide this matter and, so far as known, its decision has been accepted without protest.

The other matter in which the Commission acted as a board of arbitration was the joint application of the Waupaca Electric Light and Railway Company and the city of Waupaca, that the Commission act as interpreter in settling a dispute relating to the quality of service which the city of Waupaca was receiving in its arc lighting. This involved a very thorough investigation of the arc lighting, in which members of the engineering and statistical staffs of the Commission coöperated. Tests were made of arc lamps in a great number of cities. A careful study was made of all sources of information concerning arc lighting and the opinion of the Commission handed down only after what is believed has been the most thorough study of this question ever made in this country. The opinion of the Commission has been recognized by electrical engineers and engineering societies as embodying the foremost investigation along lines of illuminating engineering which has been made in recent years.

THE COMMISSION BEFORE THE INTERSTATE COMMERCE COMMISSION.

Frequently where interstate commerce is involved it is necessary to bring inequalities in rates to the attention of the interstate commerce commission. Acting as petitioner the Railroad Commission has secured a reduction in cheese rates. It is active as petitioner in both the *Express* and *Western Classification Rate Cases*. Fully fifty matters of interest to Wisconsin interstate shippers are brought to the attention of the federal commission each year.

During the past year the interstate commerce commission has been preparing the classification of accounts applicable to telephone utilities doing an interstate business. As the question of uniform accounting of telephone utilities which will be required to report both to the interstate commerce commission and to this Commission is of fundamental importance to both regulative bodies and to the utilities themselves, representatives of this Commission appeared before the interstate commerce commission to explain in detail the working of the Wisconsin system of telephone accounts and the advantages which that

system has been found to possess in connection with the work of regulating telephone rates. During the year the Commission's accounting staff prepared a very carefully worked out brief dealing with the question of telephone accounts and calling attention to some features of the interstate commerce commission classification with which this Commission had taken issue. Copies of this brief were presented to the interstate commerce commission and distributed to parties interested in telephone accounting and the brief has attracted a great deal of attention from telephone men not only in Wisconsin but throughout the country.

SUITS AGAINST THE COMMISSION.

During the period covered by this report several suits have been brought against the Commission to set aside orders.

On August 1, 1911, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company and the Wisconsin Central Railway Company brought an action to set aside the order of the Commission made in the case of *Meyer v. Rib Lake Lumber Co. et al.* 4 W. R. C. R. 178. In that case the Commission required that the railway company operate as a common carrier the line of railway extending between Rib Lake and Spirit Falls, and designated the service that should be rendered. This action is now pending and undetermined in the circuit court of Dane county.

On August 10, 1911, the Union Lime Company and Nast Brothers Lime & Stone Company brought an action in the circuit court of Dane county to set aside the order of the Commission made in the case of *Eden Independent Lime & Stone Co. v. Chicago & North Western Railway Company*, 7 W. R. C. R. 140, requiring the Chicago & North Western Railway Company to construct a suitable side track for the purpose of serving the petitioner's stone quarry and lime kiln at Marblehead, Wis. The plaintiffs in the action in the circuit court were interveners in the proceeding before the Commission and objected to the order of the Commission as it required the extension of a service track which is now serving the plaintiffs' lime kilns, situated just east of the plant of the Eden Independent Lime & Stone Company. This action is pending and undetermined in the circuit court of Dane county.

On August 24, 1911, the Superior Curling and Skating Club commenced an action in the circuit court of Dane county to modify the order of the Commission made in the case of the *City of Superior v. Northern Pacific Ry. Co. et al.* 6 W. R. C. R. 674, in which, by consent of the parties, the Commission acted as an arbitration board to determine the amount of damages which would be sustained by the Superior Curling and Skating Club because of the construction of a viaduct across Belmont avenue in the city of Superior. The order of the Commission was sustained in the circuit court and an appeal from such judgment taken to the supreme court, where same is now pending.

In the matter of the application of the Fairchild & North-eastern Railway Company for a certificate of convenience and necessity for the construction of an extension of its line of railroad, the Commission granted the application. The city of Augusta and the villages of Osseo, Eleva and Strum, being dissatisfied with the action of the Commission, appealed to the circuit court of Dane county. The matter was heard and the action of the Commission sustained by the court. No appeal was taken from the judgment rendered in the action.

On October 5, 1911, the Northern Pacific Railway Company commenced an action in the circuit court of Dane county to set aside the order of the Commission made in the case of *A. P. Nelson v. Northern Pacific Railway Company*, 7 W. R. C. R. 764, wherein the railway company was ordered to run an additional train carrying passengers on its line between Grantsburg and the western boundary line of the state of Wisconsin, so that the citizens of Grantsburg and vicinity might have reasonable passenger service twice daily each way, except Sunday, and that an adequate station building be provided at Grantsburg which should be reasonably adequate for the passenger and freight traffic obtaining at such station. The action involved merely the setting aside of so much of the order as required the operation of an additional train. The circuit court sustained the contention of the railway company. As soon as the judgment is perfected an appeal will be taken by the Commission to the supreme court.

The Chicago, Burlington & Quincy Railroad Company instituted an action in the circuit court of Dane county on December 23, 1911, to set aside the order of the Commission made in

the case of *Schlosstein v. Chicago, Burlington & Quincy Railroad Company*, 8 W. R. C. R. 242, wherein the Commission, pursuant to ch. 483 of the Laws of 1911, required the railway company to stop two passenger trains each way daily at Cochrane, Wis. The action was brought to test the constitutionality of the action. The circuit court sustained the order of the Commission and from the judgment an appeal has been taken to the supreme court, where the same is now pending and undetermined.

The Kaukauna Gas, Electric Light & Power Company on the 25th of March, 1912, brought suit in the circuit court of Dane county to modify or set aside the order of the Commission made on the 26th day of December, 1911, in a proceeding instituted by the city of Kaukauna to acquire the property of the Kaukauna Gas, Electric Light & Power Company. The Commission fixed the just compensation to be paid by the city of Kaukauna for the plant of the light and power company at \$50,000. The contention of the light and power company is that the Commission undervalued the property taken over by the city. The action is now pending and undetermined in the circuit court of Dane county.

On March 25, 1912, the Chicago, Milwaukee & St. Paul Railway Company commenced an action in the circuit court of Dane county to set aside the order of the Commission made in the case of *Town of Mineral Point v. Chicago Milwaukee & Saint Paul Railway Company*, 8 W. R. C. R. 693, wherein, pursuant to sec. 1299h—I of the Statute, the railway company was ordered to reconstruct a certain wooden bridge which is wholly within its right of way and which was found to be out of repair and dangerous to public travel. The railway company in the action challenges the constitutionality of said sec. 1299h—I. This action is now pending and undetermined in the circuit court of Dane county.

B—STATISTICAL.

ORGANIZATION.

The statistical work handled by the Commission is of such a nature that it has been found advisable to organize the statistical staff in two divisions or departments, one department dealing with statistical problems arising from the administration of the law which conferred upon the Commission jurisdiction over railroads, express companies, and telegraph companies, and the other handling work of a somewhat similar nature, under the provisions of the Public Utilities Law. The statistical problems arising in the work of the Commission embrace all classes of business subject to its jurisdiction, and by dividing the statistical staff into two sections each division is enabled to study more thoroughly than would otherwise be practicable, the peculiar problems of the classes of business with which that division is working.

It is probably quite generally realized that the exercise of the state's powers of control over railroads and public utilities, as undertaken in Wisconsin, has given rise to a multiplicity of problems, administrative, engineering, legal, accounting, and statistical in their nature. Nowhere are the evidences of this condition more apparent than in the statistical work. Railroad and public utility operators and owners have been confronted with certain of these problems for a long time, but in exercising the comprehensive control provided by the railroad and public utility laws the Commission has found it necessary to deal with a wide range of statistical matters, many of which have never been fully worked out heretofore.

The lines of statistical research delineated by the statutes upon which the regulations of carriers and utilities is based are in many respects widely divergent. Common carriers, with their state and interstate business, with its division into the various classes of traffic, its relation to various localities and industries, present statistical questions very different from those arising from the control of public utilities, where the business is usually local in character and to a large extent uninfluenced by the existence of other utilities in the same line of business.

In both railroad and utility work, the personnel of the statistical department is made up principally of men with a basis training in accounting, statistics, and economics, who have for the most part obtained the specialized knowledge required by the training received in the Commission's office. Some degree of specialization has been found consistent with the most efficient work of the statistical staff, but within the two general divisions mentioned the work of the department has not been of such a nature that the same degree of subdivision has been necessitated as in some other portions of the work of the Commission.

RAILROAD DIVISION.

The work of the railroad statistical department consists of the supervision and tabulation of the reports of common carriers (street and electric railways excepted), placed under the jurisdiction of the Railroad Commission by ch. 362, Laws of 1905; the derivation of normal unit costs of operation from this and other sources; the conduct of examinations for the purpose of determining the financial condition, and of ascertaining the cost of the services performed; and the preparation of such statistical data as the Commission deems necessary for the determination of facts in cases brought before it. Street and electric railways were included in the provisions of the original Railroad Commission Law and the amendments thereto, but owing to the fact that many of the electric railways in the state are operated in conjunction with power and lighting plants, it has been found more expedient to handle the work in connection with them through the utilities statistical department.

The railroad department has charge of all the regular reports of common carriers to the Commission. Each carrier renders a detailed statement showing the operations both of the company as a whole and of the Wisconsin portion for the year ending June 30. In addition each steam railroad reports for the year ending December 31, this statement covering somewhat different ground. The department prepares the blank forms for both these reports, supervises their preparation, and checks and tabulates them as they are filed.

From these official statements and from other sources the department prepares tabulations of unit costs of operation. For

the separate roads tables covering a period of years are made that any accidental fluctuation may be detected. For the purpose of disclosing the variations, due either to physical characteristics, methods of operation, classes of traffic handled, or the general policy of the roads, of individual systems from a general average, tables dealing with a number of roads are compiled. A wide variety of units is used. Miles of road; the mileage made by locomotives, by trains, by cars; the number of locomotives, the number of freight cars and of passenger cars; the number of passengers, the number of tons of freight carried; and the tons and passenger miles are the most commonly known and important.

Another significant function of the department is the analysis of the costs of operation, together with the operations to which these costs are related, to determine the cost of the various services performed. The failure of the interstate commerce commission classification of accounts to follow cost lines necessitates extensive examination of the original accounts of carriers.

The railroad investigations referred to the department are the most important, the most extensive and the most complex. Railroads transport freight, passengers, mail, express, milk, and baggage; switch cars, serve meals, furnish parlor and sleeping car accommodations, and engage in other services. Many of these services involve two or more distinct types of operation. For example, the freight service includes the terminal handling, either to or from the warehouse, or by switching, and the actual transportation from one terminal to another by train movement. The computations which are made, first, of the total cost of the various services performed and, second, of the cost of the separate operations, require exhaustive research. Examinations of the services of other carriers are of the same nature, but are less complicated.

The procedure in a cost investigation involves the selection of the period to be covered by a comparison, over a number of years, of the balance sheets, the income accounts, the earnings, and the expense and operating data; the adjustment of particular items subject to wide variation by comparison with normal unit costs for the particular road, and railroads in general; rough apportionments of expenses to determine what additional data may be required; tentative examination to determine

a representative period for which additional data should be obtained; the compilation of such additional data by the department or by the railroad on request; the testing of the data thus supplied and recompilation into final form; engineering and statistical tests to determine the apportionment of items that cannot be directly allocated to the separate classes of service; and the final division of totals for individual services between the distinct types of operation involved.

The miscellaneous statistical information essential to the decision of cases pending before the Commission is supplied through this department. This information is of varied character and wide scope. Balance sheets, income accounts, statements of earnings and expenses, and operating data of carriers involved are obtained from reports on file, from the testimony taken in the original hearing of the case, or from special examination of the books of the carriers, and are assembled into the most convenient form for the purpose. The department also furnishes other data bearing on cases before the Commission, such, for example, as the value of commodities, the volume in which they are moved, the weight per cubic foot, the relative profit in the various stages of production, manufacture and distribution.

PUBLIC UTILITY DIVISION.

The Public Utilities Law provides that all utilities shall file with the Commission each year a balance sheet taken from the books of the utility at the close of business on June 30, together with such other information as the Commission shall prescribe. The law further provides that reports by utilities shall contain such information as shall show in itemized detail the various elements of costs per unit of product or service, and that the Commission shall publish in its annual reports the details per unit as so reported. The task of gathering and checking these reports and preparing the details for publication has naturally constituted a part of the duties of the statistical staff. But the work of the department has also embraced a number of other functions which are discussed in the following pages. The various phases of the public utility statistical work are as follows:

I. Preparation of accounting and statistical data for use in formal cases.

II. Preparation of similar data for informal cases.

III. Accounting work, consisting of auditing and checking financial records and furnishing accounting assistance to utilities.

IV. Keeping the files of public utility rates, rules, and regulations and preparing the rates for publication.

V. Determination of unit costs as provided by law.

VI. Collection and compilation of material for reports, as provided by law.

I.

In order to explain as clearly as possible the work of the statistical staff, in its bearing on formal rate cases, it has seemed best to include at this point a statement of such steps in the preparation of the Commission's decision in a formal case as involve work of an accounting or statistical nature.

1. *Preliminary.* In certain of the cases which are handled by the Commission it has been found necessary to compile certain financial and statistical data, to indicate in a general way the lines, along which the Commission's investigation should proceed. In this connection it is necessary to analyze the financial and statistical reports of the utility concerned, to ascertain whether any items of expense appear abnormal, and to indicate what further investigation of the utility's records may be advisable. In some cases, too, a comparison of the unit expenses of the utility with similar units for other plants constitutes a part of the preliminary work which is of a statistical nature.

2. *Final.* In preparing its final report in a formal case the Commission finds it necessary to compile a large amount of financial and statistical data for use in connection with the various processes involved in the preparation of the decision. The nature of the statistical material required is shown below:

A. **INTRODUCTORY.**—In preparing the introductory portion of a decision the Commission finds it necessary to analyze carefully all statistical or financial material presented in the form of exhibits at the hearings. All of these must be compared with information obtained from other sources, such as the utility's reports to the Commission. At this point, also, the Commission is in a position to determine what additional statistical matter

should be obtained and analyzed, and along what lines the analysis should be directed.

B. DETERMINATION OF THE BASIS FOR RETURNS.—The work of the Commission in fixing upon the basis of returns is largely of an engineering nature, but there are certain investigations and processes which involve statistical examinations. These are principally the comparison of various elements of the valuation with other utilities which are comparable, the determination of the nature and extent of the differences between the Commission's valuation and the various values placed upon it by the parties to the case, the investigation of the extent of bond discounts and the circumstances governing, the detailed computations to indicate to what extent allowance should be made for going value, and an examination of the cash balances, of the relation of current assets and prepaid accounts to current and accrued liabilities, and of the frequency of collection and disbursements, to indicate what is a reasonable provision for working capital. The detailed preparation of material bearing upon these portions of the case is primarily a matter for statistical study.

C. INVESTIGATION OF STATISTICS OF OPERATION AND SALES. — This includes a study of all statistics available concerning the operation of the utility and the disposition of its product or service. Portions of the material needed can be obtained from the reports on file with the Commission, but there is very often further information to be obtained which requires an inspection of the utility's records by members of the staff. The statistics which have to be examined in connection with the work on this portion of a case may be grouped under the following headings:

1. *Statistics of load and output.*—An analysis of station load curves and log sheets usually furnishes the needed information.

2. *Statistics of consumption.*—It is often necessary to obtain a complete record of the use made by each consumer, together with the conditions which may affect the demand of that consumer, such as the connected load, the size of meter and of service pipe, and the number and nature of fixtures in use. As a result of these investigations the department has compiled the consumer statistics of a number of plants, which are of use in cases where the utilities are unable to furnish the desired information regarding their own consumers.

3. *Statistics of development of business and saturation of territory.*—These are of value as tending to show to what extent a utility has made use of the opportunities for developing its business, to what degree the investment is being utilized, and the effect which these elements should have upon the earnings. A study of the statistics of saturation has been made under the direction of the department, of which the more important results were published in our last report.

4. *Percentage of consumers and of sales metered.*—Utilities seem, more and more, to be coming to realize that the proper method of disposing of their product or service is on a measured basis. The development of the meter system, particularly in the water supply business, is taking place very rapidly. Often the Commission is called upon to fix rates for water utilities on the basis of the complete metering of the product, although only a small percentage is metered at the time that the case is before the Commission. Necessarily, the amount of revenue to be derived under the meter schedule established is in close relation to the amount of water which will be sold, and it becomes a matter of considerable importance that the Commission have all available statistics relating to the use of water which will be of help in arriving at an estimated use for the utility under consideration. This condition is also found in the electric business, but not to any extent among the gas utilities, as practically all gas sold in the state is metered. The wide fluctuations in the amount of water or electric current used in various localities on a meter basis make it imperative that all statistics bearing upon this subject should be subjected to the most thorough examination with particular reference to the local conditions in each case.

5. *Product lost and unaccounted for.*—In our last report we published a number of tables dealing with this subject. Not infrequently utilities seem to have failed to realize the importance of minimizing the losses in distribution, but these losses have an important bearing upon practically all cases involving the rates of water, gas, electric and heating utilities. Unfortunately, where utilities are supplying consumers on a flat rate basis it is impossible to measure the extent of the distribution losses. It is evident, however, that if these losses are excessive the cost of each unit of product delivered to consumers

will be higher than if the distribution losses are kept at a normal level. In all cases where any check on distribution losses is possible careful comparisons have been made with utilities similarly situated to determine the degree of efficiency reached in distribution, and the effect of abnormal losses, if any, on the cost of delivered product has been determined, in order to show what relation exists between such losses and the rates to be fixed.

6. *Distribution of sales.*—Where a utility supplies several classes of consumers it becomes important for the Commission to know in what way sales are distributed among the various classes, as this is an indication of the directions in which the business may be expected to grow. The statistical department has, therefore, analyzed the records of individual utilities to determine the distributions of sales and to furnish the Commission with the data upon which to base its judgment as to future development.

D. DETERMINATION OF NORMAL OPERATING EXPENSES.—One of the most important steps in connection with the formulation of a utility rate schedule is the determination of normal operating expenses. Expenses of operation and maintenance sometimes fluctuate very sharply, due to causes which are temporary or intermittent in their nature. Also, it is sometimes the case that expenses will show an unusual increase extending over a period of years. These conditions require an investigation to ascertain what items, if any, are abnormal and the causes and extent of variations from the normal. The most usual methods of getting at excessive or abnormal items of expense consist of a comparison of the detailed expenses with those of previous years, with the expenses of other utilities and of a percentage analysis of expenses. When abnormal items are detected an investigation is made of all conditions affecting those items.

E. DETERMINATION OF COST CURVE.—The cost curve of a utility is an indication of the form which a rate schedule should take. The evolution of the cost curves involves a number of statistical processes, of which the more important are enumerated:

Apportionment of expenses.

a. Among different departments in the case of a joint utility, such as a gas and electric plant.

b. Among different operating systems, in cases where the utility considered operates in several localities.

c. Among various classes of expenses, such as capacity, output, and consumer.

d. Among different classes of business, as among street lighting, commercial lighting, and power, in the case of an electric utility.

These apportionments involve a careful consideration of the operating statistics outlined above in order that all features of the local situation of the utility which have a bearing upon any of the steps of the apportionments may receive proper weight.

Computations of the probable revenue under various schedules which the Commission has under consideration also constitute a part of the work of the statistical staff in connection with formal cases.

II.

The work of the statistical department in connection with informal cases arises largely from the fact that the disposition of these cases frequently involves an investigation of the rules and regulations of the utility concerned, which investigation is naturally connected with the work of collecting, filing, and compiling the rates of public utilities, as outlined later in this report.

III.

The accounting work of the department has consisted principally of the work of auditing and checking the annual reports filed by utilities, which is discussed later in connection with the summaries of reports filed, and of furnishing accounting assistance to utilities.

The Public Utilities Law contains the following provisions relating to uniformity of accounts:

Section 1797m—9. The commission shall prescribe the forms of all books, accounts, papers, and records required to be kept and every utility is required to keep and render its books, accounts, papers, and records accurately and faithfully in the manner and form prescribed by the commission and to comply with all directions of the commission relating to such books, accounts, papers, and records.

Section 1797m—11. No public utility shall keep any other book, accounts, papers, or records of business transacted than those prescribed or approved by the commission.

The purpose of these sections is to secure the establishment within the state of uniform accounting procedure for all utilities of the same class. The impression has been rather prevalent among utilities that local conditions and methods of administration would prevent the application of uniform methods of accounting. Many difficulties have been encountered but these have not proved to be inherent in the nature of the enterprises. Uniformity of accounts, within the various classes into which the utilities have been divided, is essential to the compilation of the financial and statistical data necessary for intelligent comparison of results and methods. After careful study the Commission drew up classifications of accounts and prescribed uniform methods of reporting for the various utilities. Detailed explanations of the various accounts were published and distributed to the utilities to which they were applicable but it was found that many utilities were meeting with difficulty in applying the classifications. With the purpose of furnishing all possible assistance in overcoming these difficulties the Commission, on January 1, 1912, employed an expert accountant to investigate accounting procedure and devise ways of furnishing accounting assistance. By June 30, 1912, accounting inspection had been made of the following utilities:

1. State Long Distance Telephone Co.—Elkhorn.
2. Elkhorn Light and Water Commission—Elkhorn.
3. Sharon Gas and Water Department—Sharon.
4. Bloomer Water Department—Bloomer.
5. Rice Lake Water Department—Rice Lake.
6. Red Cedar Valley Electric Company—Rice Lake.
7. Rusk County Rural Telephone Company—Ladysmith.
8. Kilbourn Electric Light and Water Department—Kilbourn.
9. Grand Rapids Water Department—Grand Rapids.
10. Fond du Lac Water Department—Fond du Lac.
11. New London Water and Light Commission—New London.
12. Appleton Water Department—Appleton.

Accounting assistance was rendered to each of these utilities, with the exception of the Rice Lake Water Department, at Rice Lake, where a change in the form of city government made it appear advisable to postpone the work of systematizing the accounts for a short time.

The task of establishing a uniform system of accounts is one which will require a great amount of work. The principal difficulty met with up to the present, is that, with some commendable exceptions, the utilities inspected either did not realize the value of modern accounting practice, or were in a position where its immediate adoption was impracticable. In many instances the bookkeeping has been limited to a record of consumers' accounts and a simple statement of receipts and disbursements, with little or no attempt at analysis or classification. In some cases, too, the relationship between the departments, such as electric and water departments of a combined utility, has been so confused that it has been impossible for the utility to report the actual results of the operation of either department. Considerable interest has usually been manifested by utility officials, but in order to insure the proper accounting methods it is probable that rather frequent inspections will be required. It is to be regretted that in some instances utilities have paid for accounting systems and had them installed without submitting them to the Commission for approval, only to find later that their systems do not meet the requirements of the uniform classification. This is especially unfortunate because in practically all such cases the utilities were making a sincere effort to comply with the Commission's requirements. It is urged very strongly that utilities which have accounting systems installed submit them to the Commission for approval.

At the time of this report the accounting staff is engaged in drafting simple but effective forms, which together with detailed instructions will be printed in book form for distribution to the utilities of the state. An attempt will be made to make these so clear that no utility will encounter difficulty in applying the classification. As far as it is possible the accountants will give personal attention to the requirements of individual utilities, and at the present time there are a number of utilities waiting for assistance which will be extended as soon as possible.

IV.

The utility statistical division handles the work of checking and filing all utility rates and of preparing them for publication. Up to June 30, 1912, there had been filed with the rate clerk approximately 2,800 schedules of utility rates, of which almost half are telephone rates. Many of these schedules are for all classes of service rendered by the utility, and others relate only to one or two classes. Each schedule has to be very carefully examined to detect any discriminatory or otherwise illegal features which may exist. Each amendment must be examined with equal care to ascertain whether it increases rates at any point. This work has to be done thoroughly by men with an adequate knowledge of utility rates. Assistance has to be given informally to a large number of plants in the state, particularly new utilities who have asked for advice concerning rates and rules applicable to their peculiar conditions.

This work has received the attention of a number of utilities in other states and requests for information relating to rates, schedules and to regulations governing the relations between utilities and their patrons have been frequent.

During the six months' period from January 1, 1912, there were filed with the Commission the following schedules and amendments:

	Electric	Water	Heating	Tele- phone	Gas
<i>Filed:</i>					
Amendments.....	22	4	3	14	6
New schedules.....	4			3	
<i>Disposition:</i>					
Accepted.....	21	3	3	17	6
Rejected.....	5	1			
Advised to file formal application..	4				

During the year the department has been engaged in the compilation, for publication, of all rates on file and of such portions of the rules and regulations as have a bearing upon the payments made by consumers. At the time of compiling this report the electric, gas, and heating rates are in print. For purposes of this compilation the electric rates included are

those of June 1, 1912; gas, heating, telephone, and water rates were prepared as of dates later than the end of the fiscal year.

This publication is designed to meet the numerous requests for rates which are received by the Commission.

The electric rates alone make up a pamphlet of 234 pages. The preparation of the rates for publication involved a great amount of careful, painstaking work. At the time the Public Utilities Law went into effect, an attempt was made to require each utility to file its rates and amendments on forms prescribed by the Commission, but it was found impracticable to devise a form which would fit all the types of rates in use. The result was that schedules were filed with almost no uniformity whatever, and the original rates, with amendments subsequently filed, were in such shape that the work of compilation was made very difficult. In order to insure the correctness of the publication of electric rates, a copy of the printer's proof was sent to each utility for examination and correction. In this way a number of differences were detected between the rates in use and those on file, and where these changes amounted to an increase the utilities were advised to file formal applications for the approval of their schedules.

V.

The Public Utilities Law requires the Commission to compile and publish tables showing in detail the costs per unit of product or service of each utility. The compilation of these costs is almost wholly statistical in nature. Owing to the defects in many of the reports filed by utilities, especially by those reporting on the more condensed blanks, the compilation of accurate unit costs for the smaller utilities has been almost impossible. Even among the larger plants circumstances are frequently found which tend to diminish the value of the unit costs obtained, but when these costs are used by persons familiar with the operating conditions and accounting peculiarities of the utilities concerned they have a very high degree of usefulness. For the class A and B utilities the unit cost compilations include the details of cost per unit of product or service, and such unit costs as have been obtained by dividing certain items of expense by units to which these items bear a close relation.

Such unit costs include the various maintenance expenses per unit of equipment maintained, commercial expenses per commercial consumer, and a number of other classes of expenses which bear a more or less intimate relation to units other than those of product or service. In our 1911 report we included a number of tables of such unit costs for a three year period. This year it is the intention to publish the unit costs for 1912 in as great detail as the condition of the annual reports will make possible.

VI.

The collection and compilation of material for reports includes a part of the accounting work of the department, as stated above, and includes also the compilation of the unit costs. The greater part of the work in connection with the statistical portion of the annual report consists of the securing of reports from the various utilities, the auditing or checking and the tabulation of these reports. Every one of the reports filed with the Commission is subjected to a detailed checking and auditing and all necessary adjustments are made before the reports are finally placed on file and tabulated. In almost all cases these adjustments are made by correspondence, and it is estimated that 2,500 letters are sent out each year in connection with the work of checking the original returns submitted by the utilities. Following is a discussion of some of the difficulties which are most prevalent.

REPORTING ON REVENUE AND EXPENSE BASIS.

The only thoroughly scientific method of accounting is one which shows revenues *earned* and expenses *incurred*, regardless of the handling of cash. The Commission's classifications are prepared with the end in view of showing the earnings and expenses, and among the larger utilities this is pretty well understood. A considerable number of the small utilities, however, continue to report cash receipts and cash disbursements. It is not always possible to detect when this is being done, but whenever noted, a letter is written explaining the principle of the accrual system of reporting and the company is advised to change its accounting practice to a more scientific basis. Such utilities generally show a willingness to comply with the Commission's advice but

at the same time express their inability to readjust their systems. As the Commission's accounting staff is unable to handle all the requests for assistance as they are received, we have been obliged to accept these cash statements until such time as it will be possible to send a representative to install new systems.

THE SURPLUS ACCOUNT.

A very common source of error and confusion is the treatment of the surplus account. The classification is so planned that after gross income or deficit has been determined, the net income or deficit is arrived at by making deductions for interest, contractual sinking fund requirements, and amortization reserve requirements. The net income is then reduced by dividends, if any, and the resulting surplus for the year obtained. If there are no further adjustments to be made to income, the surplus of the year plus last year's surplus, as shown by the balance sheet, should give the surplus appearing in the balance sheet at the close of this year.

The difficulty met with consists of a failure to properly close the surplus from the income account into the balance sheet. The discrepancies are brought about in a variety of ways. In cases where the income account is strictly a cash receipt and disbursement report, the surplus for the year may in reality be the cash on hand and in any event has no real relation to the true surplus earnings. In such instances it is impossible to check out the surplus account. Sometimes the error comes from the omission of income deductions such as interest on funded debt, etc. Another source of error arises from the misinterpretation of "Deductions from gross income." As reports are being audited, it is not at all uncommon to find deductions for "Construction," "Notes paid," "Interest paid," etc., which should properly affect balance sheet accounts only. In short, the whole difficulty seems to come from a lack of appreciation of the relation between the income account and balance sheet.

Before final tabulation of the reports, efforts are made through correspondence to reconcile these errors. In many instances the correspondence results in satisfactory adjustments, but in others nothing short of an individual audit would clear up the questions. In such instances the Commission's accountants

check with particular care the items of the income account down to surplus for the year. Improper deductions, such as "Construction," etc., are excluded so that at any rate the *surplus for the year* is accurately determined.

STEAM GENERATION APPORTIONMENT ACCOUNT.

This account still continues to cause difficulty among utilities in reporting to the Commission. The trouble is met with most frequently in small utilities where one or two men perform all the kinds of work done. The Commission is gradually getting these utilities to realize the value and importance of apportioning labor as between steam cost and power cost, so that considerable improvement has been made in this regard. This has come about partly through installation of accounting systems which take care of apportionments, but has been principally remedied through correspondence.

INCOMPLETE BALANCE SHEETS.

The Commission's accountants have found it necessary to carry on considerable correspondence with small utilities who fail to present a balance sheet at all or else present one incorrectly prepared. To some of them, who are accustomed to no other form of statement than a trial balance, a balance sheet seems to present many difficulties. It is sometimes found that items of revenue and expense have been reported in the balance sheet, and these must either be excluded or else closed into the surplus account before the statement can be accepted. Probably the commonest cause of incomplete balance sheets is the absence of accurate construction records as a basis for reporting plant book value, the plant value in small utilities being in a number of instances merely a rough estimate.

In municipal utilities another error is met with, namely the omission of funded debt which comes from the fact that the bonds appear on the general city books and not in the utility department records.

As much assistance as it is possible to render by correspondence has been given in these cases, and satisfactory adjustments generally reached.

MUNICIPAL ACCOUNTING.

One problem that has been very hard to handle is the adjustment of municipal reports. It is the purpose of the uniform classification to make utilities of the same class, regardless of form of ownership, comparable with one another. In bringing the accounting procedure of municipal utilities into line with these uniform rules, many more obstacles and difficulties have been met with than in the case of the private plants.

The Commission has taken the attitude that a municipal plant should report earnings for services furnished by one department to another in the same way as though the utility stood apart from the general city administration. Thus, hydrant rentals should be reported as an earning to a municipal plant, even though, as some municipal clerks have said, "It is only taking something from one pocket and putting it in the other." The fact remains, that the utility has furnished the service and has *earned* a return for it, regardless whether or not it actually has any more cash on hand to show for it. Unless such interdepartmental transactions are reported, no fair comparisons can be made between privately and municipally owned plants.

The fault does not necessarily lie with the administration of the municipal utilities themselves, but should rather be attributed to the weaknesses in the entire accounting method which prevails in many of our cities. It is a difficult task to accomplish any permanent advancement or improvement in the accounting procedure of a municipal utility when the entire municipal system coupled up with that utility's administration may be unscientific and inadequate. Just as soon as any attempt is made to regulate the utility end of it, the necessity of reforming the entire municipal accounting procedure becomes obvious. If it is the city's practice to cover all transactions with the general fund and to make little or no attempt to show operations of departments as separate activities, it is difficult to require that the procedure affecting the utility be revised without adjusting the other operations so that they are harmonious throughout.

The Commission has pointed out to municipal plants the importance of segregating their transactions as far as possible from general city business. It is to be hoped that coöperation

with other state departments will be able to arouse the cities to realize the inadequacy of much of the present municipal accounting and to institute reforms in municipal accounts which will show separately the operations of each department of the city.

APPORTIONMENT OF INCOME ACCOUNTS BETWEEN URBAN AND INTERURBAN RAILWAY BUSINESS.

Electric railways furnishing both city and interurban service should make apportionment so that the revenue and expenses of each may be determined separately. This is of vital importance in rate cases where the profit made on the strictly urban business is a determining factor affecting charges in rates. The electric railways apparently have not generally appreciated the importance of this in the past, so that this year, when the report blanks were sent out, the Commission also sent supplementary blanks on which the roads were to apportion their urban and interurban business.

The results, although offering encouragement, show that there is still considerable room for improvement. Of the total of twenty-seven companies, ten were companies whose business is strictly urban and which would not be expected to file the supplement. Among the remaining seventeen there are two companies whose business is strictly interurban and which are consequently excused from filing a supplement. Seven companies that were doing both urban and interurban business failed to make a separation. Eight companies doing both urban and interurban business made the proper apportionments.

The information called for in this supplementary blank is a separation as between urban and interurban business for revenues and expenses, and for traffic and mileage statistics. The importance of making these separations is not fully appreciated in some instances and consequently they have been ignored. A few of the considerations that make it necessary to call for such apportionments might be mentioned here.

There are a great many differences in the conditions under which the two kinds of systems are operated. In right of way, for example, there are important differences. An urban system generally obtains its right of way through a franchise, perhaps

subject to certain limitations, whereas an interurban line generally owns its right of way as private property. The urban line is laid through city streets; its track is imbedded in the paving; heavier rails are generally required; the company may have to bear part of the expense of paving and is almost universally obliged to sprinkle its trackway and clear away the snow and ice. It is also put to extra expense by being obliged to set up iron instead of wooden poles. As contrasted with these conditions, the interurban line is laid in ballast with rails more or less exposed, thus limiting the expense of paving obligations; lighter rails are often used, the company has no obligation other than to itself in keeping clear its right of way; it may use wooden poles.

Rolling stock for the two is different. The interurban lines use somewhat heavier cars than the urban and the former sometimes do a more diversified business which calls for the rolling stock adapted to the handling of freight, mail, and express.

In the operation of cars, the urban system has to adjust its speed to a rather low rate; its service requires many stops; it is subject to high grades and rush hours which tend to make wear and tear more destructive. The interurban operation permits of much higher speed; fewer stops are required; there are higher line losses; and the average length of passenger haul is greater.

Fares on an urban system are on a flat rate basis and do not vary with the distance, whereas interurban fares are on either a mileage or zone system, so that they vary with the distance.

These points are indicated simply to show under what very different conditions the two systems operate. Since one of the chief objects of the uniform classification of accounts is to permit of fair comparisons between utilities, it is evident that there must be a segregation of urban from interurban business before the operation of electric railways can be compared to best advantage. If the business of the two systems is combined, an attempt to compare one line having urban and interurban traffic with one having strictly urban traffic would be meaningless.

PHYSICAL DATA.

Aside from the defects pointed out above, relating to financial reports, many utilities have rendered incomplete reports of their physical equipment and statistics of operation. The Commission has found it necessary in many instances to insist upon the reporting of physical data called for. Generally the utilities are able to furnish this information, but through carelessness or else a failure to appreciate the importance of these facts, much of this information has often been omitted. For electric utilities such data as Central station equipment, Distribution line data, Meters and transformers in use, Connected load, Maximum demand, Consumers and generation statistics are of the greatest importance for comparative purposes. In water utilities the equally important items are Source of supply, Pumping station equipment, Distribution mains, Reservoirs, services and meters in use, Consumers and pumping statistics. For each class of utility there are physical statistics which must be reported in order to enable a full understanding of the operation of the plant to be reached. Where omissions have been made, it is often possible through correspondence to get the information needed, but in small plants, where no station records have been kept and where there are no instruments to measure current or pumpage, only rough estimates are available. The introduction of proper station records and measuring devices would remove the sources of difficulty now met with.

DEVELOPMENT OF RAILROAD BUSINESS DURING
THE YEAR.

Railroad earnings in Wisconsin, both gross and net, showed considerable improvement in the year ending June 30, 1912, over the preceding year. Gross operating revenues were the largest ever recorded for the state, but net revenues, due to an increase in operating expenses, were less than those for 1910.

As compared with the preceding year, freight revenue, as shown by the following table, increased \$2,230,241, or 5.02 per cent, passenger revenue \$370,524, or 2.51 per cent, and the total operating revenues \$3,046,599, or 4.74 per cent. Operating

expenses also increased by \$1,685,254, leaving the net operating revenues for 1912 \$1,361,345 or 6.73 per cent more than for 1911. The opening for operation of nearly two hundred miles of newly constructed road accounts for a part of the increase; but even when reduced to the per mile basis the results for 1912 are the more favorable. Operating revenues per mile were for 1912 \$9,035, for 1911 \$8,762; operating expenses for 1912, \$6,135, for 1911, \$6,002; leaving the net operating revenues for 1912, \$2,900, for 1911, \$2,760.

The number of miles of road operated in Wisconsin advanced from 7,427.50 June 30, 1911, to 7,586.35 June 30, 1912. This increase is due mainly to the opening of the Milwaukee Necedah line by the Chicago & North Western Railway company. The miscellaneous pieces of construction by the various roads are about offset by the tearing up of several of the small logging roads.

The mileages given above include all the roads operating as common carriers. The revenues and expenses, for various reasons, exclude those of the Cazenovia & Sauk City Railroad, the Chicago & Lake Superior Railway, the Dunbar & Wausaukee Railway, the Hillsboro & Northeastern Railway, the Fairchild & Northeastern Railway, the Laona & Northern Railway, the Marathon County Railway, the Robbins Railroad, the Roddis Lumber and Veneer Co., the Prairie Farm & Southwestern Railway, the Superior & Southeastern Railway, the Waupaca Green Bay Railroad, and the Whitcomb & Morris Railway. The income accounts for the state as a whole, excluding the above named roads, for the last three fiscal years are presented in the following pages:

STEAM RAILROADS.
REVENUES, EXPENSES AND TAXES—WISCONSIN.
Years Ending June 30, 1912, 1911, and 1910.

Italic figures denote deductions.

	1912	1911	1910
OPERATING REVENUES.			
Freight.....	\$46,640,129 53	\$44,409,838 77	\$46,353,807 41
Passenger service trains:			
Passenger.....	\$15,142,952 93	\$14,772,429 31	\$14,102,642 40
Excess baggage.....	219,832 42	209,060 83	208,175 30
Mail.....	1,342,992 69	1,324,242 82	1,320,543 38
Express.....	1,952,432 97	1,756,950 20	1,678,920 77
Milk.....	218 645 58	210,572 99	184,901 51
Other.....	47,205 07	41,316 95	31,366 68
Total passenger service train revenue	\$18,924,091 68	\$18,314,573 10	\$17,525,910 04
Switching.....	1,037,111 75	957,134 37	785,044 07
Special service train.....	39,580 64	40,734 62	40,846 44
Miscellaneous transportation.....	39,129 23	39,078 75	33,226 92
Total revenue from transportation....	\$66,680,052 81	\$63,761,359 61	\$64,738,874 88
Non-transportation revenue.....	468,662 33	369,271 56	368,513 82
Joint facilities revenue—Dr.....	<i>10,463 95</i>	<i>3,855 69</i>	<i>2,422 00</i>
Joint facilities revenue—Cr.....	117,701 59	82,578 01	76,268 39
Total operating revenue.....	\$67,255,952 78	\$64,209,353 49	\$65,181,225 09
OPERATING EXPENSES.			
Way and structures.....	\$8,166,619 99	\$7,873,294 82	\$8,412,453 65
Equipment.....	9,066,816 17	8,385,288 81	7,948,315 13
Traffic.....	1,293,455 12	1,184,525 96	1,168,969 32
Transportation.....	25,727,074 70	25,160,931 96	23,827,517 72
General.....	1,416,464 02	1,380,134 66	1,270,147 50
Total operating expenses.....	\$45,670,430 00	\$43,985,176 21	\$42,636,403 32
Net operating revenue.....	\$21,585,522 78	\$20,224,178 28	\$22,544,831 77
OUTSIDE OPERATIONS—Revenues.....	\$818,961 39	\$941,464 76	\$889,612 54
—Expenses.....	<i>835,091 80</i>	<i>816,415 94</i>	<i>795,036 99</i>
Net revenue from outside operations	\$13,869 59	\$125,048 82	\$94,575 55
Total net revenue.....	\$21,599,392 37	\$20,349,227 10	\$22,639,407 32
Taxes.....	3,273,542 96	3,074,480 47	2,908,799 85
Operating income.....	\$18,325,849 41	\$17,274,746 63	\$19,730,607 47

DEVELOPMENT OF THE EXPRESS BUSINESS.

The express companies still fail to report all the items necessary to give a comprehensive view of their business in Wisconsin. The intrastate business of the three companies for which comparisons are possible increased from \$835,545 to \$880,965 or 5.43 per cent.

DEVELOPMENT OF ELECTRIC RAILWAY BUSINESS DURING THE YEAR.

During the year covered by this report the electric railway business showed a considerable development as outlined in the summary tables which follow. For all classes of electric railways the value of the property and plant at the beginning of the year had increased 7.01 per cent over the corresponding figures for 1911, and 18.48 per cent over 1910. Operating revenues increased 8.12 per cent over 1911 and 14.33 per cent over 1910. The increases of gross and net income from 1910 to 1912 were 21.34 per cent and 21.30 per cent, respectively. From 1911 to 1912 gross income increased 6.58 per cent, but net income declined a little over 2 per cent.

The development of electric railway business was not at all uniform for the various classes. For the class A utilities property and plant increased 4.6 per cent, operating revenues 8.6 per cent, and gross income 8 per cent from 1911 to 1912. For the class B utilities the corresponding figures were respectively 26 per cent, 4.4 per cent, and 0.4 per cent, while for the class C utilities the property and plant and gross income shows a slight decrease.

DEVELOPMENT OF PUBLIC UTILITIES BUSINESS.

All classes of public utilities business showed a growth during the past year. In order to show in most convenient form the extent of this development we are publishing at this point a number of tables showing the percentage of increase of various items of the balance sheet and income account for 1911 and 1912 over the preceding years. It is not necessary to include any extended discussion of these tables, as the figures in them show the conditions of the business more clearly than they could be shown in any other way.

REPORT OF THE RAILROAD COMMISSION.

ELECTRIC UTILITIES—ALL CLASSES.
INCREASES SHOWN IN PERCENTAGE WITH 1910 AND 1911 AS THE BASES.

	1911 over 1910	1912	
		over 1910	over 1911
Property and plant beginning of year.....	19.33	29.29	8.35
Construction—current year.....	84.03	29.92	129.38
Total assets.....	32.38	40.56	6.18
Total operating revenues.....	26.67	57.81	8.79
Gross income.....	24.28	26.95	2.14
Net income.....	10.04	28.80	17.05

GAS UTILITIES—ALL CLASSES.
INCREASES SHOWN IN PERCENTAGES WITH 1910 AND 1911 AS THE BASES.

	1911 over 1910	1912	
		over 1910	over 1911
Property and plant beginning of year.....	1.85	5.25	3.34
Construction—current year.....	12.44	15.18	115.73
Total assets.....	4.93	7.29	2.25
Total operating revenues.....	4.30	8.83	4.35
Gross income.....	5.72	3.72	11.89
Net income.....	8.20	2.52	15.25

HEATING UTILITIES—ALL CLASSES.
INCREASES SHOWN IN PERCENTAGES WITH 1910 AND 1911 AS THE BASES.

	1911 over 1910	1912	
		over 1910	over 1911
Property and plant beginning of year.....	23.67	29.81	4.96
Total assets.....	25.02	32.59	6.05
Total operating revenues.....	.64	31.68	33.82
Gross income.....	¹ 16.05	3.33	23.09
Net income.....	¹ 16.05	3.33	23.09

WATER UTILITIES—ALL CLASSES.
INCREASES SHOWN IN PERCENTAGES WITH 1910 AND 1911 AS THE BASES.

	1911 over 1910	1912	
		over 1910	over 1911
Property and plant beginning of year.....	4.20	7.32	3.00
Construction—current year.....	¹ 2.30	5.77	8.28
Total assets.....	4.64	9.98	5.11
Total operating revenues.....	10.56	23.89	12.06
Gross income.....	4.29	16.60	11.81
Net income.....	7.36	31.15	22.16

¹ Decreases.

TELEPHONE UTILITIES—ALL CLASSES.
INCREASES SHOWN IN PERCENTAGES WITH 1910 AND 1911 AS THE BASES.

	1911 over 1910	1912	
		over 1910	over 1911
Property and plant beginning of year.....	3.89	12.33	8.13
Construction—current year.....	41.83	96.92	38.83
Total assets.....	5.86	10.69	4.56
Total operating revenues.....	9.47	20.12	9.73
Gross income.....	15.89	17.63	1.50
Net income.....	15.56	16.82	1.08

The following tables contain all of the important facts relating to the development of electric railway and public utility business during the past year. The summaries of the balance sheets and income accounts are here presented for the three years, 1910, 1911, and 1912, for all electric railways and public utilities reporting to the Commission. The first table following is a statement of the number of utilities subject to the Commission, the number reporting satisfactorily, and the number excluded from our tabulations for various reasons. It will be noted that the number excluded from this report is ninety-three, as compared with one hundred and sixty excluded from the 1911 report. The total number of utilities carried on the Commission's docket showed a decrease of fourteen during the past year. This decrease was caused principally by the fact that a number of small telephone companies which had previously been asked to report to the Commission were found to be operating on a purely mutual basis, and consequently not coming within the terms of the Public Utilities Law.

There are a number of changes in classification of utilities, such as in the class B and C water utilities, which make the number in one class show an apparent decrease and the number in the other a corresponding increase, but these are not changes which affect the total number of utilities reporting to the Commission.

The difficulties in the way of securing complete and adequate reports from public utilities have been discussed in an earlier part of this report. The first table following shows the exact extent to which these difficulties have made it necessary for us to exclude utilities from our tabulations, but this table does not indicate in any way the difficulties that have been met with in securing complete reports from those which we have included.

TOTAL AND CLASSIFICATION OF UTILITIES.
REPORTING UNDER CHAP. 40, LAWS OF 1907.

		1910							1911							1912									
		Municipal	Private	Total in- cluded	Not in opera- tion full year	Incomplete reports	No reports	Total ex- cluded	Total utili- ties	Municipal	Private	Total in- cluded	Not in opera- tion full year	Incomplete reports	No reports	Total ex- cluded	Total utili- ties	Municipal	Private	Total in- cluded	Not in opera- tion full year	Incomplete reports	No reports	Total ex- cluded	Total utili- ties
<i>Electric:</i>	Class A.....	29	29					29	31	31						31	31	31	31					31	31
	Class B.....	17	72	89		1	10	92	18	47	65					73	14	41	55					58	58
	Class C.....	32	47	79	3	7	3	17	96	35	62	97	4	14	27	45	142	46	81	127	1	12	2	3	155
	Total.....	49	148	197	3	8	9	20	217	53	140	193	8	14	31	53	246	60	153	213	9	12	10	31	244
<i>Gas:</i>	Class A.....	20	20					20	20	20						20	20	20	20					20	20
	Class B.....	14	14				3	17	17	17		1				19	11	19	19					19	19
	Class C.....	12	3	15			1	16	14	3	17		1	2	3	20	11	2	13		2		2	15	
	Total.....	12	37	49	2		2	4	53	14	40	51	1	1	3	5	59	11	41	52		2		2	54
<i>Water:</i>	Class A.....	8	14	22				22	9	13	22					22	12	10	22					22	22
	Class B.....	33	9	42			1	43	37	10	47	1		4		52	32	9	41			2	2	4	45
	Class C.....	52	6	58		5	9	14	72	48	8	56	2	12	9	23	79	62	6	68		15	6	21	89
	Total.....	93	29	122		5	10	15	137	94	31	125	3	12	13	28	153	106	25	131		1	8	25	156
<i>Telephone:</i>	Class A.....	73	73					73	76	76						76	76	76	76					76	76
	Class B.....	33	33		1			34	25	25						25	25	25	25					25	25
	Class C.....	90	90		4		4	94	100	100			1			101	83	83	83					83	83
	Class D.....	150	150	2	13	7	22	172	141	141	14	3	12	29	179	179	150	150	150		2	3	5	155	155
	Condensed form.....	220	220	13	30	12	55	275	261	261		14	30	44	305	305	295	295	295		10	19	29	327	327
Total.....	566	566	15	48	19	82	648	602	603	14	17	43	74	677	677	632	632	632		12	23	34	666	666	
<i>Heating:</i>	Total.....	1	11	12	1	1	2	14	1	13	14					14	1	14	15			1	1	16	16
	Grand total.....	155	791	946	21	62	40	123	1,069	163	827	990	26	44	90	160	1,150	178	865	1,043	9	43	41	93	1,136

ELECTRIC RAILWAYS.

BALANCE SHEETS.

As of Date June 30,

ALL CLASSES. ENTIRE LINES.

	1912	1911	1910
ASSETS.			
Property and plant beginning of year.....	\$57,818,859 39	\$54,031,622 60	\$48,799,406 68
Construction, current year.....	3,036,363 88	3,592,973 51	2,348,917 61
Treasury securities.....	883,620 40	2,461,584 00	1,412,421 20
Stocks, bonds and other investments.....	15,715,746 00	16,000,609 96	14,410,449 78
Reserve, sinking and special fund assets.....	1,291,843 08	1,324,917 10	932,803 46
Current assets.....	4,271,897 26	3,743,766 38	3,317,453 42
Prepaid accounts.....	47,662 69	55,132 07	65,689 83
Open accounts.....	693,503 28	412,576 90	474,009 02
Total assets.....	\$83,759,495 98	\$81,653,182 52	\$71,761,151 00
LIABILITIES.			
Capital stock—preferred.....	\$5,195,000 00	\$4,600,000 00	\$3,750,000 00
Capital stock—common.....	26,558,032 00	26,673,082 00	23,640,245 26
Funded debt.....	37,140,163 26	35,417,080 52	33,463,670 66
Mortgage liabilities.....	1,560,567 71	8,251 51	311,213 81
Reserve, sinking and special fund liabilities.....	3,109,282 51	2,805,175 74	2,635,845 81
Current liabilities.....	4,306,101 77	7,384,701 51	5,313,315 61
Accrued liabilities.....	1,055,753 95	797,940 54	648,652 20
Open accounts.....	314,923 32	154,596 22	301,015 53
Surplus.....	4,519,671 46	3,812,354 48	1,697,192 12
Total liabilities.....	\$83,759,495 98	\$81,653,182 52	\$71,761,151 00

CLASS A. ENTIRE LINES.

	1912	1911	1910
ASSETS.			
Property and plant beginning of year.....	\$45,626,730 82	\$42,605,078 55	\$37,603,969 14
Construction, current year.....	2,798,177 71	2,450,536 02	2,197,824 73
Treasury securities.....	188,000 00	800,000 00	546,400 00
Stocks, bonds and other investments.....	14,397,877 75	15,919,094 00	14,292,478 15
Reserve, sinking and special fund assets.....	1,167,854 17	1,238,915 92	914,425 00
Current assets.....	3,772,115 09	3,501,427 65	3,028,935 11
Prepaid accounts.....	25,771 36	27,946 55	24,623 41
Open accounts.....	449,983 72	387,478 84	350,632 41
Total assets.....	\$68,426,510 62	\$67,930,227 53	\$58,859,187 95
LIABILITIES.			
Capital stock—preferred.....	\$4,600,000 00	\$4,600,000 00	\$3,750,000 00
Capital stock—common.....	22,500,000 00	22,500,000 00	18,700,000 00
Funded debt.....	29,015,921 71	28,556,426 02	26,989,655 02
Mortgage liabilities.....	1,500,000 00	2,600,848 16	2,615,845 81
Reserve, sinking and special fund liabilities.....	2,895,263 31	5,798,361 69	4,093,277 60
Current liabilities.....	3,638,595 47	153,834 19	556,365 63
Accrued liabilities.....	930,560 95	689,551 66	131,022 02
Open accounts.....	311,061 20	153,834 19	131,022 02
Surplus.....	3,035,102 98	2,971,205 81	2,323,721 87
Total liabilities.....	\$68,426,510 62	\$67,930,227 53	\$58,859,287 95

ELECTRIC RAILWAYS.

BALANCE SHEETS

As of date June 30.

CLASS B. ENTIRE LINES.

	1912	1911	1910
ASSETS.			
Property and plant beginning of year.....	\$1,678,712 27	\$7,681,327 63	\$8,350,802 01
Construction, current year.....	165,730 96	1,041,696 45	180,011 16
Treasury securities.....	655,620 4	1,651,584 00	865,521 20
Stocks, bonds and other investments.....	273,513 25	80,715 96	64,734 61
Reserve, sinking and special fund assets.....	97,657 33	77,065 51	18,378 46
Current assets.....	238,189 97	185,023 62	185,951 09
Prepaid accounts.....	18,602 95	23,237 02	35,512 90
Open accounts.....	15,240 50	7,216 86	109,941 20
Total assets.....	\$11,146,267 63	\$10,747,867 05	\$9,810,852 63
LIABILITIES.			
Capital stock—preferred.....	459,000 00		\$100,000 00
Capital stock—common.....	2,475,892 00	\$2,727,242 00	3,532,800 00
Funded debt.....	6,305,421 55	5,746,200 50	5,299,653 56
Mortgage liabilities.....	60,567 71	8,251 51	311,213 81
Reserve, sinking & special fund liabilities.....	151,977 84	89,950 70	
Current liabilities.....	239,622 64	1,378,704 13	1,028,600 75
Accrued liabilities.....	103,210 17	92,891 59	65,619 00
Open accounts.....	3,853 37	762 03	69,998 89
Surplus.....	1,355,722 55	703,864 59	1,597,033 38
Total liabilities.....	\$11,146,267 63	\$10,747,867 05	\$9,810,852 63

CLASS C.—ENTIRE LINES.

	1912	1911	1910
ASSETS.			
Property and plant beginning of year.....	\$2,513,416 30	\$2,745,266 42	\$2,844,635 53
Construction, current year.....	69,455 21	100,941 04	71,081 72
Treasury securities.....	40,000 00	10,000 00	500 00
Stocks, bonds and other investments.....	1,044,355 00	800 00	53,237 02
Reserve, sinking and special fund assets.....	26,331 58	8,935 67	
Current assets.....	261,592 20	57,315 11	102,567 22
Prepaid accounts.....	3,288 38	3,948 50	5,553 52
Open accounts.....	228,279 06	47,881 20	13,435 41
Total assets.....	\$4,186,717 73	\$2,975,087 94	\$3,091,010 42
LIABILITIES.			
Capital stock—preferred.....	\$136,000 00		
Capital stock—common.....	1,582,140 00	\$1,445,840 00	\$1,607,445 26
Funded debt.....	1,818,820 00	1,114,454 00	1,174,962 08
Mortgage liabilities.....			
Reserve, sinking & special fund liabilities.....	62,036 36	54,376 88	20,000 00
Current liabilities.....	456,883 66	207,635 69	191,437 26
Accrued liabilities.....	21,982 83	15,497 29	26,667 57
Open accounts.....	8 75		99,994 62
Surplus.....	128,846 13	137,284 08	129,496 37
Total liabilities.....	\$4,186,717 73	\$2,970,087 94	\$3,091,010 42

¹Deficit.

ELECTRIC RAILWAYS—ALL CLASSES.

COMPARATIVE SUMMARY OF INCOME ACCOUNTS OF ELECTRIC RAILWAYS OPERATING IN WISCONSIN FOR THE YEAR ENDING JUNE 30, 1912, 1911, AND 1910, AND RATIOS OF OPERATING EXPENSES, NET REVENUES, DEDUCTIONS AND SURPLUS TO TOTAL OPERATING REVENUE.

	1912		1911		1910	
	Amounts.	Percent- age of total oper- ating revenue.	Amounts.	Percent- age of total oper- ating revenue.	Amounts.	Percent- age of total oper- ating revenue.
<i>Wisconsin.</i>						
Operating revenues:						
Transportation	\$7,450,611 04	98.63	\$7,181,861 80	98.60	\$6,675,686 70	98.29
Non-transportation.....	103,620 45	1.37	102,193 75	1.40	116,136 98	1.71
Total operating rev...	\$7,554,231 49	100.00	\$7,284,055 55	100.00	\$6,791,823 68	100.00
Operating expenses:						
Way and structures.....	\$403,481 15	5.34	\$366,441 16	5.03	\$405,526 53	5.97
Equipment	409,456 45	5.42	356,651 06	4.89	372,498 05	5.48
Traffic	17,248 81	.23	36,246 13	.50	39,552 85	.58
Conducting transporta- tion.....	2,579,348 43	34.15	2,490,358 24	34.19	2,272,377 42	33.46
General.....	230,020 15	3.05	278,790 75	3.83	282,955 01	4.17
Undistributed.....	395,439 26	5.25	380,797 38	5.23	347,381 04	5.12
Total of above.....	\$4,036,994 25	53.44	\$3,909,284 72	53.67	\$3,720,290 90	54.78
Depreciation	637,911 36	8.44	558,480 13	7.67	526,057 44	7.74
Contingencies	12,772 18	.17	29,774 50	.41	12,439 04	.18
Taxes	478,256 58	6.33	452,726 41	6.21	423,668 85	6.24
Total operating exp...	\$5,165,924 37	68.38	\$4,950,265 76	67.96	\$4,682,456 23	68.94
Net operating revenue.	\$2,388,297 12	31.62	\$2,333,789 79	32.04	\$2,109,736 45	31.06
Non-operating revenues	736,442 15	9.75	786,444 09	10.80	581,349 99	8.56
Gross income.....	\$3,124,739 27	41.37	\$3,120,233 88	42.84	\$2,690,717 44	39.62
Deduct. from gross inc.	1,673,780 09	22.16	1,522,947 95	20.91	1,453,413 25	21.40
Net income.....	\$1,450,959 18	19.21	\$1,597,285 93	21.93	\$1,237,304 19	18.22
Disposition of net inc..	1,482,796 70	19.63	1,557,779 62	21.39	1,236,037 02	18.20
Surplus for year.....	\$31,837 52	0.42	\$39,506 31	.54	\$1,267 17	.02
<i>Entire Lines.</i>						
Operating revenues:						
Transportation	\$9,924,595 15	98.38	\$9,204,685 21	98.65	\$8,682,552 83	98.40
Non-transportation.....	163,439 20	1.62	125,563 17	1.35	141,413 25	1.60
Total operating rev ..	\$10,088,034 35	100.00	\$9,330,448 38	100.00	\$8,823,966 08	100.00
Operating expenses:						
Way and structure.....	\$547,969 02	5.42	\$493,881 65	5.29	\$559,876 64	6.34
Equipment	527,515 88	5.23	458,208 70	4.91	481,973 17	5.46
Traffic	24,245 80	.24	46,464 17	.50	51,943 46	.59
Conducting transporta- tion.....	3,523,591 19	34.93	3,267,716 16	35.02	3,034,685 77	34.39
General.....	376,084 77	3.73	379,516 27	4.07	388,782 49	4.41
Undistributed.....	551,213 83	5.46	489,893 21	5.25	470,750 06	5.34
Total of above.....	\$5,550,620 51	55.02	\$5,135,690 16	55.04	\$4,988,211 59	56.53
Depreciation	701,193 67	6.95	568,373 73	6.41	562,909 34	6.38
Contingencies	12,772 18	.13	29,774 50	.32	12,439 04	.14
Taxes	605,923 24	6.01	556,733 19	5.97	513,369 01	5.82
Total operating exp...	\$6,870,509 63	68.11	\$6,320,561 58	67.74	\$6,076,928 98	68.87
Net operating revenue..	\$3,217,524 72	31.89	\$3,009,886 78	32.26	\$2,747,037 10	31.13
Non-operating revenues	839,606 13	8.32	796,662 97	8.54	598,581 06	6.76
Gross income.....	\$4,057,130 85	40.21	\$3,806,549 75	40.80	\$3,345,618 16	37.89
Deduct. from gross inc.	2,042,840 07	20.25	1,744,581 87	18.70	1,683,089 45	19.07
Net income.....	\$2,014,290 78	19.96	\$2,061,967 88	22.10	\$1,660,528 71	18.82
Disposition of net inc...	1,826,796 70	18.11	1,797,017 68	19.26	1,415,878 99	16.05
Surplus.....	\$187,494 08	1.85	\$264,950 20	2.84	\$244,649 77	2.77

¹ Deficit.

ELECTRIC RAILWAYS—CLASS A.

COMPARATIVE SUMMARY OF INCOME ACCOUNTS OF ELECTRIC RAILWAYS OPERATING IN WISCONSIN FOR THE YEARS ENDING JUNE 30, 1912, 1911 AND 1910, AND RATIOS OF OPERATING EXPENSES, NET REVENUES, DEDUCTIONS, AND SURPLUS TO TOTAL OPERATING REVENUE.

	1912		1911		1910	
	Amounts.	Percentage of total operating revenue.	Amounts.	Percentage of total operating revenue.	Amounts.	Percentage of total operating revenue.
<i>Wisconsin.</i>						
Operating Revenues:						
Transportation.....	\$5,860,236 48	98.81	\$5,662,817 87	98.69	\$5,285,012 06	98.50
Non-transportation.....	70,759 17	1.19	74,924 17	1.31	80,365 58	1.50
Total operating rev...	\$5,930,995 65	100.00	\$5,737,742 04	100.00	\$5,365,377 64	100.00
Operating Expenses:						
Way and structures.....	\$285,757 15	4.82	\$262,493 74	4.57	\$308,775 92	5.76
Equipment.....	307,345 15	5.18	261,921 29	4.56	290,829 05	5.42
Traffic.....	1,238 36	.02	16,619 99	.29	15,854 40	.29
Conducting transportation.....	1,997,237 09	33.67	1,939,925 76	33.81	1,762,055 24	32.84
General.....	131,239 94	2.21	194,342 30	3.39	196,882 93	3.67
Undistributed.....	321,066 66	5.42	320,733 31	5.59	290,333 19	5.41
Total of above.....	\$3,043,884 25	51.32	\$2,996,036 39	52.21	\$2,864,730 78	53.38
Depreciation.....	562,833 35	9.49	494,149 70	8.61	459,886 62	8.57
Contingencies.....	12,472 18	.21	11,926 28	.21	11,151 46	.21
Taxes.....	400,275 96	6.75	383,176 35	6.68	360,150 84	6.71
Total operating exp...	\$4,019,465 84	67.77	\$3,885,288 72	67.71	\$3,695,919 70	68.88
Net operating revenue.	\$1,911,529 81	32.23	\$1,852,453 32	32.29	\$1,669,457 94	31.12
Non operating revenues	723,452 84	12.20	772,054 37	13.45	572,149 30	10.66
Gross income.....	\$2,634,982 65	44.33	\$2,624,507 69	45.74	\$2,241,607 24	41.78
Deduct. from gross inc..	1,310,448 41	22.10	1,160,038 42	20.22	1,119,387 59	20.86
Net income.....	\$1,324,534 24	22.33	\$1,464,469 27	25.52	\$1,122,219 65	20.92
Disposition of net inc..	1,398,056 70	23.57	1,482,350 95	25.83	1,188,168 32	22.15
Surplus for year.....	\$73,522 46	1.24	\$17,881 68	1.31	\$65,948 67	1.23
<i>Entire Lines.</i>						
Operating Revenues:						
Transportation.....	\$8,244,041 68	98.45	\$7,608,344 80	98.73	\$7,221,281 40	98.57
Non-transportation.....	129,774 86	1.55	97,830 81	1.27	104,535 30	1.43
Total operating rev...	\$8,373,816 54	100.00	\$7,706,175 61	100.00	\$7,325,816 70	100.00
Operating Expenses:						
Way and structures.....	\$425,456 41	5.08	\$382,070 43	4.95	\$458,376 67	6.26
Equipment.....	419,419 32	5.01	357,706 94	4.67	395,489 85	5.40
Traffic.....	7,075 45	.08	26,282 57	.34	27,280 46	.37
Conducting transportation.....	2,898,655 66	34.62	2,684,284 03	34.84	2,494,775 16	34.06
General.....	272,319 47	3.25	290,993 13	3.78	298,657 51	4.07
Undistributed.....	470,550 05	5.62	428,472 17	5.56	412,427 92	5.63
Total of above.....	\$4,493,472 36	53.66	\$4,171,789 27	54.14	\$4,087,407 62	55.79
Depreciation.....	621,171 23	7.42	531,730 40	6.90	494,638 02	6.75
Contingencies.....	12,472 18	.15	11,926 28	.15	11,151 46	.15
Taxes.....	522,939 56	6.24	484,432 59	6.29	446,727 08	6.10
Total operating exp...	\$5,650,005 33	67.47	\$5,199,778 54	67.48	\$5,039,524 18	68.79
Net operating revenue.	\$2,723,811 21	32.53	\$2,506,397 05	32.52	\$2,286,292 52	31.21
Non-operating revenues	826,616 82	9.87	782,273 25	10.15	587,380 37	8.02
Gross income.....	\$3,550,428 03	42.40	\$3,288,670 30	42.67	\$2,873,672 89	39.23
Deduct. from gross inc..	1,671,313 55	19.96	1,375,494 09	17.85	1,344,027 30	18.35
Net income.....	\$1,879,114 48	22.44	\$1,913,176 21	24.82	\$1,529,645 59	20.88
Disposition of net inc..	1,732,056 70	20.68	1,708,589 01	22.17	1,361,010 24	18.58
Surplus for year.....	\$147,057 78	1.76	\$204,587 20	2.65	\$168,635 35	2.30

ELECTRIC RAILWAYS—CLASS B.¹

COMPARATIVE SUMMARY OF INCOME ACCOUNTS OF ELECTRIC RAILWAYS OPERATING IN WISCONSIN FOR THE YEARS ENDING JUNE 30, 1912, 1911, AND 1910, AND RATIOS OF OPERATING EXPENSES, NET REVENUES, DEDUCTIONS, AND SURPLUS TO TOTAL OPERATING REVENUE.

	1912		1911		1910	
	Amounts.	Percentage of total operating revenue.	Amounts.	Percentage of total operating revenue.	Amounts.	Percentage of total operating revenue.
<i>Wisconsin.</i>						
Operating Revenues:						
Transportation.....	\$1,236,290 10	98.39	\$1,182,594 68	98.23	\$1,082,716 14	97.52
Non-transportation.....	20,248 48	1.61	21,258 36	1.77	27,536 95	2.48
Total operating revenues.....	\$1,256,538 58	100.00	\$1,203,853 04	100.00	\$1,110,253 09	100.00
Operating Expenses:						
Way and structures....	\$91,177 25	7.26	\$84,066 54	6.98	\$79,027 99	7.12
Equipment.....	76,814 33	6.11	73,905 33	6.14	63,499 25	5.72
Traffic.....	8,452 68	.67	13,351 43	1.11	12,736 26	1.15
Conducting transportation.....	448,879 69	35.72	422,305 29	35.08	389,058 67	35.04
General.....	73,859 29	5.88	61,009 65	5.07	62,876 06	5.66
Undistributed.....	59,232 27	4.72	49,734 03	4.13	45,433 48	4.09
Total of above.....	\$758,415 51	60.36	\$704,372 27	58.51	\$652,631 71	58.78
Depreciation.....	55,777 42	4.44	49,962 63	4.15	40,722 06	3.67
Contingencies.....			17,848 22	1.48	1,000 00	.09
Taxes.....	65,091 51	5.18	57,733 86	4.80	53,699 30	4.84
Total operating expenses.....	\$879,284 44	69.98	\$829,916 98	68.94	\$748,053 07	67.38
Net operating revenue.....	\$377,254 14	30.02	\$373,936 06	31.06	\$362,200 02	32.62
Non-operating revenues.....	12,196 49	.97	14,093 56	1.17	9,168 63	.83
Gross income.....	\$389,450 63	30.99	\$388,029 62	32.23	\$371,368 65	33.45
Deductions from gross income.....	314,729 89	25.05	317,977 94	26.41	286,125 93	25.77
Net income.....	\$74,720 74	5.94	\$70,051 68	5.82	\$85,242 72	7.68
Disposition of net income.....	49,560 00	3.94	36,032 00	2.99	16,642 00	1.50
Surplus for year....	\$25,160 74	2.00	\$34,019 68	2.83	\$68,600 72	6.18

¹ No interstate railways of this class.

ELECTRIC RAILWAYS—CLASS C.

COMPARATIVE SUMMARY OF INCOME ACCOUNTS OF ELECTRIC RAILWAYS OPERATING IN WISCONSIN FOR THE YEARS ENDING JUNE 30, 1912, 1911, AND 1910, AND RATIOS OF OPERATING EXPENSES, NET REVENUES, DEDUCTIONS AND SURPLUS TO TOTAL OPERATING REVENUE.

	1912.		1911.		1910.	
	Amounts.	Percent- age of total operat- ing rev- enue.	Amounts	Percent- age of total operat- ing rev- enue.	Amounts.	Percent- age of total operat- ing rev- enue.
<i>Wisconsin.</i>						
Operating Revenues:						
Transportation.....	\$354,084 46	96.56	\$336,449 25	98.24	\$307,958 50	97.40
Non-transportation.....	12,612 80	3.44	6,011 22	1.76	8,234 45	2.60
Total operating revenues	\$366,697 26	100.00	\$342,460 47	100.00	\$316,192 95	100.00
Operating Expenses:						
Way and structures.....	\$23,546 75	7.24	\$19,880 88	5.81	\$17,722 62	5.60
Equipment.....	25,296 97	6.90	20,824 44	6.08	18,169 75	5.75
Traffic.....	7,557 77	2.06	6,274 71	1.83	10,962 19	3.47
Conducting transportation	134,231 65	36.60	128,127 19	37.41	121,263 51	38.35
General.....	24,820 92	6.80	23,438 80	6.84	23,195 97	7.34
Undistributed.....	16,140 33	4.40	10,330 04	3.02	11,614 37	3.67
Total of above.....	\$234,694 39	64.00	\$208,876 06	60.99	\$202,928 41	64.18
Depreciation.....	19,300 59	5.26	14,367 80	4.20	25,448 76	8.05
Contingencies.....					287 58	.09
Taxes.....	213,189 11	3.60	11,816 20	3.45	9,818 71	3.10
Total operating expenses	\$237,184 09	72.86	\$235,060 06	68.64	\$238,483 36	75.42
Net operating revenue....	\$99,513 17	27.14	\$107,401 41	31.36	\$77,709 49	24.58
Non-operating revenues..	792 82	.21	296 16	.09	32 06	.01
Gross income.....	\$100,305 99	27.35	\$107,696 57	31.45	\$77,741 55	24.59
Deductions from gross in- come.....	48,601 79	13.25	44,931 59	13.12	47,899 73	15.15
Net income.....	\$51,704 20	14.10	\$62,764 98	18.33	\$29,841 82	9.44
Disposition of net income.	35,180 00	9.59	39,396 67	11.50	31,226 70	9.88
Surplus for year.....	\$16,524 20	4.51	\$23,368 31	6.82	\$1,384 88	1.44
<i>Entire Lines.</i>						
Operating Revenues:						
Transportation.....	\$444,263 37	97.07	\$413,945 73	98.46	\$378,555 29	97.59
Non-transportation.....	13,415 86	2.93	6,474 00	1.54	9,341 00	2.41
Total operating revenues	\$457,679 23	100.00	\$420,419 73	100.00	\$387,896 29	100.00
Operating Expenses:						
Way and structure.....	\$31,337 36	6.85	\$27,764 68	6.60	\$22,471 98	5.79
Equipment.....	31,282 23	6.84	24,596 43	5.85	22,984 07	5.93
Traffic.....	8,717 67	1.90	6,830 17	1.63	11,926 74	3.08
Conducting transportation	176,057 84	38.47	161,126 84	38.33	151,051 94	38.94
General.....	29,906 06	6.53	27,513 49	6.54	27,248 87	7.02
Undistributed.....	21,431 51	4.68	11,687 01	2.78	12,888 66	3.32
Total of above.....	\$298,732 67	65.27	\$259,518 62	61.73	\$248,572 26	64.08
Depreciation.....	24,295 02	5.31	16,780 70	3.99	27,549 26	7.10
Contingencies.....					287 58	.08
Taxes.....	218,192 17	3.97	14,566 74	3.46	12,942 63	3.34
Total operating expenses	\$341,219 86	74.55	\$290,866 06	69.18	\$289,351 73	74.60
Net operating revenue....	\$116,459 37	25.45	\$129,553 67	30.81	\$98,544 56	25.41
Non-operating revenues..	792 82	.17	296 16	.07	32 06	.01
Gross income.....	\$117,252 19	25.62	\$129,849 83	30.89	\$98,576 62	25.42
Deductions from gross in- come.....	56,796 63	12.41	51,109 84	12.16	52,936 22	13.65
Net income.....	\$60,455 56	13.21	\$78,739 99	18.73	\$45,640 40	11.77
Disposition of net income.	45,180 00	9.87	52,396 67	12.46	38,226 70	9.86
Surplus for year.....	\$15,275 56	3.34	\$26,342 32	6.27	\$7,413 70	1.91

¹ Deficits.² Includes \$300 contingencies.

BALANCE SHEET—ELECTRIC UTILITIES
As of June 30.

	1912	1911	1910
ASSETS.			
Property and plant beginning of year.....	\$39,933,452 16	\$36,855,053 92	\$30,886,219 38
Construction, current year.....	1,813,461 56	2,507,965 90	1,385,150 27
Treasury securities.....	7,245,674 00	7,346,889 00	2,187,718 84
Stocks, bonds and other investments.....	4,039,172 54	3,479,561 03	3,471,102 68
Reserve sinking and special fund assets.....	382,542 08	327,107 07	269,322 60
Current assets.....	2,926,350 33	2,555,519 14	1,871,067 87
Prepaid accounts.....	37,840 94	202,704 88	31,212 42
Open accounts.....	618,976 81	333,999 91	452,933 17
Total assets.....	\$57,017,970 42	\$53,698,804 85	\$40,564,837 23
LIABILITIES.			
Capital stock—preferred.....	\$5,162,860 00	\$4,065,298 00	\$3,385,015 83
Capital stock—common.....	16,088,124 24	16,112,337 35	13,593,686 63
Funded debt.....	24,421,174 53	22,400,307 65	15,710,152 70
Mortgage liabilities.....	343,491 56	514,755 00	938,041 41
Reserve sinking and special fund liabilities.....	2,065,058 98	1,432,082 06	1,227,434 31
Current liabilities.....	4,640,395 93	5,427,134 18	3,135,749 11
Accrued liabilities.....	377,061 54	441,572 41	268,925 87
Open accounts.....	768,082 07	745,108 60	185,488 74
Surplus.....	3,148,717 57	2,510,208 70	2,120,337 63
Total.....	\$57,017,970 42	\$53,698,804 85	\$40,564,837 23

CONDENSED INCOME ACCOUNT—ELECTRIC UTILITIES
For year ending June 30.

	1912		1911		1910	
	Amount.	Per cent	Amount.	Per cent	Amount.	Per cent
Total operating revenues.....	\$3,124,152 99	100.00	\$3,291,103 36	100.00	\$4,443,930 36	100.00
Total operating expenses.....	4,262,083 13	69.59	3,730,043 07	66.26	2,916,742 20	65.65
Net operating revenue.....	\$1,862,069 86	30.41	\$1,899,060 29	33.74	\$1,527,188 16	34.35
Non-operating revenues.....	355,918 51	5.81	272,370 76	4.84	219,952 41	4.95
Gross income.....	\$2,217,988 37	36.22	\$2,171,431 05	38.58	\$1,747,140 57	39.30
Deduction from gross income:						
Interest on funded debt and real estate mortgages.....	\$775,421 18	12.66	\$958,021 38	17.02	\$687,814 74	15.47
Interest on floating debt.....	138,862 29	2.27	138,145 62	2.46	54,052 22	1.22
Miscellaneous deductions.....	102,212 20	1.67	48,747 96	.86	72,458 63	1.63
Total.....	\$1,016,495 67	16.60	\$1,144,914 96	20.34	\$814,325 59	18.32
Net income.....	\$1,201,492 70	19.62	\$1,026,516 09	18.24	\$932,814 98	20.98
Disposition of net income:						
Dividends.....	\$583,812 49	9.53	\$537,165 75	9.54	\$256,175 42	5.76
Other payments from net income.....			7,352 94	.13	116,122 36	2.61
Total.....	\$583,812 49	9.53	\$544,518 29	9.67	\$372,297 78	8.37
Surplus.....	\$617,680 21	10.09	\$481,997 80	8.57	\$560,517 20	12.61

BALANCE SHEET—GAS UTILITIES.

As of June 30.

	1912	1911	1910
ASSETS.			
Property and plant beginning of year.....	\$25,418,734 75	\$24,596,027 50	\$24,119,734 12
Construction, current year.....	451,670 28	535,484 58	476,220 50
Treasury securities.....	689,058 60	876,386 00	353,910 85
Stocks and bonds and other investments.....	97,944 09	94,306 03	78,910 44
Reserve sinking and special fund assets.....	73,903 51	54,224 23	33,898 61
Current assets.....	1,813,493 33	1,763,606 40	1,526,077 42
Prepaid accounts.....	21,484 14	19,507 63	23,115 07
Open accounts.....	108,298 50	104,431 19	83,120 35
Total.....	\$28,674,577 20	\$28,043,973 56	\$26,726,996 36
LIABILITIES.			
Capital stock—preferred.....	\$705,460 00	\$1,035,960 00	\$506,860 00
Capital stock—common.....	9,258,322 48	9,262,499 29	8,965,194 70
Funded debt.....	14,215,651 40	14,051,660 42	13,705,621 36
Mortgage liabilities.....	343,477 00	18,700 00	234,500 00
Reserve sinking and special fund liabilities.....	1,578,405 38	1,317,960 75	1,085,413 55
Current liabilities.....	1,049,813 75	1,117,979 88	1,052,938 63
Accrued liabilities.....	248,765 25	251,716 57	279,559 15
Open accounts.....	32,823 46	32,840 27	57,633 47
Surplus.....	1,241,855 50	954,956 38	841,275 50
Total.....	\$28,674,577 20	\$28,043,973 56	\$26,726,996 36

CONDENSED INCOME ACCOUNT—GAS UTILITIES.

Year ending June 30.

	1912		1911		1910	
	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.
Total operating revenues.....	\$4,363,302 82	100.00	\$4,181,414 14	100.00	\$4,009,204 65	100.00
Total operating expenses.....	3,009,755 03	68.98	2,783,565 20	66.57	2,686,274 90	67.01
Net operating revenue.....	\$1,353,547 79	31.02	\$1,397,848 94	33.43	\$1,322,929 75	32.99
Non-operating revenues.....	85,239 86	1.95	68,720 52	1.64	64,243 50	1.61
Gross income.....	\$1,438,786 65	32.97	\$1,466,569 46	35.07	\$1,387,173 25	34.60
Deductions from gross income:						
Interest on funded debt and real estate mortgages.....	\$594,865 95	13.63	\$379,845 96	13.87	\$575,538 85	14.35
Interest on floating debt.....	40,976 64	.94	46,613 68	1.12	55,027 13	.89
Miscellaneous deductions.....	26,578 26	.61	20,755 19	.49	18,724 43	.47
Total.....	\$662,420 85	15.18	\$647,214 83	15.48	\$629,890 46	15.71
Net income.....	\$776,365 80	17.79	\$819,354 63	19.59	\$757,282 79	18.89
Disposition of net income:						
Preferred stock dividends.....	\$540,817 69	12.39	\$472,197 29	11.29	\$10,801 65	.27
Other payments from net income.....			4,703 06	.11	698,453 60	17.42
Total.....	\$540,817 69	12.39	\$476,900 35	11.40	\$709,255 25	17.69
Surplus.....	\$235,548 11	5.40	\$342,454 28	8.19	\$48,027 54	1.20

BALANCE SHEET—WATER UTILITIES.

As of June 30.

	1912	1911	1910
ASSETS.			
Property and plant beginning of year.....	\$23,545,185 80	\$22,859,355 47	\$21,938,979 38
Construction, current year.....	844,568 78	779,993 40	798,425 19
Treasury securities.....	74,672 00	39,166 00	253,517 50
Stocks, bonds and other investments.....	110,841 13	65,037 42	88,041 33
Reserve, sinking and special fund assets.....	112,220 66	182,045 59	126,380 00
Current assets.....	1,405,508 60	911,166 40	672,863 70
Prepaid accounts.....	28,738 35	8,066 84	5,131 32
Open accounts.....	184,338 07	182,996 72	35,225 80
Total.....	\$26,306,023 39	\$25,027,827 84	\$23,918,572 22
LIABILITIES.			
Capital stock—preferred.....	\$619,000 00	\$339,000 00	\$58,700 00
Capital stock—common.....	3,186,886 66	3,927,852 66	4,619,648 66
Funded debt.....	8,123,085 55	7,889,108 44	6,331,005 33
Mortgage liabilities.....	562,750 00	722,000 00	881,350 00
Reserve, sinking and special fund liabilities.....	403,251 54	287,683 20	570,866 64
Current liabilities.....	1,387,534 20	823,980 94	949,981 75
Accrued liabilities.....	78,671 24	76,770 15	59,445 80
Open accounts.....	42,679 11	90,306 84	200,613 41
Surplus.....	11,702,165 09	10,871,019 61	9,765,330 63
Total.....	\$26,306,023 39	\$25,027,827 84	\$23,918,572 22

CONDENSED INCOME ACCOUNT—WATER UTILITIES.

Year ending June 30.

	1912		1911		1910	
	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.
Total operating revenues.....	\$2,689,180 57	100.00	\$2,369,820 73	100.00	\$2,170,632 75	100.00
Total operating expenses.....	1,316,178 89	48.94	1,201,176 16	50.06	1,047,661 93	48.27
Net operating revenue.....	\$1,373,001 68	51.06	\$1,198,644 57	49.94	\$1,122,950 82	51.73
Non-operating revenues.....	77,053 72	2.86	98,260 02	4.09	120,008 50	5.55
Gross income.....	\$1,450,055 40	53.92	\$1,296,904 59	54.03	\$1,243,559 32	57.28
Deductions from gross income:						
Interest on funded debt and real estate mortgages.....	\$360,492 66	13.40	\$365,118 17	15.26	\$374,165 18	15.39
Interest on floating debt.....	20,389 60	.76	33,358 09	1.38	39,484 00	1.82
Miscellaneous deductions.....	60,419 97	2.25	71,648 10	2.99	100,737 69	4.64
Total.....	\$441,302 23	16.41	\$471,124 36	19.63	\$474,386 90	21.85
Net income.....	\$1,008,753 17	37.51	\$825,780 23	34.40	\$769,172 42	35.43
Disposition of net income:						
Dividends.....	\$68,034 98	2.53	\$63,107 19	2.63	\$60,168 3	2.77
Other payments from net income.....	711,133 42	26.44	170,489 64	7.10	123,304 90	5.68
Total.....	\$779,218 40	28.97	\$233,596 83	9.73	\$183,473 29	8.45
Surplus.....	\$229,534 77	8.54	\$592,183 40	24.67	\$585,699 13	26.98

BALANCE SHEET—TELEPHONE UTILITIES.

As of June 30.

	1912	1911	1910
ASSETS.			
Property and plant beginning of year.....	\$16,787,143 61	\$15,525,602 88	\$14,944,891 56
Construction, current year.....	1,521,563 66	1,095,767 79	772,493 80
Treasury securities.....	422,562 40	376,815 00	442,217 67
Stocks, bonds and other investments.....	197,277 10	190,679 10	250,411 35
Reserve, sinking and special fund assets.....	53,044 18	57,558 75	229,227 16
Current assets.....	1,495,577 06	2,156,497 19	2,081,538 45
Prepaid accounts.....	33,626 81	14,550 84	12,777 32
Open accounts.....	238,519 86	437,580 88	3,069 06
Total.....	\$20,739,334 68	\$19,835,002 43	\$18,736,626 37
LIABILITIES.			
Capital stock—preferred.....	\$1,060,139 00	\$959,739 44	\$997,810 35
Capital stock—common.....	12,503,173 64	12,300,728 24	12,263,817 71
Funded debt.....	851,067 72	819,500 00	864,301 37
Mortgage liabilities.....	70,273 58	36,650 00	49,981 37
Reserve, sinking and special fund liabilities.....	3,870,845 09	3,069,507 73	2,223,026 23
Current liabilities.....	807,207 28	1,181,198 14	1,005,912 38
Accrued liabilities.....	112,747 88	105,535 95	76,423 44
Open accounts.....	5,667 59	19,004 50	52,760 67
Surplus.....	1,458,212 90	1,343,138 43	1,202,592 79
Total.....	\$20,739,334 68	\$19,835,002 43	\$18,736,626 37

CONDENSED INCOME ACCOUNT—TELEPHONE UTILITIES.

Year ending June 30.

	1912		1911		1910	
	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.
Total operating revenues.....	\$5,011,350 46	100.00	\$4,566,983 17	100.00	\$4,171,863 20	100.00
Total operating expenses.....	3,887,736 77	77.58	3,477,574 80	76.15	3,222,888 35	77.26
Net operating revenue.....	\$1,123,613 69	22.42	\$1,089,408 37	23.85	\$948,974 85	22.74
Non-operating revenues.....	74,275 20	1.48	90,801 14	1.99	69,432 05	1.66
Gross income.....	\$1,197,918 89	23.90	\$1,180,209 51	25.84	\$1,018,406 90	24.40
Deductions from gross income:						
Interest on funded debt and real estate mortgages.....	\$42,630 44	.85	\$35,078 42	.77	\$37,146 37	.89
Interest on floating debt.....	24,736 97	.49	29,821 25	.65	15,507 42	.37
Miscellaneous deductions.....	29,688 07	.51	26,186 68	.57	23,364 57	.56
Total.....	\$97,065 48	1.93	\$91,086 35	1.99	\$ 6,022 36	1.82
Net income.....	\$1,100,853 41	21.97	\$1,089,123 16	23.85	\$942,384 54	22.58
Disposition of net income:						
Dividends.....	\$873,551 76	17.43	\$868,302 85	19.02	\$692,986 77	16.61
Other payments from net income.....	1,400 00	.13	4,777 61	.10	4,041 20	.09
Total.....	\$874,951 76	17.46	\$873,170 46	19.12	\$697,027 97	16.70
Surplus.....	\$225,901 65	4.51	\$215,952 70	4.73	\$245,356 57	5.88

BALANCE SHEET—HEATING UTILITIES.

As of June 30.

	1912	1911	1910
ASSETS.			
Property and plant beginning of year.....	\$1,351,137 05	\$1,287,254 26	\$1,040,856 70
Construction, current year.....			
Treasury securities.....	22,000 00	140 00	437 6
Stocks, bonds, and other investments.....			
Reserve, sinking and special fund assets.....	3,965 96	3,682 12	2,900 25
Current assets.....	41,215 21	21,116 20	14,010 78
Prepaid accounts.....			
Open accounts.....			
Deficit.....	470 11	25,451 02	14,531 81
Total.....	\$1,421,788 33	\$1,340,643 60	\$1,072,342 90
LIABILITIES.			
Capital stock—preferred.....	\$648,865 00	\$648,948 56	\$597,000 00
Capital stock—common.....	291,950 00	245,404 38	131,050 00
Funded debt.....			
Mortgage liabilities.....			
Reserve, sinking and special fund liabilities..	58,122 28	50,608 76	16,083 88
Current and accrued liabilities.....	422,851 05	315,681 90	378,209 02
Open accounts.....			
Total.....	\$1,421,788 33	\$1,340,643 60	\$1,072,342 90

CONDENSED INCOME ACCOUNT—HEATING.

Year ending June 30.

	1912		1911		1910	
	Amount.	Per cent.	Amount.	Per cent.	Amount.	Per cent.
Total operating revenues....	\$313,089 79	100.00	\$233,959 54	100.00	\$232,468 01	100.00
Total operating expenses....	268,674 94	85.82	195,205 69	83.45	185,435 45	79.86
Net operating revenue....	\$44,414 85	14.18	\$38,753 85	16.55	\$46,832 56	20.14
Non-operating revenues.....	4,024 60	1.28	600 06	.25	44 50	.02
Gross income.....	\$48,439 45	15.46	\$39,353 91	16.80	\$46,877 06	20.16
Deductions from gross income:						
Interest on funded debt and real estate mortgages.....						
Interest on floating debt..						
Miscellaneous deductions.....						
Total.....						
Net income.....	\$48,439 45	15.46	\$39,353 91	16.80	\$46,877 06	20.16
Disposition of net income:						
Dividends and other payments from net income.	\$32,211 55	10.29	\$32,132 49	13.72	\$31,336 47	13.48
Surplus.....	\$16,227 90	5.18	\$7,221 42	3.08	\$15,540 59	6.68

C—ENGINEERING

The work of the Commission's engineering staff has followed substantially the general lines and scope of previous years. Such new matters as have risen have been handled without embarrassment by adapting the staff organization in minor particulars to meet such problems. The report of the engineering staff is presented under the three principal headings: Service inspections, valuation work, and miscellaneous matters.

SERVICE INSPECTIONS

The inspections and investigations made by the engineering staff of the Railroad Commission for the purpose of determining the quality and safety of the service being furnished are covered in this report under the following heads:

A. Under the Public Utilities Law

1. Gas Service.
2. Electric Service.
3. Telephone Service.
4. Water Works Service.

B. Under the Railroad Commission Law.

1. Street and Interurban Railway Service.
2. Railway Service.
3. Block Signals and Interlocking.
4. Street and Highway Crossing Protection.
5. Railway Accidents.
6. Track Elevation and Depression.
7. Track Inspection.
8. Bridges.

A. INSPECTIONS UNDER THE PUBLIC UTILITIES LAW.

1. Gas Service.

Gas service inspections have been made as heretofore except that the district electrical inspectors have made a larger proportion of the gas service inspections, leaving the regular gas inspector more time to devote to the gas engineering work. With the establishment of the district office at Milwaukee there has been a considerable increase in the number of gas meters tested on complaint of consumers. The results of the complaint tests of gas meters are as follows:

COMPLAIN GAS METER TESTS.
BY RAILROAD COMMISSION'S INSPECTORS.
July 1, 1911—June 30, 1912.

City.	Consumer.	Date.	Registration.	Condition.
Madison.....	Prof. E. R. Maurer.....	7 15 11	97.7	O. K.
	M. D. Nickles.....	6/21 12	103	Fast
Milwaukee.....	Peter B. Bogart.....	1 4 12	89.1	O. K.
		1 4 12	101.5	O. K.
"	Mrs. J. Devan.....	3 6/12	102.6	Fast
"				
"	E. V. Kaiser.....	11 3 12	101.3	O. K.
"	J. F. Krizek.....	8 4 11	99.8	O. K.
"	Wm. Martin.....	8 4 11	106.6	Fast
"	B. L. McClelland.....	12 7 11	103.5	Fast
"		12 7 11	99.3	O. K.
"				
"	Henry Rodner.....	4 10 12	98.5	O. K.
"	H. J. Schroff.....	1 4 12	101.6	O. K.
"	F. W. Kellogg.....	11 8 11	101.7	O. K.
"	Thos. Tollefson.....	2 8 12	102.9	Fast
"	John Wiening.....	3 27 12	99.3	O. K.
"				
"	Mrs. Wolters.....	8 3 11	99.7	O. K.

Correct registration expressed as 100%.

Registered to prejudice of consumer.....	5
Did not register to prejudice of consumer.....	11
Total.....	16

The following summary shows the number of routine gas service inspections and heat value observed at time of routine gas service inspection:

REPORT OF THE RAILROAD COMMISSION.

SUMMARY OF HEAT VALUES

July 1, 1911—June 30, 1912.

City.	No. of inspections.	Month.	Determination.	Heat value.	Kind of Gas.
Antigo.....	2	September.....	5	623	Water
		December.....	6	643	
Appleton.....	2	July.....	4	591	Coal
		April.....	19	606	
Ashland.....	3	August.....	5	630	Water
		October.....	3	634	
		May.....	3	616	
Baraboo.....	2	October.....	5	616	Coal
		June.....	4	877	
Beaver Dam.....	1	October.....	5	637	Water
Beloit.....	1	August.....	5	604	Mixed
Berlin.....	2	September.....	5	620	Coal
		February.....	10	657	
Burlington.....	2	August.....	5	635	Water
		June.....	5	587	
Chippewa Falls.....	3	July.....	5	615	Water
		October.....	5	678	
		June.....	5	380	
Eau Claire.....	3	July.....	10	609	Coal
		October.....	5	594	
		May.....	23	594	
Fond du Lac.....	4	July.....	5	651	Coal
		September.....	5	656	
		February.....	7	626	
		May.....	2	624	
Fort Atkinson.....	2	October.....	5	593	Coal
		February.....	5	544	
Green Bay.....	3	July.....	5	638	Coal
		November.....	3	647	
		May.....	3	605	
Hudson.....	3	August.....	5	626	Coal
		December.....	4	559	
		June.....	4	478	
Hurley.....	3	August.....	5	624	Water
		October.....	3	664	
		May.....	3	638	
Kenosha.....	2	August.....	5	616	Mixed
		February.....	5	600	
La Crosse.....	3	August.....	3	647	Coal
		June.....	12	626	
		June.....	5	593	
Manitowoc.....	3	July.....	29	586	Coal
		November.....	5	600	
		May.....	6	618	
Marinette.....	3	July.....	5	635	Coal
		November.....	5	602	
		March.....	4	612	
Menomonie.....	3	July.....	10	573	Water
		October.....	5	622	
		June.....	21	561	
Monroe.....	2	August.....	5	637	Water
		June.....	5	635	
Oshkosh.....	2	July.....	5	578	Coal
		May.....	7	621	
Platteville.....	2	August.....	5	619	Coal
		June.....	5	601	
Racine.....	2	August.....	5	637	Coal
		February.....	5	596	
Rhineland.....	2	September.....	5	604	Water
		December.....	2	624	
Ripon.....	2	September.....	5	881	Oil
		February.....	13	877	
Sheboygan.....	3	July.....	8	610	Coal
		December.....	10	574	
		May.....	4	597	
Stevens Point.....	1	September.....	5	647	Coal
Stoughton.....	1	June.....	5	636	Water
Superior.....	1	August.....	10	663	Coal
Waukesha.....	1	December.....	5	610	Coal
Wausau.....	3	September.....	3	838	Coal
		March.....	2	610	
		June.....	1	602	

2. *Electric Service.*

The routine electric inspection work, including street lighting investigations and a special study of meter testing methods employed by various companies, has been carried on along lines similar to those employed heretofore. Commercial electrical testing and complaint testing work has increased during the past year. The following summaries cover the commercial testing work and complaint tests of electric meters of the year:

COMMERCIAL ELECTRICAL TESTING.

July 1, 1911—June 30, 1912.

Utility.	City.	Test.	Date.	Charge.
Amherst El. Lt. & Pr. Plant ..	Amherst.....	Master meter..	10/31/11	\$1 00
Wis. Tr. Lt. Ht. & Pr. Co.....	Appleton.....	" "	10/20/11	1 50
Light. Power & St. Ry. Co.	Ashland.....	" "	10/31/11	3 00
Baldwin El. Lt. & Fuel Co.....	Baldwin.....	" "	2/19/12	1 50
City of Barron Ltg. Plant.....	Barron.....	" "	2 --/12	1 50
Boscobel El. Lt. & Pr. Co.....	Boscobel.....	" "	4/24/12	8 40
Water & Light Commission ...	Bruce.....	" "	6/6/12	2 62
Brodhead Electric Co.	Brodhead.....	" "	12 --/11	4 80
Cadott Mun. Ltg. Plant.....	Cadott.....	" "	1 --/12	1 03
Cashton Mun. Lt. & W. Plt...	Cashton.....	" "	5 --/12	3 60
Calumet Service Co.....	Chilton.....	" "	10/4/11	1 50
Water & Light Department....	Evansville...	" "	10/14/11	3 00
		Service meters	5/16-17/12	11 75
Florence Water & Light Plant	Florence.....	" "	3/5-8/12	16 00
City Wt. & Lt. Commission...	Ft. Atkinson..	Master meter .	10/6/11	5 00
Grantsburg El. Lt. Plant.....	Grantsburg....	" "	2 --/12	2 40
La Crosse Gas & Elec. Co.....	La Crosse.....	" "	11 --/11	3 00
La Farge Elec. Co.....	La Farge.....	Service meters	8/22-23/12	4 00
Equitable El. Lt. Co.....	Lake Geneva..	Voltmeter.....	2 --/12	1 00
Little Wolf River Lbr. Co....	Manawa.....	Master meter..	10 --/11	1 80
Marshfield W. E. Lt. & P. Co.	Marshfield....	" "	1 --/12	4 80
Mellen Water & Light Co.....	Mellen.....	" "	1 --/12	1 85
Chp. Val. Ry. Lt. & Pr. Co....	Menomonie....	" "	12 --/11	1 88
Mun. El. Lt. & Wt. Co.....	Merrillan....	" "	11/13-14/11	2 25
Neillsville Elec. Co.....	Neillsville...	" "	10/9/11	4 00
New Richmond Power Co.....	New Richmond	Switchboard equipment...	1 --/12	9 68
Oconto Electric Co.....	Oconto.....	Master meter..	10/9/11	5 00
John R. Davis Lbr. Co.....	Phillips.....	" "	1 --/12	3 60
Prairie City Electric Co.....	Prairie d. Chien	" "	10/6/11	4 00
O. T. Newton's Sons Co.....	Sparta.....	Service meter.	10/6/11	7 50
North Western Lbr. Co.....	Stanley.....	Master meter..	11 --/11	4 20
Sun Prairie Wt. & Lt. Co.....	Sun Prairie....	" "	2/29/12	6 50
Tomahawk El. W. & Tel. Co....	Tomahawk....	" "	1 --/12	3 60
Chl. Harv. & Geneva L. Ry....	Walworth....	" "	3/4/12	5 40
Washburn El. Lt. & Pr. Co....	Washburn....	" "	10/27/11	1 50
Whitehall El. Lt. & W. W. Plt	Whitehall....	" "	1 --/12	1 50
Winneconne Lt. Ht. & Pr. Co.	Winneconne...	" "	1 --/12	1 13
		Total.....		\$146'

REPORT OF THE RAILROAD COMMISSION.

COMPLAINT ELECTRIC METER TESTS.

BY RAILROAD COMMISSION'S INSPECTORS.

July 1, 1911—June 30, 1912.

City.	Consumer.	Date.	Registration.			Condition.
			Light load.	Half load.	Full load.	
Berlin	C. H. Wright.....	3 18/12	99.6	99.3	102.7	O. K.
	Stillman Wright & Co.	3 19/12	100.0	104.0	103.0	"
	"	"	102.7	103.9	102.4	"
Kaukauna..	L. Lindauer.....	12 15-19 11	96.4	95.4	95.7	Slow.
	"	"	104.7	103.1	103.2	Fast.
	Frank Solar.....	"	42.9	77.05	80.45	Slow.
	Alb. Luckow.....	"	104.5	101.1	100.6	Fast.
	Kaukauna Lbr. Co....	"	100.8	102.1	101.4	O. K.
	M. A. Wertheimer...	"	103.5	102.2	101.8	Meter creeps continuously.
	"	"	61.0	87.75	89.65	Slow.
	C. W. Stripley.....	"	101.8	101.7	101.3	O. K.
	"	"	106.7	106.2	105.9	Fast.
	"	"	104.5	101.5	100.4	"
E. L. O'Brien.....	"	93.4	93.8	93.5	Slow.	
A. McLean.....	"	97.5	93.7	94.0	Creeps continuously.	
Madison	I. C. Lounsbury.....	5 4/12	89.3	98.4	100.0	Slow.
	M. D. Nichols.....	6 21/12	96.13	99.5	99.55	O. K.
Mellen	Miss O. Atcherson....	2 1/12	75.8	93.6	92.8	Slow.
Milwaukee..	P. B. Bogart.....	12 27/11	86.1	96.0	96.5	Slow.
	Lines, Spooner, Ellis, & Quarles....	9 19/11	82.76	82.5	81.9	Slow.
	Majestic Theater.....	8 30/11	106.9	102.0	102.2	Fast.
	"	"	108.9	104.7	104.4	"
	"	"	105.7	100.5	100.7	"
	"	"	106.6	101.3	101.3	"
	"	"	103.5	99.0	100.3	O. K.
	"	"	91.4	100.6	95.8	Slow.
	"	"	96.4	102.3	98.4	O. K.
	F. W. Kellogg.....	11 14/11	96.6	97.3	98.0	Slow.
	Milw. Monument Co..	2 20/12	104.5	101.9	101.9	Fast.
	New Star Theater....	2 22-23/12	93.1	102.3	103.0	O. K.
	"	"	105.4	102.9	102.7	Fast.
	"	"	98.5	100.95	102.6	O. K.
	"	"	106.2	104.8	101.4	Fast.
"	"	103.8	102.8	103.5	O. K.	
"	"	100.6	101.8	101.3	"	
Miss K. Pier.....	11 8/11	100.7	97.5	97.3	"	
Western States Envelope Co.....	2 20/12	93.5	90.6	90.6	Slow.	
Monroe	Invincible Mfg. Co...	6 20/12	135.0	125.5	124.4	Fast.
Platteville..	Boxer Mining Co.....	10 30/11	91.5	98.0	100.5	Slow.
	Cleveland Mining Co.	2 21/12	126.3	125.8	125.6	Fast.
Waterloo....	L. A. Leaver.....	1 30/12	65.6	95.6	97.3	Slow.
Watertown..	Mrs. W. Bucheit.....	2 24/12	99.3	100.7	100.9	Slow.
West Salem.	County Asylum.....	9 28/11	91.8	96.3	97.3	Slow.

Correct registration expressed as 100%

Registered to the prejudice of consumer..... 15

Did not register to the prejudice of consumer... 29

Total.....44

There have been a number of modifications and exemptions to the rules of electric service during at least a part of the year covered by this report. The following is a summary of these modifications and exemptions:

MODIFICATIONS AND EXEMPTIONS TO RULES OF ELECTRIC SERVICE
In force July 1, 1911—June 30, 1912

City.	Granted.	Modification in effect.	Modification.
Alma.....	11 / 2 / 10	To 10 24 11....	Renewal of modification to remove meters for test.
Alma.....	1 / 23 / 12	To 1 / 1 / 13....	Renewal of modification to remove meters for test.
Augusta.....	5 / 19 / 10	To 10 24 11....	To test meters at plant.
Baraboo.....	9 / 9 / 9	No time stated.	Allowing meters to be tested at plant.
Barron.....	4 / 14 / 11	" " "	To remove type A west. meters for test.
Belmont.....	12 / 17 / 9	" " "	Allowing meters to be tested at plant.
Boscobel.....	4 / 8 / 10	" " "	Allowing meters to be tested at plant.
Boyd.....	9 / 8 / 9	" " "	Authorization to employ outside persons to make tests as required by rules 16 and 19.
Cashton.....	11 / 21 / 10	To 1 / 1 / 12....	Allowing meters to be tested at plant.
Cashton.....	2 / 9 / 12	No time stated.	Rule 17, to allow meters to be removed for test.
Cudaby.....	9 / 22 / 11	To 7 / 1 / 12....	Exemption from rule 23.
Cumberland.....	11 / 3 / 9	No time stated.	Allowing meters to be removed for test.
East Troy.....	9 / 22 / 11	No time stated.	Exemption from rule 23.
Elroy.....	7 / 22 / 10	To 7 / 1 / 12....	Allowing meters to be tested at plant.
Fennimore.....	3 / 24 / 11	During 1911. ..	Allowing meters to be tested at plant.
Glenwood /	12 / 21 / 11	No time stated.	Rule 16, to allow meters to be tested before installation.
Downing /	12 / 22 / 10	To 7 / 1 / 12....	Allowing meters to be tested at Shawano.
Gresham.....			Allowing meters to be tested at plant.
Jefferson.....	2 / 2 / 10	No time stated.	Rule 17, to allow meters to be removed for test.
Lancaster.....	8 / 14 / 11	No time stated.	Rule 17, allowing meters to be removed from service for test.
Loyal.....	12 / 8 / 11	No time stated.	Rule 16, to allow meters to be tested before installation.
Medford.....	12 / 21 / 11	No time stated.	Allowing meters to be removed for test.
Merrillan.....	4 / 27 / 11	To 7 / 1 / 12....	Exempted from purchasing meter testing equipment.
Milwaukee, Mollitor & Hummel.	11 / 3 / 9	No time stated.	Allowing meters to be tested at plant.
Monticello.....	4 / 8 / 10	Indefinitely....	Rule 17, allowing Gutman meters to be removed from service for overhauling, readjusting and testing.
Plainfield.....	8 / 2 / 11	To 1 / 1 / 12....	Exemption from rule 23 in so far as it applies to 500 volt d. c. power circuits.
Racine.....	11 / 3 / 9	Indefinitely....	Rule 17, allowing meters to be removed from service for test.
Seymour.....	12 / 8 / 11	No time stated.	Rule 17, allowing schedule of frequency of tests to be substituted for annual schedule.
Superior.....	12 / 6 / 11	" " "	To remove old style meters and test same at plant.
Viroqua.....	4 / 18 / 10	No time stated.	Rule 17, allowing routine meter tests to be made at power plant or office.
Westby.....	7 / 19 / 11	To 7 / 1 / 12....	Rule 17, allowing meters to be removed from service for test.
West Salem.....	7 / 26 / 11	To 1 / 1 / 13....	

SUMMARY OF MODIFICATIONS AND EXEMPTIONS TO RULES OF ELECTRIC SERVICE.

In force July 1, 1911—June 30, 1912.

Modifications of rule 17, allowing meters to be removed for test.....	17
Modifications of rule 17, allowing certain types of electric meters to be removed for test.....	3
Modification of rule 17, allowing schedule of frequency of tests to be substituted for annual schedule.....	1
Modification of rule 16, allowing meters to be tested before installation.....	2
Exemptions from compliance with rule 23.....	2
Exemption from rule 23, on 500 volt power circuit.....	1
Exemptions from compliance with rule 19, where tests are made by outside party.....	3

The following is a summary of the electric service inspections carried on during the year:

ELECTRIC SERVICE INSPECTIONS.

July 1, 1911--June 30, 1912.

City.	Month.	Matters requiring attention.
Albany	April.....	Voltage regulation during high water; routine meter tests and record.
Algoma.....	November...	Test of a few meters: (no voltage record taken.)
Alma.....	January.....	Test of a few meters: voltage regulation.
Altoona.....	November....	Apparently nothing.
Amory.....	January.....	Voltage regulation.
Amherst.....	October.....	Routine meter testing; voltage regulation; transformer ratio.
Antigo.....	December....	Apparently nothing.
Appleton.....	June.....	
	September...	Voltage regulation in a limited district: test of a few meters.
	October.....	Voltage regulation in a limited district: test of a few meters.
	November....	Voltage regulation in one locality.
Arcadia.....	April.....	Voltage regulation in one locality.
Argyle.....	January.....	Routine meter testing.
Arkansas.....	January.....	Routine meter testing.
Ashland.....	October.....	See Durand.
	January.....	Routine and installation meter tests: testing equipment and voltage regulation in several localities. (Incidental voltage records only.)
	May.....	O. K.
Athens.....	May.....	Excessive voltage fluctuations at Athens House.
Augusta.....	November....	Apparently nothing.
	June.....	Routine meter testing: test records.
Baldwin.....	February....	Meter test records.
Bangor.....	June.....	Voltage regulation
Baraboo.....	December....	(Conditions abnormal, due to change over.)
	May.....	Routine meter tests: record of interruptions.
Barron.....	January.....	Voltage regulation in one locality: test of a few meters.
Bayfield.....	January.....	Routine meter testing: voltage regulation in two localities: record of interruptions in service.
Beaver Dam...	August.....	Voltage regulation in one locality.
	April.....	Test of a few meters: record of interruptions: meter test records.
Belleville.....		No inspection.
Belmont.....	July.....	Routine meter testing: record of interruptions.
	January.....	Test of a few meters: lamp inspection.
Beloit.....	October....	Test of a few meters.
	May.....	Voltage regulation in one locality.
Benton.....	January.....	Test of a few meters: record of interruptions.
Berlin.....	July.....	Meter test records: routine and installation meter tests.
	November....	(Follow-up inspection.)
	February....	Routine meter testing.
Biramwood...	February....	Routine meter tests: voltage regulation.
Bl. Riv. Falls..		No inspection.
Blair.....	January.....	Voltage regulation and meter testing.
Blanchardville.	January.....	Routine meter tests: station records.
Bloomer.....	November....	Routine and installation meter tests.
Boscobel.....	August.....	Voltage regulation in certain localities.
	April.....	Apparently nothing.
Boyd.....	December....	Voltage after 11:00 p. m.: routine meter tests: testing equipment.
Brillion.....	September..	Voltage regulation: routine meter testing.
Brodhead.....	November....	Routine meter tests: voltage regulation.
	April.....	Voltage regulation.
Browntown....	November....	Meter tests and equipment.
Bruce.....	May.....	Excessive voltage fluctuations: system unbalanced; routine meter testing.
Burlington....	February....	Meter test records: voltage regulation in two localities.
Cadott.....	December....	Voltage regulation; routine meter testing.
Cameron.....	January.....	Meter test records.
Cambellsport..	November....	(Conditions abnormal).
	February....	Service in general needs attention.
Cashton.....	June.....	Apparently nothing.
Cassville.....	April.....	Apparently nothing.

ELECTRIC SERVICE INSPECTIONS—Continued.

July 1, 1911—June 30, 1912.

City.	Month.	Matters requiring attention.
Cazenovia.....	May.....	Routine meter test; line drop in one locality.
Cedarburg.....	January.....	Portable volt meter; lamp inspection.
Cedar Grove.....	September.....	Voltage regulation.
Chetek.....	November.....	Voltage regulation; meter testing.
Chilton.....	October.....	Routine meter testing.
	June.....	Routine meter testing; installation test records.
Chippewa Falls.....	December.....	Apparently nothing.
	May.....	Meter test records.
Clayton.....	January.....	Voltage regulation; routine meter tests.
Clintonville.....	November.....	Voltage regulation; routine meter tests.
	May.....	Routine meter testing; excessive voltage fluctuation in all localities.
Colby.....	May.....	Excessive voltage fluctuation; routine meter testing.
Colfax.....		No inspection.
Columbus.....	December.....	Installation meter tests.
	April.....	Meter testing; voltage regulation.
Crandon.....	February.....	Meter tests and equipment; low voltage.
Cuba City.....	January.....	Routine meter tests.
Cudahy.....	September.....	(Special inspection in connection with request for exemption).
Cumberland.....	July.....	Apparently nothing.
	January.....	Voltage regulation in two localities; high voltage.
Darlington.....	July.....	Voltage regulation in certain localities.
	January.....	Voltage regulation in one locality; routine tests of a few meters.
	June.....	Routine meter testing.
Delafield.....	July.....	Voltage regulation; meter testing.
	May.....	Voltage regulation; meter testing.
Delevan.....	February.....	Voltage regulation; routine meter testing; test records.
De Pere.....	March.....	Voltage regulation in several localities; line drop; balancing of system; routine meter tests.
Dodgeville.....	December.....	Routine meter tests.
	May.....	Apparently nothing.
Dousman.....		No inspection.
Downing.....	December.....	Voltage regulation; test of several meters.
Durang.....	January.....	Voltage regulation; routine meter test; meter test records; lamp inspection.
Eagle River.....	December.....	General compliance.
	February.....	Voltage regulation.
	May.....	Voltage regulation.
East Troy.....	September.....	(Same as Cudahy).
Eau Claire.....	October.....	Installation meter tests.
	November.....	Installation meter tests.
	May.....	Voltage in one locality.
Eau Galle.....		(See Durand).
Edgerton.....	August.....	Test of a few meters (no voltage records taken).
	December.....	Voltage regulation in one locality; lamp inspection.
	May.....	Voltage regulation at station.
Eland Junction.....		(See Wittenberg).
Elcho.....	March.....	Voltage regulation.
Elderon.....	February.....	Routine meter tests; record of interruptions.
Elkhart Lake.....	October.....	Voltage regulation; routine meter tests.
	June.....	Excessive voltage fluctuation in one locality; station records.
Elkhorn.....	July.....	Apparently nothing.
	February.....	Routine meter tests.
Elk Mound.....	November.....	Apparently nothing.
Ellsworth.....	January.....	Voltage regulation.
Elmwood.....	February.....	Routine meter tests.
Elroy.....	December.....	Test of a few meters; meter test records.
Endeavor.....	March.....	Voltage regulation; meters.
Evansville.....	October.....	Test of a few meters.
	May.....	Apparently nothing.
Fairchild.....	April.....	Voltage regulation; interruptions in service.
Fennimore.....	August.....	Meter tests.
	January.....	Meter tests.
	June.....	Routine meter testing.
Florence.....	March.....	Voltage regulation in several localities.
Fond du Lac.....	July.....	Routine meter tests.
	February.....	Voltage regulation in several localities.
Ft. Atkinson.....	December.....	Voltage regulation and meter testing.
	May.....	Voltage regulation and meter testing.

ELECTRIC SERVICE INSPECTIONS—Continued.

July 1, 1911—June 30, 1912.

City.	Month.	Matters requiring attention.
Fountain City..	January	Voltage regulation in one locality; routine meter tests.
Frederic.....	May.....	Voltage regulation; records of interruption in service; station log sheet.
Galesville.....	.....	No inspection.
Gays Mills.....	August	Voltage regulation in limited districts.
Genoa Jct.....	February	Station voltage regulation
Gillett	October	Voltage regulation; installation meter tests.
Glenwood.....	December.....	Test of a few meters; meter test records.
Grafton	March	Apparently nothing.
Grand Rapids..	November	Voltage regulation; records of interruptions.
Grantsburg....	April	Voltage regulation in several localities.
Green Bay.....	May.....	High voltage; record of interruptions; station log.
G. & E. Co.....	March.....	Voltage regulation.
Min. Bldg. Co.	November.....	Voltage regulation; routine and installation meter tests; master meter accuracy.
Greenwood.....	November	Voltage regulation.
Gresham.....	October.....	Meter test records.
Hartford.....	August	Voltage regulation; a few meter tests; meter test records.
Hayward.....	March.....	Station records.
Hazel Green...	October.....	Voltage regulation; station records.
Horicon.....	January	Routine meter tests.
Hudson.....	August	Test of a few meters. (No voltage records taken).
Hurley.....	December.....	Apparently nothing.
Hustisford....	May.....	Voltage regulation in one locality.
Independence..	February	Routine meter testing.
Iola.....	August.....	(New plant) meter testing.
Iron River.....	January	Routine meter testing.
Janesville	October.....	All requirements.
Jefferson.....	July.....	Routine meter testing; voltage regulation in one locality.
Kaukauna.....	October.....	(Follow-up inspection)
Kenosha	February	Test of a few meters; voltage regulation in several localities.
El. Ry. Co.....	June.....	Practically nothing.
G. & E. Co.....	December.....	Excessive voltage fluctuation in one locality.
Kewaskum	May.....	Voltage regulation; installation and routine meter tests.
Keweenaw.....	May.....	Voltage regulation and tests of several meters.
Kilbourn.....	February	Voltage regulation; routine meter tests.
La Crosse.....	February	Routine meter tests; general requirements.
Ladysmith	July.....	Special inspection.
La Farge	February	Routine meter tests.
Lake Geneva...	November	Voltage regulation and meter testing.
Lake Mills	February	Meter testing and equipment. (Equipment later purchased).
Lancaster	November	High voltage.
La Valle.....	December.....	Voltage regulation in certain localities; routine meter testing; record of interruptions.
Linden.....	April.....	Voltage regulation.
Little Chute..	September..	Meter test methods.
Lodi.....	June.....	Voltage regulation in certain localities.
Lomira.....	November	Voltage regulation; master meter; routine meter tests; transformers.
Loyal.....	May.....	Excessive voltage fluctuations due to overloaded transformers; routine meter testing; test records.
	August	Voltage regulation in one locality; routine meter testing.
	February....	Routine meter tests and records; voltage regulation and interruptions in service.
	December	Voltage regulation; meter testing.
	May.....	Routine meter tests.
	January	Voltage regulation; routine meter testing.
	June.....	Voltage regulation; meter testing.
	March.....	Voltage regulation; meter tests; record of interruptions.
	June.....	Apparently nothing. (No voltage survey made.)
	.....	No inspection.
	March.....	Voltage regulation; routine meter testing.
	November	Meter testing.
	November	Meter testing.

ELECTRIC SERVICE INSPECTIONS—Continued.

July 1, 1911—June 30, 1912.

City.	Month.	Matters requiring attention.
Luck.....	May.....	Voltage regulation; station log sheet; meter test records.
Madison.....	March.....	Voltage regulation in certain localities.
Manawa.....	October.....	Meter testing.
Manitowoc.....	September.....	Routine meter testing; d. c. voltage regulation; record of interruptions.
	November.....	Voltage regulation in certain localities.
Marinette.....	October.....	Voltage regulation in certain localities.
	March.....	Voltage regulation in two localities; 500 v. meter testing.
Marshfield.....	November.....	Voltage regulation; routine meter tests.
	June.....	Excessive voltage fluctuations; routine meter testing.
Martintown.....	April.....	Record of interruptions; test of one meter; voltage regulation.
Mauston.....	November.....	Voltage regulation.
	April.....	Voltage regulation in certain localities; meter testing.
Mayville.....	February.....	Lamp inspection.
Mazomanie.....	April.....	Voltage regulation in certain localities; meter accuracy.
Medford.....	January.....	Voltage regulation.
	June.....	Routine meter tests; voltage regulation in one locality.
Mellen.....	January.....	Voltage regulation; routine meter tests.
Menasha— E. T. L. H. & P. Co.....	May.....	Voltage regulation.
Mun. Plt.....	April.....	Voltage regulation in one locality.
Menom. Falls.....	July.....	Voltage regulation; meter testing.
	January.....	Voltage regulation; meter testing.
Menomonie.....	December.....	Lamp inspection.
Merrill.....	December.....	(Follow-up inspection).
	February.....	Rastian meter practice; station log.
Merrillan.....	November.....	High voltage; voltage regulation; routine meter tests.
	February.....	Voltage regulation in certain localities; routine meter tests.
	April.....	Very little progress toward compliance with the law. (Shut down).
Milton.....		
Milwaukee— T. M. E. R. & L. Co.....	December.....	Excessive voltage fluctuations.
	March.....	O. K. at South Milwaukee.
Colby & Ab- bott Co.....	February.....	Voltage regulation at time of changing machines; method of meter testing.
Com. Pr. Co..	August.....	Voltage regulation in certain a. c. localities.
	May.....	Voltage regulation in one locality.
Ger'nia Bldg. Co.....		No inspection.
Plank, E. L. & P. Co.....	February.....	O. K.
	March.....	O. K.
Ry. Tr. Bldg..	March.....	Two voltage records; engine governor needs attention.
Rep. House... Wells Pr. Co..	April.....	Meter testing; lamp inspection.
	August.....	Voltage regulation in two localities; a few meters to test.
Mineral Point..	January.....	Routine meter testing; lamp inspection.
	June.....	Voltage fluctuation.
Minocqua.....	February.....	Voltage regulation in two localities.
Mishicot.....	June.....	Meter testing; record of interruption.
Wondovi.....	July.....	Conditions abnormal.
	April.....	Routine meter testing; voltage fluctuation in six localities.
Monroe.....	November.....	Master meter; record of interruptions.
	April.....	Routine meter testing; meter test records.
Montello.....	November.....	Voltage regulation and other requirements.
	March.....	(Follow-up inspection) progress reported.
Monticello.....	April.....	Voltage fluctuation in one locality; routine meter testing.
Mosinee.....	February.....	Meter testing, (new plant).

ELECTRIC SERVICE INSPECTION—Continued.

July 1, 1911—June 30, 1912.

City.	Month.	Matters requiring attention.
Mt. Horeb	December	Meter testing.
	June	Routine meter testing.
Muscoda	August	Voltage regulation. (Plant to be rebuilt).
	June	General service requirements.
Necedah	December	Voltage regulation; meter test records.
Neenah	September	Voltage regulation.
	April	Voltage regulation in several localities.
Neillsville	November	Routine meter test: high voltage when large machine runs.
	June	Meter testing; voltage regulation; lamp inspection.
Neshkoro	April	O. K.
New Glarus	April	Voltage fluctuation; routine meter testing; records of interruptions; rules of service.
New Lisbon	April	Voltage fluctuation in one locality; routine meter testing; unbalanced phases.
New London	October	Voltage regulation in certain localities; routine meter testing; method of making installation tests.
	June	Routine tests of 220 volt meters.
New Richmond . . .	December	Voltage regulation in certain localities; record of interruptions of service.
North Freedom . . .	May	O. K.
No. Milwaukee . . .	April	Excessive voltage fluctuation.
Oconomowoc	August	Test of a few meters; voltage regulator.
	February	Interruptions in service.
Oconto— O. El. Co.	October	(Little progress reported.)
	March	Apparently nothing.
P. L. & H. Co. . . .	October	(No improvement in service.)
	March	Voltage regulation in one locality; test of power meters.
Oconto Falls	October	Meter tests and station record. (No voltage records taken).
	March	Voltage regulation in several localities; routine meter tests.
Omro	August	Voltage regulation in one locality.
	June	Apparently nothing.
Onalaska		No inspection.
Osceola	March	Test of three meters.
	April	Voltage regulation in one locality.
Oshkosh	August	Installation tests of meters.
	May	O. K.
Owen	November	Installation tests and meter test records; excessive voltage fluctuations in one locality.
Pardeeville	March	Excessive voltage fluctuation.
Park Falls	January	Excessive voltage fluctuation in one locality; routine meter testing.
	June	Excessive voltage fluctuation; routine meter testing; record of interruptions.
Peshtigo	November	Voltage regulation.
	March	Voltage regulation.
Pewaukee	July	Voltage regulation; meter testing; record of interruptions; plant to change hands.
Phillips	January	Routine meter tests.
	June	Excessive voltage variation in two localities; record of interruptions.
Plainfield	November	Voltage regulation; installation meter tests.
	May	Excessive voltage fluctuation.
Platteville	August	Routine meter testing; (no voltage records taken).
	January	Voltage regulation at beginning of inspection; test of a few meters.
	June	Voltage regulation in one locality; test of a few meters.
Plymouth	September	Installation meter tests; voltage regulation; meter test records.
	June	Excessive voltage fluctuation in two localities; routine meter testing.
Portage	March	Interruptions in service.
Pt. Edwards	November	Voltage regulation.
Pt. Washington . . .	January	Routine meter testing.
	May	Routine test of polyphase meters.
Pr. du Chien	September	Voltage regulation; meter testing.
	April	Excessive voltage fluctuation.

ELECTRIC SERVICE INSPECTION—Continued.

July 1, 1911—June 30, 1912.

City.	Month.	Matters requiring attention.
Prairie du Sac.	April.....	Excessive voltage fluctuation in outskirts of town; routine meter testing; testing equipment; general disregard of all rules.
Prescott.....	January.....	General service requirements.
Princeton.....	March.....	Meter testing; voltage regulation; record of interruptions.
Racine.....	February.....	Routine meter testing, 59 meters.
Randolph.....	August.....	Record of interruptions; lamp inspection.
Random Lake..	June.....	Excessive voltage fluctuation; routine meter tests; records incomplete.
Red Granite....	April.....	Excessive voltage fluctuation; record of interruptions.
Reedsburg.....	November....	Voltage regulation in certain localities; meter testing; distribution system.
	May.....	Excessive voltage fluctuation in one locality; routine meter testing.
Reedsville.....	September...	Voltage regulation; record of interruptions.
Rhinelander...	December....	Excessive voltage fluctuation; station records incomplete.
	March.....	Excessive voltage fluctuation.
Rib Lake.....	January.....	Routine meter testing; voltage regulation in several localities; master meter.
Rice Lake.....	October.....	Routine meter testing; high voltage.
	January.....	Meter testing method.
Rich'nd Center	August.....	Routine meter testing.
	April.....	Routine meter testing; record of interruptions.
Rio.....	March.....	Voltage regulation; routine meter testing; record of interruptions.
Ripon.....	July.....	Voltage regulation; routine meter testing; (changes contemplated.)
	February....	Voltage regulation in one locality.
River Falls....	January.....	High voltage; meter testing method; voltage regulation.
Rosholt.....	February....	Meter test records; voltage regulation in certain localities.
Schofield.....	June.....	Voltage regulation.
St. Croix Falls..	March.....	O. K.
	May.....	Excessive voltage fluctuation.
Sauk City.....	April.....	Routine meter testing.
Saxon.....	May.....	Excessive voltage fluctuation.
Seymour.....	November....	Routine meter testing; test records.
Shawano.....	October.....	Voltage regulation in several localities; general compliance with rules.
	June.....	Excessive voltage fluctuation in four localities; routine meter tests and test records.
Sheboygan.....	September...	Routine meter testing.
	May.....	O. K.
Sheboygan Falls	September...	Voltage fluctuation; routine meter testing.
	June.....	Excessive fluctuation; meter test records.
Shell Lake.....	July.....	Routine meter testing; (no voltage records taken)
	January.....	Installation meter tests; line drop; general compliance.
Scandinavia....	October.....	Voltage regulation in certain localities.
Soldiers Grove..	August.....	Station records.
South Wayne... So. Milwaukee..	January.....	Meter testing.
Sparta.....	March.....	Apparently nothing.
	November...	Voltage regulation; master meter; high voltage; lamp inspection; record of interruptions.
	June.....	Voltage regulation.
Spooner.....	October.....	Meter testing method; voltage regulation in one locality; station record.
Spring Green... Spring Valley..	August.....	Voltage regulation in certain localities; voltage survey; meter testing method.
Stanley.....	January.....	Master meter.
	November...	Polyphase meter testing; installation meter tests; excessive voltage fluctuation in two localities; record of interruptions.
Stevens Point..	June.....	Routine meter testing; meter test records.
	January.....	Excessive voltage fluctuation; routine meter testing.
	May.....	Excessive voltage fluctuation in two localities; record of interruptions.
Stoughton.....	December....	Routine meter testing.
	May.....	O. K.

ELECTRIC SERVICE INSPECTION—Concluded.

July 1, 1911—June 30, 1912.

City.	Month.	Matters requiring attention.
Stratford	January	Voltage regulation; line drop.
Sturgeon Bay...	November	Apparently nothing.
	June.....	Voltage regulation.
Sun Prairie.....	January	Test of some meters; meter test records; installation tests; station records.
Superior	October.....	Excessive voltage fluctuation; routine meter testing; meter test records.
	May.....	Excessive voltage fluctuation in three localities; routine meter testing.
Thorp.....	December....	Voltage regulation; records of interruption.
Tomah.....	November....	Voltage regulation; meter testing.
	June.....	Voltage regulation at times.
Tomahawk.....	December....	Voltage regulation; meter testing.
	June.....	Routine meter tests; voltage regulation in certain localities.
Two Rivers.....	September...	Voltage fluctuation in certain localities. (Plant being changed.)
Viola.....	August.....	(Preliminary inspection).
Viroqua.....	November....	High voltage; routine meter tests and records; master meter.
	June.....	Voltage regulation in certain localities.
Walworth.....	February....	Routine meter testing.
Warrens.....	June.....	Apparently nothing.
Washburn.....	October.....	Routine meter testing; test records.
	January.....	Excessive voltage fluctuation in one locality.
Waterford.....	May.....	Excessive voltage fluctuation. Sold to T. M. E. R. & L. Co.
Waterloo.....	December....	Voltage regulation in one locality.
	April.....	Meters to be adjusted for 60 cyc.
Watertown.....	December....	Excessive voltage fluctuations.
	April.....	Excessive voltage fluctuations.
Waukesha.....	December....	Apparently nothing.
	May.....	O. K.
Waupaca.....	October.....	Voltage regulation under certain operating conditions; routine meter tests.
	June.....	Apparently nothing.
Waupun.....	July.....	Voltage regulation; routine meter tests.
	February...	Apparently nothing.
Wausau.....	December....	Meter test methods and records.
	June.....	Routine meter testing; installation tests.
Wauwatosa.....	April.....	Excessive voltage fluctuations in two localities.
West Allis.....	April.....	O. K.
West Bend.....	November....	(Operating conditions abnormal).
	February....	Voltage regulation in several localities; high voltage.
Westboro.....		No inspection.
Westby.....	June.....	Test of a few meters.
Westfield.....	March.....	Routine meter tests; voltage regulation; station operation.
West Salem	November....	Excessive voltage fluctuation before adjustment; test of meters; no station records.
	February....	General service conditions.
	June.....	General service conditions.
Weyauwega	October.....	Voltage regulation.
	June.....	Apparently nothing.
Whitehall.....	January.....	Routine meter testing; voltage regulation; record of interruption; lamp inspection.
Whitewater.....	May.....	Routine meter testing.
Wild Rose.....	April.....	Excessive voltage fluctuation; meter test records not available.
Wilton.....	November....	Routine meter tests; record of interruptions.
Winneconne.....	August.....	Voltage regulation; meter testing.
	November....	(Assistance given in meter testing work).
Withee.....	November....	Meter testing; voltage regulation; station records.
Wittenberg.....	February....	Voltage regulation; test of a few meters.
Wonewoc.....	March.....	Record of interruptions; meter testing.
Wyocena.....	March.....	General violation of rules.

3. *Telephone Service Inspection.*

The gas and electric service inspectors have continued to make incidental telephone service tests in various cities throughout the state. In addition to these tests the usual inspections to investigate complaints as well as complete routine inspections of the larger exchanges have been carried on. The total number of telephone test calls made by the inspection staff during the year has amounted to 3,884.

The following is a summary of the telephone service inspections made in the larger exchanges and upon complaint:

TELEPHONE TESTS.

July 1, 1911, to June 30, 1912.

City.	Company.	Month.	No. calls.	Ave. time to get operator.	Per cent within 5 sec.	Wrong No.	Poor supervision.
				Seconds			
Antigo	Antigo Tel. Co.	Sept.	50	3.8	92	0	1
Appleton	Fox Riv. Val. Tel. Co.	Aug.	50	4.2	70	1	1
	Wis. Tel. Co.	"	50	6.25	48	0	8
Ashland	"	"	40	4.8	70	4	3
	Ashland Home Tel. Co.	"	50	5.1	72	0	3
Bayfield	Wis. Tel. Co.	"	32	5.3	56	0	4
Beaumont	"	Oct.	53	5.7	47	2	9
Berlin	"	Nov.	56	4.75	58	1	2
Chippewa Falls	"	Aug.	50	3.2	94	2	0
Eau Claire	"	"	100	3.9	85	3	2
	"	Feb.	59	4.2	73	0	8
Fond du Lac	"	Aug.	100	6.35	50	4	4
	"	Jan.	50	5.2	70	0	0
Grand Rapids	Wood Co. Tel. Co.	Sept.	41	3.9	85	2	2
Green Bay	Fox Riv. Val. Tel. Co.	Aug.	75	4.8	68	5	3
	"	Jan.	50	4.85	60	0	2
	Wis. Tel. Co.	Aug.	100	3.8	86	2	3
Janesville	"	Oct.	50	4.7	72	3	4
	Rock Co. Tel. Co.	"	50	5.9	44	1	7
Kenosha	Independent Tel. Co.	Aug.	32	4.2	87.5	3	3
La Crosse	Wis. Tel. Co.	"	50	4.4	70	1	0
	"	"	100	4.0	78	4	1
Lake Mills	Interurban Tel. Co.	Mch.	34	5.8	56	0	4
Madison	Wis. Tel. Co.	July.	100	6.2	68	2	27
	"	"	100	3.5	86	3	7
	"	Oct.	100	5.85	60	5	17
	"	Nov.	100	5.6	50	2	11
	"	"	27	3.6	89	0	0
	"	Dec.	50	4.0	76	0	0
	"	"	50	4.77	68	1	1
	"	"	50	4.4	74	3	3
	"	"	53	4.5	75	1	2
	"	Jan.	50	5.1	64	1	4
	"	"	50	5.0	56	1	4
	"	Feb.	50	5.9	60	1	3
	"	"	52	4.5	75	3	1
	"	"	50	3.75	80	2	1
	"	"	52	3.8	87	0	1
	"	"	29	3.5	90	1	1
	"	May.	50	4.1	80	1	0
Manitowoc	"	Aug.	50	4.3	76	0	1
Marinette	"	"	50	5.1	62	3	0
Marshfield	Marshfield Tel. Co.	July.	50	11.7	42	2	8
Merrill	Wis. Tel. Co.	Sept.	50	4.55	76	2	2
Milwaukee	"	July & Aug.	140	4.2	80	6	3
Oshkosh	"	Aug.	100	5.1	57	3	5
Racine	"	Jan.	100	4.2	78	2	6
Rhineland	Rh. Mut. Tel. Co.	Aug.	50	3.8	86	3	0
Rochester	Farmers' Tel. Co.	Jan.	27	5.6	44.5	1	2
Sheboygan	Citizens' Tel. Co.	Aug.	76	5.56	54	5	5
Stevens Point	Wis. Tel. Co.	Sept.	50	4.1	82	2	0
Superior	Peoples Tel. Co.	Aug.	100	4.6	75	4	8
	Wis. Tel. Co.	"	60	4.8	65	3	3
Watertown	"	"	50	7.1	56	3	4
Waukesha	"	"	50	5.2	64	0	0
Wausau	Wausau Tel. Co.	Sept.	20	Automatic system.			

4. *Waterworks Service.*

The waterworks service investigations have been continued as heretofore. Fire stream tests have been carried on, pressure surveys have been made using curve drawing gauges, water supply sources have been examined, standpipe failures investigated, a few water meters have been tested upon complaint, and the reasonableness of requests for water main extensions has been determined.

B. INSPECTIONS UNDER THE RAILROAD COMMISSION LAW.

1. *Street and Interurban Railway Service.*

The inspection of street and interurban electric railway service has been confined largely to the investigation of special complaints of either a formal or an informal nature. In the city of Milwaukee the routing of a cross-town line and the adequacy of service in particular localities or on particular lines were the subjects of study. In Madison certain changes for the improvement of the service were recommended to the Commission after a study of the situation had been made. The street railway service in Janesville was also investigated.

The suburban and short haul interurban service on the Milwaukee Northern Railway just north of Milwaukee on Sundays and holidays of the summer season was the subject of special inspection. Complaint by residents of Janesville on account of the re-routing of the Rockford & Interurban cars through the city was also the basis of an investigation.

2. *Railway Service.*

The incidental steam railway service inspections have been continued whenever members of the staff have used the railroads. The quantity of this incidental inspection work is shown by the following summary which was compiled from the reports sent to the railroad companies. Every member of the engineering staff carries inspection forms on which he notes the various service conditions observed by him, including adequacy and condition of stations and trains, information given, late trains, connections

at junctions and similar matters. A report of all inspections made during the month goes to each road with such instructions as appear necessary. A large number of improvement in railway service have resulted from these incidental inspections.

SUMMARY OF RAILROAD TRIP INSPECTIONS.

July 1, 1911—June 30, 1912.

Month.	C. & N. W.	C. M. & St. P.	C. St. P. M. & O.	C. B. & Q.	G. N.	M. St. P. & S. S. M.	N. P.	I. C.	Other roads.	Total.
July.....	46	26	19	.....	.....	7	.....	.....	4	102
August.....	46	43	16	.....	.....	4	1	.....	.....	110
September.....	26	15	.....	.....	.....	2	.....	.....	.....	43
October.....	44	26	19	.....	.....	9	1	.....	9	108
November.....	53	55	23	.....	.....	26	.....	2	17	176
December.....	47	31	12	.....	.....	7	7	.....	1	98
January.....	46	49	22	4	.....	20	2	.....	7	150
February.....	50	41	12	.....	.....	5	.....	.....	.....	108
March.....	44	24	.....	.....	.....	7	.....	.....	1	76
April.....	32	31	7	.....	.....	3	.....	.....	.....	73
May.....	85	56	3	2	.....	29	2	.....	2	179
June.....	98	80	21	3	.....	22	1	3	6	234
Total.....	617	477	154	9	.....	141	7	5	47	1,457

3. *Block Signals and Interlocking.*

During the year thirteen new interlocking plants have been constructed and placed in operation, while ten old plants have been rebuilt. Extensive repairs have been made on a number of other plants. In the construction of these new plants and the rebuilding of the old ones, complete plans were submitted to the Commission for approval. Upon completion of the work and before the plants were placed in operation inspection was made by a member of the staff and a permit issued by the Commission before each plant was put into operation.

STATEMENT SHOWING THE NUMBER AND KIND OF INTERLOCKING PLANTS ON EACH ROAD IN WISCONSIN.

What these plants protect and the total number of points protected.

Name of Road.	KIND OF PLANTS.			POINTS PROTECTED.			
	Elec-trical.	Me-chan-ical.	Com-bined elec-trical and me-chan-ical.	Cross-ings.	Junc-tions.	Draw-bridge.	Total points pro-ected.
C. & M. E. Ry.....	1	.....	2	3	.....	.....	3
C. & N. W. Ry.....	7	8	20	19	18	3	40
C. B. & Q. R. Ry.....	.....	.....	4	2	1	1	4
C. M. & St. P. Ry.....	4	12	10	22	11	4	37
C. St. P. M. & O. Ry....	5	2	5	7	7	.....	14
D. S. S. & A. Ry.....	.....	1	.....	1	.....	.....	1
Great Northern Ry.....	.....	.....	8	7	12	.....	19
L. S. T. & T. Ry.....	.....	1	.....	1	.....	.....	1
M. St. P. & S. S. M. Ry.	3	4	9	16	5	2	23
Northern Pacific Ry.....	2	.....	.....	.....	4	2	6
Northwestern Coal Ry...	.....	.....	2	2	.....	.....	2
Total.....	22	28	60	80	58	12	150

Total plants 110
 Total points protected..... 150

There has been a marked increase during the year in the amount of automatic protection installed on the various roads. The following table gives the number of miles of block signals now in service in the state. This table shows an increase of over fifty miles of automatic protection when compared with the mileage similarly protected a year ago. In addition to the foregoing, plans have been submitted to the Commission and approved which cover considerable additional work now under construction.

STATEMENT SHOWING MILES OF BLOCK SIGNALS IN WISCONSIN.

Name of road.	Auto. blk.	Man. blk.	Con. man. blk.	Staff.
Chicago & North Western Ry.....	87.9	1,011.5	.....	.....
Chicago, Burlington & Quincy R. R.....	.....	.....	219	.....
Chicago, Milwaukee & St. Paul Ry.....	22.0	908.8	.....	3
Chicago, St. Paul, Minneapolis & Omaha Ry....	55.2	407.8	.....	.....
Great Northern Ry.....	34.0	.....	.....	.....
Total.....	199.1	2 328.14	219	3

Total miles of block signals—2,749.24.

Since all the larger roads in the state also operate in adjoining states, it was considered advisable to join with the states of Illinois and Minnesota in the preparation of rules of maintenance and operation of interlocking plants. Several conferences were held during the year by representatives of the respective commissions, with the result that the tentative rules are nearly ready to present to the railroad companies who have requested an opportunity of discussing the rules before they are formally adopted by the Commission.

4. *Street and Highway Crossing Protection.*

During the past year conditions at 237 street and highway crossings have been investigated; 166 of these crossings have been protected. Action toward providing protection at the remaining 71 crossings has been held in abeyance for various reasons.

Of the crossings protected during the year the protection was provided in some 50 per cent of the cases as a result of formal action by the Commission. Approximately 25 per cent of the protected crossings have been protected by the railway companies as the result of suggestions of the Commission or its representatives without the institution of formal proceedings. The remaining 25 per cent were voluntarily protected by the railroad companies.

Table I is a statement of crossing protection provided in accordance with formal orders of the Commission.

Table II is a statement of crossing protection provided as a result of suggestions by the Commission or its representatives.

Table III is a statement of crossings that have been investigated but which were not protected previous to June 30, 1912. Many of these crossings have been protected since that date.

Table IV is a statement of crossings voluntarily protected by the railroad companies.

TABLE I.
HIGHWAY CROSSING PROTECTION IN WISCONSIN.
FORMAL DECISIONS.
July 31, 1911—June 30, 1912.

Abbreviation: a. a. alarm with illuminated sign—automatic audible alarm with illuminated sign.

Location.	Parties.	Angle of crossing.	Orders.	Date of decision.
Town of Lebanon.....	Town of Lebanon (Dodge county) vs. C. & N. W.	Acute.....	Subway at new location of highway (not reported in 1911).	2-16-11
Kansasville—1 mile west of	On motion of the Commission, C. M. & St. P.	Right.....	a. a. alarm with illuminated sign and 6% grade on north approach.	1-16-12
New Lisbon—Marshall crossing.	On motion of the Commission, C. M. & St. P.	Right.....	a. a. alarm with illuminated sign—removal of bank of dirt and trees.	1-12-12
Marathon City—Main St.	Marathon City. vs. C. & N. W.....	Right.....	a. a. alarm with illuminated sign.....	10- 7-11
Bardwell—2 miles west of	*On motion of the Commission C. M. & St. P.	Right.....	a. a. alarm with illuminated sign.....	1-11-12
Calvert—Mormon Coulee road.	*On motion of the Commission, C. B. & Q.....	Acute.....	a. a. alarm with illuminated sign and grading of crossing.	1-19-12
Calvert—Mormon Coulee road.	On motion of the Commission, La Crosse & South Eastern.	Acute.....	Grading. All trains to stop before crossing highway.	1-19-12
Richfield— $\frac{1}{2}$ mile east of	*On motion of the Commission, C. M. & St. P	Acute.....	a. a. alarm with illuminated sign.....	11-23-11
Chili—1 mile west of Yolo crossing.	*On motion of the Commission, C. St. P. M & O.	Acute.....	a. a. alarm with illuminated sign.....	10- 4-12
Neenah—South Commercial street.	*On motion of the Commission, C. & N. W....	Right.....	Removal of bill board—a. a. alarm—continuation of day flagman as at present	1- 6-12
Sheboygan—near 13th St.	On motion of the Commission, C. & N. W.....	.....	Recommended that petition for under-crossing be dismissed.	1- 8-12
Oshkosh—6th street.....	City of Oshkosh vs. C. M. & St. P.....	Acute.....	Rearrangement of bell circuits.....	11- 7-11
Oshkosh—Light street...	City of Oshkosh vs. C. M. & St. P. and M. St. P. & S. S. M.	1 Right.....	Companies to strictly observe switching rules—petition dismissed.	11-23-12
Dresser Jct.—1 mi. south-east of.	On motion of the Commission, M. St. P. & S. S. M.	1 Acute.....	This crossing closed and new one opened.....	6-22-12
Sheboygan Falls—Green Bay road.	*Village of Sheboygan Falls vs. Sheboygan Ry. & Elec. Co.	Acute.....	a. a. alarm with illuminated sign.....	8-14-12
Columbia—1st road east of.	*Town of Hewitt (Clark Co.) vs. C. St. P. M. & O.	Acute.....	First decision issued 1-16-12, withdrawn 3-12-12; new decision orders a. a. alarm with illuminated sign—widen approaches to 32 ft. across right of way.	11-27-12

*Indicates that investigation originated as a result of an accident at the crossing.

TABLE I.—Concluded.

Location.	Parties.	Angle of crossing.	Orders.	Date of decision.
Town of Caledonia—Racine County— $\frac{1}{2}$ mile road	On motion of the Commission, C. & N. W....	Acute.....	Construction of a subway.....	10—24—12
Town of Beaver Dam—Juneau—Leipsic road	*On motion of the Commission, C. & N. W....	Acute.....	a. a. alarm with illuminated sign.....	7—6—12
Wauzeka—1 mile north of—Boscobel road.	Town of Wauzeka (Crawford Co.) vs. C. M. & St. P.	Acute.....	a. a. alarm with illuminated sign—additional whistle post—widen crossing and place additional planking.	8—28—12
Schleisingsville— $\frac{1}{2}$ mile east of—Mud Lake crossing	On motion of the Commission, C. M. & St. P. and M. St. P. & S. S. M.	Acute.....	a. a. alarm with illuminated sign—16 ft. highway on right of way—uniform grade between tracks.	8—14—12
Schleisingsville— $\frac{1}{2}$ mile east of—Fernhaber	On motion of the Commission, C. M. & St. P. and M. St. P. & S. S. M.	Acute.....	Overhead bridge.	11—27—12
Milton Jct.—1 mile north of Nelson's crossing	*On motion of the Commission, C. & N. W....	Acute.....	a. a. alarm with illuminated sign.....	7—2—12
Mt. Horeb—1st, 2nd, 4th and 8th streets.	Village of Mt. Horeb vs. C. & N. W.....	Right.....	Streets to have a. a. alarm with illuminated sign—switching movements to be flagged.	10—25—12
City of Racine—Rapids road	City of Racine vs. C. & N. W.....	Acute.....	To operate gates 24 hours.	6—28—12
Dodgeville— $\frac{2}{3}$ miles west of—Reason's crossing.	On motion of the Commission, C. & N. W....	Acute.....	a. a. alarm with illuminated sign and filling up holes in right of way.	8—14—12
Dodgeville— $\frac{2}{3}$ miles west of—Larsen's crossing.	On motion of the Commission, C. & N. W....	Right.....	Removal of trees in northeast corner—filling holes in southeast approach.	8—14—12
Wautoma—Mt. Morris A. V. Beaver Dam Jct.—Spring street.	On motion of the Commission, C. & N. W....	Acute.....	a. a. alarm with illuminated sign.....	7—1—12
Salem—1 mile east of....	*On motion of the Commission, C. M. & St. P.	Right.....	Flagman 24 hours.....	8—14—12
Humbird—King street...	Town of Salem (Kenosha Co.) vs. C. & N. W.	Right.....	a. a. alarm with illuminated sign.....	9—19—12
Warrens— $\frac{2}{3}$ miles west of Streeter crossing.	*Town of Mentor (Clark Co.) vs. C. St. P. M. & O.	Acute.....	a. a. alarm with illuminated sign.....	8—28—12
Albany—Bill Gunn crossing.	Town of Lincoln (Jackson Co.) vs. C. St. P. M. & O.	Right.....	Reopen crossing, place it in proper condition, install a. a. alarm with illuminated sign.....	10—4—12
Delton—4 miles west of Graham's crossing.	Town of Albany (Green Co.) vs. C. M. & St. P.	Acute.....	a. a. alarm with illuminated sign.....	9—13—12
Merrimac.....	Town of Buffalo (Marquette Co.) vs. C. & N. W.	Acute.....	a. a. alarm with illuminated sign.....	8—16—12
Town of Beaver Dam—Schoenberger crossing.	W. A. Blackburn, et al. vs. C. & N. W.....	Acute.....	Flagman.....	3—30—12
Columbus—Birdsey.....	Town of Beaver Dam (Dodge County) vs. C. & N. W.	Acute.....	Overhead bridge.....	7—18—12
	City of Columbus vs. C. M. & St. P.....	Right.....	Flagman during day—a. a. alarm with illuminated sign.	8—22—12

Mendota—4 mile north of	Town of Wesport (Dane County) vs. C. & N. W.	Acute	Town and company to agree either to a new bridge or to changes in the approaches of the existing bridge. In case of no agreement the Commission will decide.	5-21-12
Town of Caledonia, Racine County—5 mile road.	Town of Caledonia (Racine County) vs. C. & M. E.	Right	Cut to be flared out.....	8-28-12
Beaver Dam—Mackee, Maple, High and 3d streets.	City of Beaver Dam vs. C. M. & St. P.....	2 Right..... 2 Acute.....	a. a. alarm with time element at each street	9-13-12
Hamilton—300 feet north of.	Town of Byron (Fond du Lac Co.) vs. M. St. P. & S. S. M.	Acute.....	a. a. alarm with illuminated sign.....	11-27-12
Theresa—4 miles south of.	Town of Wayne (Washington Co.) vs. M. St. P. & S. S. M.	Acute.....	a. a. alarm with illuminated sign, widen highway on right of way to permit teams to pass and turn, a. a. alarm with illuminated sign.....	9-17-12
Allenton—Dakota road..	Town of Addison (Washington Co.) vs. M. St. P. & S. S. M.	Right.....	Viaduct ordered—time extended.....	6-4-11
Superior—Belknap st....	City of Superior vs. L. S. T. & T. and D. S. S. & A.	.....	Track elevation.....	5-20-12
Milwaukee—South Side track elevation.	City of Milwaukee vs. C. M. & St. P., C. & N. W., and T. M. E. R. & L.	.....	Speed to be reduced to 12 miles per hour—switching movements to be flagged.	8-28-12
Boscobel—Wisconsin ave., Park, Church and Walnut streets.	Village of Boscobel vs. C. M. & St. P.....	4 Acute.....	a. a. alarm with illuminated sign.....	11-27-12
Byron—300 ft. east of Milwaukee road.	Town of Byron (Fond du Lac Co.) vs. M. St. P. & S. S. M.	Acute.....	Gates	8-2-12
Milwaukee—Muskego ave.	City of Milwaukee vs. C. M. & St. P.....	Acute.....	Supplemental order—approval of plans for bridge.	5-29-12
Town of Wauwatosa—North avenue.	Town of Wauwatosa (Milwaukee Co.) vs. C. & N. W.	Right.....	Supplemental order—approval of plans for bridge.	6-1-12
Town of Wauwatosa—North Town Line road.	Town of Wauwatosa (Milwaukee Co.) vs. C. & N. W.	Right.....	Supplemental order—approval of plans for bridge.	6-4-12
Town of Greenfield—South Town Line road.	Town of Greenfield (Milwaukee Co.) vs. C. & N. W.	Acute.....	subway.	9-18-12
Village of Lyons—2 crossings.	Otto Miller vs. C. M. & St. P.....	.....	Bell and light at each.....	.....

* Indicates that the investigation originated as a result of an accident at the crossing.

TABLE II.
HIGHWAY CROSSING PROTECTION IN WISCONSIN.
HIGHWAY CROSSING CASES INVESTIGATED BY THE COMMISSION AND SETTLED INFORMALLY.
July 1, 1911--June 30, 1912.

Abbreviation: a. a. alarm with ill. sign.=automatic audible alarm with illuminated sign.

Location.	Parties.	Date of investigation.	Disposal.	Angle of crossing.
Pewaukee--Main st. and Oakland ave.	On motion of the Commission, C. M. & St. P.	4-26-1911	Oakland ave., to have day flagman entire year--Main st., to have day flagman during summer months.	2 Acute.
Dres-er Jct.--2 miles north of Madison--Dickinson st.....	On motion of the Commission, Frederick Div.--M. St. P. & S. S. M. On motion of the Commission, C. & N. W.	11- 4-1911 11- 6-1911	Case dropped for lack of jurisdiction.	Acute.
*Bridgeport--Bridgeport--Bloomington road.	Village of Bridgeport vs. C. M. & St. P.	11-15-1911	Railway company agreed to install a. a. alarm with ill. sign.	Right.
*Muscodia--4 miles east of.....	On motion of the Commission, C. M. & St. P.	11-27-1911	Railway company agreed to install a. a. alarm with ill. sign.	Right.
*Neillsville--Grand ave.....	On motion of the Commission, C. St. P. M. & O.	11-28-1911	Case dropped upon failure of town to file complaint.	Acute.
Neillsville--Hewitt st.....	On motion of the Commission, C. St. P. M. & O.	11-28-1911	City satisfied by agreement of railway company to reduce speed of trains to 12 miles per hour.	Right.
*Bangor-- $\frac{1}{2}$ mile west of--Dutch Creek road.	Town of Bangor (LaCrosse Co.) vs. C. & N. W.	12-19-1911	City satisfied by agreement of railway company to reduce speed of trains to 12 miles per hour.	Right.
Bangor-- $\frac{1}{2}$ mile west of--Dutch Creek road	On motion of the Commission, C. M. & St. P.	12-19-1911	Railway company agreed to install a. a. alarm with ill. sign.	Right.
*Janesville--Academy st.....	On motion of the Commission, C. & N. W. and C. M. & St. P.	1-11-1912	Railway company agreed to install a. a. alarm with ill. sign.	Right.
Granville-- $\frac{1}{4}$ mile north of depot.	Town of Granville (Waukesha Co.) vs. C. M. & St. P.	3-11-1912	Railway companies agreed to increase gate protection to 24 hours.	Acute.
Rugby Jct.-- $\frac{1}{2}$ mile n. w. of--Fond du Lac road.	Adam Hopel et al. vs. C. M. & St. P.	4-26-1912	Railway company placed flagman on crossing.	Acute.
Fox Lake Jct.--2 miles west of.	On motion of the Commission C. M. & St. P.	5- 4-1912	Railway company agreed to install a. a. alarm with ill. sign.	Acute.
Picketts--1 mile south of--Sharpe's crossing.	Town of Utica (Winnebago Co.) vs. C. M. & St. P.	5-15-1912	Railway company agreed to install a. a. alarm with ill. sign.	Right.
Fiske--1 mile s. w. of--Stone's crossing.	Town of Utica (Winnebago Co.) vs. C. M. & St. P.	5-15-1912	Railway company agreed to install a. a. alarm with ill. sign.	Acute.

6-R.	Germantown—2½ miles south of.	Town of Germantown (Washington Co.) vs. C. M. & St. P.	5-17-1912	Railway company agreed to install a. a. alarm with ill. sign.	Right.
	Germantown—¼ mile south of—New Fond du Lac road.	Town of Germantown (Washington Co.) vs. C. M. & St. P.	5-17-1912	Railway company agreed to install a. a. alarm with ill. sign.	Acute.
	Germantown—3d crossing south of.	Town of Germantown (Washington Co.) vs. C. M. & St. P.	5-17-1912	Railway company agreed to install a. a. alarm with ill. sign.	Acute.
	Germantown—2½ miles south of.	Town of Germantown (Washington Co.) vs. C. & N. W.	5-17-1912	Railway company agreed to repair defective bell.	Right.
	Germantown—1½ mile south of.	Town of Germantown (Washington Co.) vs. C. M. & St. P.	5-17-1912	Railway company agreed to repair defective bell and install ill. sign.	Acute.
	Germantown—County Line road.	Town of Germantown (Washington Co.) vs. C. & N. W.—C. M. & St. P.	5-17-1912	Railway companies agreed to grade highway between their tracks.	Acute.
	Tunnel No. 1—1st crossing east of.	Town of Glendale (Monroe Co.) vs. C. & N. W.	5-22-1912	Railway company agreed to install a. a. alarm with ill. sign.	Acute.
	Norwalk—¼ mile east of crossing No. 1.	On motion of the Commission, C. & N. W.	5-22-1912	Case dropped upon failure of town to file complaint.	Right.
	Norwalk—¼ mile east of crossing No. 2.	On motion of the Commission, C. & N. W.	5-22-1912	Case dropped upon failure of town to file complaint.	Acute.
	Janesville—east of—Shopiere road.	Town of La Prairie (Rock Co.) vs. C. M. & St. P.	5-25-1912	Railway company agreed to install a. a. alarm with ill. sign.	Right.
	Janesville—east of—old Racine road.	Town of La Prairie (Rock Co.) vs. C. M. & St. P.	5-25-1912	Railway company agreed to install a. a. alarm with ill. sign.	Acute.
	Reed's Corners—1 mile south of.	On motion of the Commission, C. M. & St. P.	5-28-1912	Railway company agreed to install a. a. alarm.	Acute.
	Reed's Corners—300' north of ..	Town of Metomen (Fond du Lac Co.) vs. C. M. & St. P.	5-28-1912	Railway company agreed to install a. a. alarm with ill. sign.	Acute.
	Schleisingerville—1 mile west of.	Town of Hartford (Washington Co.) vs. C. M. & St. P.	6-4-1912	Railway company agreed to remove obstructions.	Right.
	Cadott—¼ mile west of.....	On motion of the Commission—M. St. P. & S. S. M.	6-5-1912	Case dropped upon failure of town to file complaint.	Acute.
	Eagle—1½ miles west of.....	Town of Eagle (Waukesha Co.) vs. C. M. & St. P.	6-5-1912	Railway company agreed to install a. a. alarm with ill. sign.	Acute.
	Thorpe—5 miles east of	On motion of the Commission—M. St. P. & S. S. M.	6-12-1912	Case dropped upon failure of town to file complaint.	Right.
	Orfordville—3 miles west of....	On motion of the Commission—C. M. & St. P.	6-29-1912	Case dropped—State aid highway being built will take care of grading.	Acute.
	Brookfield—3 miles s. w. of—Forest Home crossing.	Town of Pewaukee (Waukesha Co.) vs. C. M. & St. P.	.....	Railway company agreed to install a. a. alarm with ill. sign.	Acute.
	Templeton.....	Town of Lisbon (Waukesha Co.) vs. M. St. P. & S. S. M.	.....	Railway company agreed to install a. a. alarm.	Right.
Richfield—First 3 crossings n. w. of depot.	Town of Richfield (Washington Co.) vs. C. M. & St. P.	.....	Railway company agreed to install a. a. alarm at first and third crossings.	3 Acute.	
Oconomowoc—Wood street.....	City of Oconomowoc vs. C. M. & St. P.	.....	Railway company placed a flagman on the crossing.	Acute.	
Granville—1½ miles n. w. of....	Town of Menomonee (Washington Co.) vs. C. M. & St. P. and C. & N. W.	.....	Railway companies agreed to grade approaches and widen highway.	Acute.	
Oconto—Main street and Chicago street.	City of Oconto vs. C. & N. W.....	3-12-1912	Railway company placed gates on crossings.	.....

*Indicates that investigation originated as a result of accident at the crossing.

TABLE III.
HIGHWAY CROSSING CASES PENDING.
July 1, 1911—June 30, 1912.

Location.	Parties.	Date of investigation.	Angle of crossing.	Remarks.
Monticello—Woolen Mill crossing.....	Town of Mt. Pleasant vs. I. C. and C. M. & St. P....	6—29—1910.	Acute....	Decision 7—1—12 Case reopened.
Dodgeville—Division street.....	On motion of Commission—I. C.....	1—6—1911.		
Somerset—Stillwater road.....	Town of Somerset (St. Croix Co.) vs. M. St. & S. S. M.....	6—12—1911.	Acute....	Decision 1—2—12. Case reopened.
La Crosse—Mill street.....	On motion of Commission—C. M. & St. P.....	8— 1911.	Right.....	
Camp Douglas—2 miles east of—Orange crossing.....	On motion of Commission—C. M. & St. P.....	10—16—1911.	Acute....	Decision 10—16—11. Case reopened.
Mukwonago—one mile south of.....	" " " " —M. St. P. & S. S. M.....	10—25—1911.	Acute....	
" —0.4 " " ".....	" " " " —M. L. H. & T.....	10—25—1911.	Acute....	Case reopened.
" —one " " ".....	" " " " —C. M. & St. P.....	10—25—1911.	Right.....	
Mosinee—first road south of.....	" " " " —C. M. & St. P.....	10—27—1911.	Acute....	
Hubbleton—1 mile east of—Watertown plank road.....	" " " " — " ".....	10—31—1911.	Acute....	Decision 10—31—1911.
Hubbleton—1 mile east of—Holly Hill road.....	" " " " — " ".....	10—31—1911.	Right.....	
Madison—Williamson, Baldwin, Dickinson, S. Thornton sts.....	" " " " — " ".....	" " " ".....	2 Acute....	Decision 11—6—1911.
*Wausau—McIntosh st.....	" " " " — " ".....	11—6—1911.	2 Right....	
*Waukesha—Arcadia st.....	" " " " — " ".....	11—17—1911.	Acute....	Decision 11—26—1911.
Weyauwega—Mill st.....	" " " " —M. St. P. & S. S. M.....	11—26—1911.	Right.....	
Oconomowoc—Charles Lyman, & La Belle sts.....	" " " " — " ".....	11—27—1911.	Right.....	Decision 12—1—1911.
" " " " ".....	" " " " —C. M. & St. P.....	12— 1—1911.	2 Right....	
*Bargor—2 miles east of.....	" " " " — " ".....	" " " ".....	1 Acute..	Decision 12—19—1911.
Hartland—Cottonwood ave.....	" " " " — " ".....	12—19—1911.	Right....	
*Kenosha—Middle st.....	" " " " — " ".....	12—21—1911.	Acute....	Decision 1—19—1912.
*Portage—Cass st.....	" " " " —C. & N. W.....	1—19—1912.	Right....	
Milwaukee—Chicago road.....	" " " " —C. M. & St. P.....	2— 2—1912.	Acute....	Decision 2—5—1912.
Monroe—Emerson st.....	" " " " — " ".....	2— 5—1912.	Acute....	
*South Milwaukee— $\frac{1}{4}$ miles west of—Rawson ave.....	" " " " — " ".....	2— 7—1912.	Right....	Decision 2—12—1912.
*Westboro—Center st.....	" " " " —C. & M. Elec.....	2—12—1912.	Acute....	
*Cross Plains—East of—Schulenberg's 2nd crossing.....	" " " " —M. St. P. & S. S. M.....	2—23—1912.	Right....	Decision 2—23—1912.
Cross Plains—East of—Bollenbeck crossing.....	Town of Cross Plains vs. C. M. & St. P.....	2—23—1912.	Acute....	
" —East of—John Schoepp crossing.....	" " " " vs. ".....	2—23—1912.	Right....	Decision 2—23—1912.
" " " " ".....	" " " " vs. ".....	2—23—1912.	Acute....	

Green Bay—Seventh street.....	City of Green Bay vs. C. & N. W.	3-4-1912.	
Palmyra—1½ miles east—Steel's Crossing.....	On motion of Commission—C. M. & St. P.	4-5-1912.	Right....
Elba—½ miles east of—Monday Morning Crossing.....	On motion of Commission—C. M. & St. P.	4-23-1912..	Acute....
Elba—First street east of depot.....	Adam Hoppel et al vs M. St. P. & S. S. M.	4-23-1912..	"
Rugby Jct.—½ mile n. w. of—Fond du Lac Rd.	On motion of Commission—C. & N. W.	4-26-1912..	"
Mendota—Schillinglaw crossing.....	Towns of Richfield and Polk vs. M. St. P. & S. S. M.	4-26-1912..	Right....
Rugby Jct.—First road south of.....	Town of Middleton vs. C. M. & St. P.	5-16-1912..	Acute....
Middleton—West of—Schulenberg's first crossing.....	Town of Middleton vs. C. M. & St. P.	5-16-1912..	Right....
Middleton—West of—Schewe's crossing.....	Town of Salem vs. C. & N. W.	5-21-1912..	"
Salem—100 ft. west of depot.....	Town of Wilton vs. C. & N. W.	5-22-1912..	Acute....
Tunnel No. 1—First crossing west of.....	On motion of Commission—C. & N. W.—C. M. & St. P.	5-22-1912..	"
Sparta—3½ miles west of.....	On motion of Commission—C. M. & St. P.	6-1-1912..	1 Acute ..
Brookfield—1 mile east of.....	On motion of Commission—M. St. P. & S. S. M.	6-5-1912..	1 Right....
Irvine—6 miles west of.....	Town of Glenwood vs. M. St. P. & S. S. M.	6-12-1912..	Acute....
Glenwood City—2 miles west of.....	On motion of Commission—M. St. P. & S. S. M.	6-12-1912..	Right....
Chelsea—2 miles north of.....	Town of Rock (Rock Co) vs. C. M. & St. P.	6-18-1912..	"
*Hanover—2½ miles east of—Finley's crossing..	On motion of Commission—M. St. P. & S. S. M.	6-20-1912..	Acute....
Burlington—5 miles south of.....	Town of Waterford vs. M. St. P. & S. S. M.	6-20-1912..	Right....
Honey Cr. ek—½ miles north of.....	On motion of Commission—C. & N. W.	6-20-1912..	Acute....
Lake Beulah—3 miles south of.....	City of Milwaukee vs. C. M. & St. P.	6-21-1912..	"
Kewa-kum—1 mile north of—Fond du Lac rd.	City of Milwaukee vs. C. & N. W.		Right....
Milwaukee—Track depression—N. W. section..	R. J. Nye vs. M. St. P. & S. S. M.		"
Milwaukee—Track depression—Beer track.....	Town of La Prairie vs. C. M. & St. P.		1 Acute..
Milwaukee—Track elevation—Layton Park.....			1 Right....
Superior—Belknap street.....			
Janesville—3rd and 4th crossings east of sugar factory.....			

*Indicates that investigation originated as a result of accident at the crossing.

TABLE IV.
 PROTECTION VOLUNTARILY PROVIDED BY THE RAILWAY COMPANIES.
 July 1, 1911—June 30, 1912.

Railway company.	Auto- matic alarm.	Gates.	Flagmen	Total
Chicago & North Western.....	8	3	8	19
Chicago Burlington & Quincy.....	1	.....	.....	1
Chicago Milwaukee & St. Paul.....	7	.....	6	13
Chicago St. Paul Minneapolis & Omaha.....	4	.....	.....	4
Minneapolis St. Paul & Sault Ste. Marie.....	.....	.....	3	3
Northern Pacific.....	.....	.....	2	2
Chicago & Milwaukee Electric.....	1	.....	.....	1
Total.....	21	3	19	43

5. *Railway Accidents.*

All accidents occurring on the right of way or in the shops or yards of the railway companies are reported to the Commission. All accidents at highway crossings and those due to wrecks, even though not accompanied by fatalities, are reported by telegraph. When these accidents indicate that investigation is desirable the matter is taken up by a member of the staff. These investigations frequently lead to the improvement of conditions of operation or construction which make the traveling public and employes of the road safer.

SUMMARY OF ACCIDENTS

Year Ending June 30, 1912.

NOTE:—K=killed; I=injured.

	Passengers		Employees		Other persons not trespassing		Trespassers		Total persons reported	
	K	I	K	I	K	I	K	I	K	I
<i>Steam railroads:</i>										
C. & N. W. Ry.....	1	109	12	748	24	82	54	45	91	984
C. M. & St. P. Ry.....	1	69	10	288	15	37	39	42	65	436
C. St. P. M. & O. Ry....	1	11	4	77	2	4	12	5	19	97
M. St. P. & S. S. M. Ry.....	47	10	156	8	17	15	27	33	247	
C. B. & Q. R. R.....	1	4	25	1	1	4	2	9	29	
G. N. Ry.....	1	5	37	.....	2	2	.....	7	40	
N. P. Ry.....	1	1	9	.....	.....	2	.....	3	10	
G. B. & W. R. R.....	.....	1	2	1	.....	.....	1	2	2	
I. C. R. R.....	1	.....	11	1	.....	.....	1	1	13	
Small steam rail-ways.....	1	8	2	15	3	2	2	.....	8	25
Total.....	4	248	49	1,368	55	145	130	122	238	1,883
<i>Electric railroads:</i>										
T. M. E. R. & L. Co.....	1	1,112	3	31	9	76	1	7	14	1,226
All other electric lines.....	1	122	.....	4	4	31	.....	7	5	164
Total.....	2	1,234	3	35	13	107	1	14	19	1,390
Grand total.....	6	1,482	52	1,403	68	252	131	136	257	3,273

6. Track Elevation and Depression.

Track elevation and track depression have been confined entirely to the city of Milwaukee and the town of Greenfield, Milwaukee county. New projects presented during the year have been grade separation along the "Chestnut street line" or "Beer line tracks" of the Chicago, Milwaukee & St. Paul Railway Company and along the Madison division tracks of the Chicago & North Western Railway Company in the southeasterly part of Milwaukee and in the town of Greenfield. Track elevation along the lines of the these railways on the south side in the city of Milwaukee has been ordered. An investigation of the problem of grade separation along the Northern division of the Chicago, Milwaukee & St. Paul Railway in the northwesterly part of Milwaukee is now in progress.

7. *Track Inspection.*

Many miles of main line and branch line track have been inspected by the engineering staff of the Commission. The object of these inspections has been to determine whether or not the tracks have been maintained in sufficiently good condition to render travel over them safe. These inspections have resulted in an improvement of the condition of track and an increased factor of safety to the traveling public.

8. *Bridges.*

Acting under ch. 590, Laws of 1911, which confers upon the Railroad Commission authority to investigate bridges that are used jointly for both highway and street railway purposes, an inspection was made of sixty-six structures in various cities throughout the state as follows:

Appleton.....	6 bridges	Manitowoc.....	1 bridges
Ashland.....	1 "	Marinette.....	4 "
Beloit.....	1 "	Milwaukee..	18 "
Chippewa Falls.....	2 "	Oshkosh.....	3 "
Eau Claire.....	4 "	Plymouth.....	1 "
Fond du Lac.....	1 "	Racine.....	6 "
Green Bay.....	3 "	Sheboygan.....	4 "
Hurley.....	1 "	South Milwaukee.....	1 "
Janesville.....	2 "	Superior.....	3 "
Kenosha.....	1 "	Two Rivers.....	1 "
La Crosse.....	1 "		
Madison.....	1 "	Total.....	66

Attempts had been made in two cases to provide safety devices that would close the roadway when the draw span was open. The work on one bridge was incomplete and the other was not working satisfactorily when inspected. The general condition of the bridges inspected could only be called fair. In probably 50 per cent of the cases there were evidences of neglect in the matter of maintenance. From the floor level down, the structures were dirty and in a condition favorable to corrosion. Many bridges were badly in need of cleaning and painting.

The West Algoma street bridge across the Fox river at Oshkosh was ordered rebuilt by the Railroad Commission in an order dated Jan. 5, 1912. The city has engaged the services of a firm of consulting engineers and plans for the new structure are being prepared.

VALUATION WORK

The usual revaluations of steam and electric railways have been made during this year.

The valuation work of public utilities carried on by the engineering staff during the past year is shown by the summary which follows. No particular changes have been made in the methods employed, although many phases of these valuation methods employed have been critically analysed and studied for the purpose of detecting any weak points or inconsistencies that might exist. In addition to the regular appraisal work many of the cases have required rather elaborate apportionments.

LIST OF PUBLIC UTILITIES IN WISCONSIN VALUATIONS OF WHICH WERE COMPLETED

from July 1, 1911—June 30, 1912.

ELECTRIC PROPERTIES.

Equitable Electric Light Company—Lake Geneva.
 Minahan Building Company—Green Bay.
 Mt. Horeb Electric Light Company (approximate valuation).
 Northern Hydro-Electric Company—Green Bay (Wisconsin Public Service Co.)
 Oconto Electric Company.
 Peoples Land & Manufacturing Company—Oconto.
 Portage Electric Light Company.
 Rhinelander Lighting Company.
 Viroqua Electric Light Company.

GAS PROPERTIES.

Berlin Gas Company.
 Platteville Gas Company.
 Sheboygan Gas Light Company.
 Milwaukee Gas Light Company (in progress).

COMBINED PROPERTIES.

Burlington Electric Light & Power Company.
 Darlington Electric Light & Water Power.
 Evansville Water & Light Plant.
 Ft. Atkinson Water & Light Plant.
 Green Bay Gas & Electric Company.
 Kenosha Gas & Electric Company.
 Marshfield Water, Electric Light & Power Company.
 Neshonoc Light & Power Company—West Salem.
 Richland Center Water & Light Plant,
 Superior Water, Light and Power Company.
 Watertown Gas & Electric Company (final summary only).
 Westby Water & Light Plant.

TELEPHONE PROPERTIES.

Ashland Home Telephone Company (Ashland and Mellen Exchanges).
 Brodhead Telephone Company.
 Darlington Exchange (Wisconsin Telephone Co.) (approximate valuation).
 Farmers' Telephone Company—Richland Center (approximate valuation).
 Fox River Valley Telephone Company—Appleton (approximate valuation).
 Lafayette Telephone Company—Gratiot.
 Milwaukee Exchange (Wisconsin Telephone Company) (in progress).
 People's Telephone Company—Rio.
 Plymouth Telephone Exchange.
 Rhinelander Mutual Telephone Company.
 Ripon Rural Telephone Company,
 Ripon Telephone Company.
 Shullsburg Exchange (Wisconsin Telephone Company) (approximate valuation).
 State Long Distance Telephone Company—Elkhorn.
 White Oak Telephone Company (Shullsburg & Darlington).

WATER PROPERTIES.

Ashland Water Company (revaluation).
 Beaver Dam Water Works.
 City Water Company—Marinette (apportionment).
 Fond du Lac Water Company.
 Elkhart Lake Water Works.
 Green Bay Water Company.
 Milwaukee Water Works.
 Neenah Water Works.
 Racine Water Works.
 Whitewater Water Works.

WATER POWER PROPERTY.

Battle Island Company.

MISCELLANEOUS MATTERS.

In addition to the various lines of work already described the engineering staff has been called upon to handle a great many special matters. A number of these appear to be worthy of some attention in this report.

Headlight Tests.—A law was passed by the legislature in 1911 requiring that the railroads equip all engines with headlights that would make it possible for the enginemen to distinguish an object the size of a man at a distance of 800 feet. This law caused many roads and makers of headlights to submit various types and sizes of lights for approval. This necessitated considerable work for the staff in making field tests of the lamps submitted.

Drainage.—Complaints have come in regarding insufficient drainage through culverts and other openings for the purpose

of drainage across the right of way of railways. These investigations have required considerable attention.

Heating Service.—Various phases of heating service have received attention by the staff.

Municipalities have been assisted in opening bids; preliminary inspections have been made in connection with the issuing to roads of certificates of convenience and necessity; electrolysis of water and gas mains and the failure of standpipes have been investigated; examinations have been made of equipment not operating satisfactorily; and various details of construction and operation of railroads and electric power lines have been investigated. Some bond issues have involved the valuation of a great variety of equipment and other property.

PART II

Complaints and Applications, Tariff.

Electric Service and Rules.

A. Formal Complaints Against Carriers.

July 1, 1911 to June 30, 1912.

Date 1911.	Name.	Subject,	Disposal.
July 5	Investigation, on motion of the Commission, of the rates on stone on the line of C. M. & St. P. Ry. Co. between Milwaukee and Wauwatosa and intermediate points.	Rates on stone.	No such tariff as the one complained of existed. Complaint dismissed.
July 6	Investigation, on motion of the Commission, of the rates on coal on the line of the C. M. & St. P. Ry. Co. between Milwaukee and Wauwatosa and intermediate points.	Rates on coal.	No such tariff as the one complained of existed. Complaint dismissed.
July 8	Investigation, on motion of the Commission, of the rates for parlor car seats on the C. & N. W., C. M. & St. P., M. St. P. & S. S. M., C. St. P. M. & O., and C. B. & Q. railroads.	Parlor car rates.	Pending.
July 11	Town of Mineral Point, vs. C. M. & St. P. Ry. Co.	Unsafe bridge on right of way, near Mineral Point.	Decision rendered, order issued— March 5, 1912.
July 12	C. R. Martin, Madison, vs. Southern Wis. Ry. Co.	Complaint, that order requiring baby carriages to be enclosed in cloth or paper, before being put on cars, is unreasonable and unjust.	Decision rendered, order issued— December 6, 1912.

July 13	Barkhausen Coal & Dock Company, Green Bay, vs. C. & N. W. Ry. Co., C. M. & St. P. Ry. Co., G. B. & W. R. R. Co.	Discriminatory switching charges.	Complaint withdrawn.
July 17	Investigation, on motion of the Commission, of minimum weight and method of weighing tan bark on the lines of the C. M. & St. P., C. & N. W., C. St. P. M. & O., & M. St. P. & S. S. M. Ry. Cos.	Minimum weight on tan bark.	Settled informally.
July 17	Charles Malsch, Sussex, vs. M. St. P. & S. S. M. Ry. Co.	Dangerous crossing in village of Templeton.	Complaint satisfied and withdrawn.
July 20	The Village of Pewaukee, vs. C. M. & St. P. Ry. Co.	Inadequate passenger service.	Complaint satisfied and withdrawn.
July 26	A. S. Badger Co., Chicago, vs. M. St. P. & S. S. Ry. Co., C. M. & St. P. Ry. Co.	Overcharges on shipments of lumber.	Decision rendered, order issued— Nov. 13, 1911.
July 26	H. B. Stanz Company, Milwaukee, vs. C. M. & St. P. Ry. Co.	Unusual and exorbitant charges for icing cheese.	Pending.
July 28	W. W. Winchester and F. E. Yates, Amery, vs. M. St. P. & S. S. M. Ry. Co.	Inadequate station facilities at Amery.	Decision rendered, order issued— Dec. 2, 1911.

A. FORMAL COMPLAINT AGAINST CARRIERS—Continued.

Date 1911.	Name.	Subject.	Disposal.
July 31	Rhineland Paper Company, Rhineland, vs. C. M. & St. P. Ry. Co.	Overcharges on shipments of pulp.	Amended complaint, consolidating this with the following complaint.
July 31	Rhineland Paper Co., Rhineland, vs. C. M. & St. P. Ry. Co., M. St. P. & S. S. M. Ry. Co.	Overcharges on shipments of pulp.	Decision rendered, refund ordered— Oct. 28, 1911.
Aug. 2	A. H. Krouskop, Richland Center, vs. C. M. & St. P. Ry. Co.	Overcharges on shipments of lumber.	Decision rendered, petition dismissed— Oct. 17, 1911.
Aug. 3	Rhineland Paper Co., Rhineland, vs. M. St. P. & S. St. M. Ry. Co.	Excessive rates on pulp wood.	Pending.
Aug. 7	City of Oshkosh vs. C. M. & St. P. Ry. Co., M. St. P. & S. S. M. Ry. Co.	Dangerous crossing, Light street, Oshkosh.	Decision rendered, petition dismissed— Nov. 28, 1911.
Aug. 7	City of Oshkosh vs. C. M. & St. P. Ry. Co.	Dangerous crossing at Sixth street, Oshkosh.	Decision rendered, order issued— Nov. 2, 1911.
Aug. 7	Mason & Martin, Blue Mounds, vs. C. & N. W. Ry. Co.	Overcharges on shipments of livestock.	Decision rendered, refund ordered— April 23, 1912.

Aug. 9	Stowell Mfg. & Foundry Co., So. Milwaukee, vs. C. & N. W. Ry. Co.	Overcharges on shipment of freight from Milwaukee to So. Milwaukee.	Decision rendered, refund ordered—Dec. 7, 1911.
Aug. 11	Wisconsin River Paper & Pulp Co., Stevens Point, vs. C. & N. W. Ry. Co., G. B. & W. R. R. Co.	Overcharges on shipments of wood pulp, Little Rapids to Stevens Point.	Decision rendered, order issued—Nov. 2, 1911.
Aug. 14	Alma Robb et al., Green Bay, vs. Green Bay Traction Co.	Unnecessary noise and disturbance by cars.	Decision rendered, order issued—March 1, 1912.
Aug. 19	Menasha Paper Co., Ladysmith, vs. M. St. P. & S. S. M. Ry. Co.	Overcharges on shipments of paper.	Decision rendered, order issued—Nov. 4, 1911.
Aug. 22	W. E. Morgan, Unity, vs. M. St. P. & S. S. M. Ry. Co.	Unreasonable charges on shipments of wood.	Decision rendered, petition dismissed—Oct. 17, 1911.
Aug. 22	Mitchell Nejedlo, Green Bay, vs. The Bay Shore Street Ry. Co., Green Bay Traction Co.	Discontinuance of stopping of cars at point near petitioner's place of business.	Complaint withdrawn.
Aug. 24	Rhineland Paper Co., Rhineland, vs. C. & N. W. Ry. Co.	Discriminatory rates on paper, Rhineland to Milwaukee.	Case settled.
Aug. 24	Henry J. Smith, Racine, vs. C. & M. El. Ry. Co.	Failure to keep open ticket offices.	Complaint withdrawn.

A. FORMAL COMPLAINTS AGAINST CARRIERS—Continued.

Date, 1911.	Name.	Subject.	Disposal.
Aug. 25	John F. Schlosstein, Cochrane, vs. C. B. & Q. R. R. Co.	Inadequate passenger accommoda- tions for Cochrane and vicinity.	Decision rendered, order issued—Nov. 20, 1911.
Aug. 28	F. Mayer, Chicago, vs. C. & N. W. Ry. Co.	Overcharges on shipments of scrap iron.	Decision rendered, refund ordered— Dec. 11, 1911.
Aug. 28	D. S. Clarke, Eau Claire, vs. M. St. P. & S. S. M. Ry. Co.	Overcharges on shipments of wood.	Decision rendered, petition dismissed —Oct. 23, 1911.
Aug. 29	H. G. Dimick et al., Appleton, vs. Wis. Light, Heat & Tr. Co.	Inadequate service.	Complaint satisfied and withdrawn.
Aug. 29	A. E. Schaudenbach, Hartland, vs. Milw., Sparta & N. W. Ry. Co.	Closing up of private right of way.	Complaint withdrawn.
Aug. 29	W. A. Blackman et al., Merrimac, vs. C. & N. W. Ry. Co.	Dangerous crossing at Merrimac.	Decision rendered, order issued— March 30, 1912.
Aug. 31	G. D. Franczy Coal, Stone & Supply Co., Milwaukee, vs. C. M. & St. P. Ry. Co.	Excessive rates on certain shipments.	Decision rendered, order issued—Jan. 11, 1912.

Sept.	1	A. J. Hansche and S. H. Hansche, Racine, vs. C. & N. W. Ry. Co.	Unsatisfactory loading track.	Complaint satisfied and withdrawn.	
7— R.	Sept.	2	Northern Wood Co., Chicago, vs. M. St. P. & S. S. M. Ry. Co.	Overcharges on slabs.	Decision rendered, order issued—Nov. 1, 1911.
	Sept.	5	H. E. McNutt et al., Oxford, vs. Milw., Sparta & N. W. Ry. Co.	Protest against depot site.	Complaint withdrawn.
	Sept.	5	A. C. Parfey Mfg. Co., Richland Cen- ter, vs. C. M. & St. P. Ry. Co., C. & N. W. Ry. Co.	Excessive rates on carload of cheese boxes.	Pending.
	Sept.	8	George A. Green, Milwaukee, vs. C. M. & Puget Sound Ry. Co.	Unreasonable rule regarding checking of baggage.	Decision rendered, order issued—Nov. 10, 1911.
	Sept.	12	Arthur N. Blanchard et al., Mil- waukee, vs. T. M. E. R. & L. Co.	Inadequate service on Mineral road extension.	Complaint withdrawn.
	Sept.	13	Rudolph Konopatske, Big Falls, vs. C. & N. W. Ry. Co., Big Falls Ry. Co.	Excessive rates from stations in Wis- consin to Big Falls; no joint rates maintained.	Decision rendered, order issued—Feb. 6, 1912.
	Sept.	15	Richard Lloyd Jones, Madison, vs. C. M. & St. P. Ry. Co.	Insufficient and inadequate car ac- commodations on train No. 5, Prairie du Chien division.	Pending.

A. FORMAL COMPLAINTS AGAINST CARRIERS—Continued.

Date 1911.	Name.	Subject.	Disposal.
Sept. 20	City of Janesville, vs. Rockford & Interurban R. R. Co.	Insufficient and defective service.	Pending.
Sept. 20	<i>In re</i> Investigation, on motion of Commission, of the crossing facilities of the C. & N. W. Ry.	Investigation of crossing facilities near 13th street, Sheboygan, on the Lake Shore and Northern Wisconsin division of the C. & N. W. Ry.	Decision rendered, petition dismissed—Jan. 8, 1912.
Sept. 22	The Western Indiana Construction Co., Madison, vs. C. M. & St. P. Ry. Co.	Excessive charges on steel rails.	Decision rendered, refund ordered—Dec. 5, 1911.
Sept. 29	<i>In re</i> Investigation, on motion of the Commission, of the South Commercial street crossing of the C. & N. W. Ry. Co. in the city of Neenah.	Dangerous crossing.	Decision rendered, order issued—Jan. 6, 1912.
Oct. 3	Hammond-Chandler Lumber Co., Rice Lake, vs. M. St. P. & S. S. M. Ry. Co.	Excessive rates on lumber—Lehigh to Rice Lake.	Pending.
Oct. 3	Village of Lohrville, vs. C. & N. W. Ry. Co.	Inadequate station service—no agent.	Decision rendered, order issued—March 7, 1912.

Oct.	5	Investigation by Commission of accident on highway crossing over tracks of C. St. P. M. & O. Ry. Co.	Accident on crossing at Yolo, Wis.	Pending.
Oct.	5	Investigation by Commission of grade crossings throughout state of Wisconsin.	Grade crossings.	Conference held in Capitol, Oct. 5, 1911. No further action taken.
Oct.	6	Investigation, on motion of Commission, of crossing over tracks of C. B. & Q. R. R. and La Crosse & S. E. Ry.	Accident on crossing at Calvert.	Decision rendered, order issued—Jan. 19, 1912.
Oct.	6	Investigation, on motion of Commission, of crossing over tracks of C. M. & St. P. Ry. Co.	Accident on highway crossing, one-half mile east of Richfield.	Decision rendered, order issued—Nov. 28, 1911.
Oct.	6	Investigation, on motion of Commission, of crossing over tracks of C. M. & St. P. Ry. Co.	Accident on crossing of tracks about two miles west of Bardwell station.	Decision rendered, order issued—Jan. 11, 1912.
Oct.	6	<i>In re</i> condition of an interlocking plant on Newton Ave., Superior, Wis.		Settled informally.
Oct.	7	Rev. Francis W. Geier, Maplewood, vs. Ahnapee & Western R. R. Co.	Discriminatory passenger rates.	Complaint satisfied.
Oct.	7	H. B. Stanz Co., Milwaukee, vs. C. & N. W. Ry. Co.	Exorbitant charges for icing cheese.	Pending.

A. FORMAL COMPLAINTS AGAINST CARRIERS—Continued.

Date. 1911.	Name.	Subject.	Disposal.
Oct. 10	Town of Greenfield, Town Board of Greenfield, Milwaukee county. vs. C. & N. W. Ry. Co.	Unsuitable crossing.	Decision rendered, order issued—June 4, 1912.
Oct. 10	City of Racine vs. C. & N. W. Ry. Co.	Dangerous crossing with Rapids road.	Decision rendered, order issued—June 28, 1912.
Oct. 10	<i>In re</i> investigation, on motion of the Commission, of practice of the C. M. & St. P. Ry. Co. in making train connections at junction points.	Train connections.	Dismissed.
Oct. 14	Seymour Business Men's Assn. vs. G. B. & W. R. R. Co.	Discontinuance of Sunday train serv- ice.	Decision rendered, petition dismissed —Jan. 24, 1912.
Oct. 19	Hoyt & Bergen, Calumet Harbor, vs. C. & N. W. Ry. Co.	Overcharge on live stock shipments.	Decision rendered, order issued—Jan. 25, 1912.
Oct. 24	Alfred A. Burrill, Madison, vs. I. C. R. R. Co.	Failure of certain train connections caused loss of time and money to patrons.	Decision rendered, order issued—June 15, 1912.

Oct.	26	City of Oshkosh, vs. Wis. El. Ry. Co.	Failure to repay \$509.47 which petitioner expended in removing respondent's tracks; requests that respondent's cars be run on Doty street.	Pending.
Oct.	27	A. M. Rogers, Caswell, vs. C. & N. W. Ry. Co., M. St. P. & S. S. M. Ry. Co.	Unsatisfactory service at Laona Jct.	Decision rendered, order issued—Mar. 28, 1912.
Oct.	27	Kane & Herbison, Maiden Rock, vs. C. B. & Q. R. R. Co.	Failure to maintain adequate stock yards at Maiden Rock.	Complaint satisfied.
Oct.	28	Griffin H. Deeves Lumber Co., Chicago, vs. C. & N. W. Ry. Co.	Misrouting of car of lumber.	Decision rendered, petition dismissed—Jan. 12, 1912.
Oct.	28	Barker & Stewart Lumber Co., Wausau, vs. C. M. & St. P. Ry. Co.	Overcharge on bark shipments.	Pending.
Nov.	1	Investigation, on motion of Commission, of Marshall st. crossing, of the C. M. & St. P. Ry. Co. near New Lisbon.	Dangerous crossing.	Decision rendered, order issued—Jan. 12, 1912.
Nov.	1	Investigation, on motion of Commission, of a highway crossing of C. M. & St. P. Ry. Co., two miles east of Camp Douglas.	Dangerous crossing.	Decision rendered, order issued—June 15, 1912.

A. FORMAL COMPLAINTS AGAINST CARRIERS—Continued.

Date 1911.	Name.	Subject.	Disposal.
Nov. 1	Investigation, on motion of Commission, of highway crossing near Columbia station on C. St. P. M. & O. Ry. Co.	Dangerous crossing.	Decision rendered, order issued—Jan. 16, 1912.
Nov. 1	G. M. Lyon et al., Menomonee Falls, vs. C. M. & St. P. Ry. Co.	Dangerous crossing in town of Granville.	Settled by protection of crossing.
Nov. 1	C. W. Croty et al., Tomah, vs. C. M. & St. P. Ry. Co.	Failure to install storm shed at Tomah.	Decision rendered, order issued—June 5, 1912.
Nov. 2	National Mfg. Co., Blanchardville, vs. I. C. R. R. Co., C. M. & St. P. Ry. Co.	Unreasonable rates—no joint rates—failure to connect at Dill.	Pending.
Nov. 3	Investigation on motion of Commission, of service of T. M. E. R. & L. Co. in the south division of Milwaukee.	Service on cross-town line on Twelfth street.	Decision rendered, order issued—Nov. 29, 1912.
Nov. 3	Common Council of City of Green Bay vs. C. & N. W. Ry. Co.	Request that railway company open a highway and right of way in 8th ward, city of Green Bay.	Pending.

Nov.	3	Herman Funk, Caledonia, vs. C. M. & St. P. Ry. Co.	Failure to build stockyards.	Decision rendered, order issued—Feb. 14, 1912.
Nov.	8	Investigation, on motion of Commission, of train service on Dodgeville branch of the I. C. R. R. Co., in Wisconsin.	Train service.	Pending.
Nov.	8	Application of the C. M. & St. P. Ry. Co. for the suspension of the operation of ch. 353, Laws 1911, being section 1797—10m, Wis. Statutes.		Order issued—November 9, 1911.
Nov.	10	L. M. Engesether, Cumberland, vs. C. St. P. M. & O. Ry. Co., C. & N. W. Ry. Co., C. M. & St. P. Ry. Co.	Unreasonable and discriminatory rates from Cumberland to DeForest.	Decision rendered, refund ordered.—Jan. 12, 1912.
Nov.	11	Application of the M. St. P. & S. S. M. Ry. Co. for the suspension of the operation of ch. 353, Laws of 1911, being section 1799—10m Wis. Statutes.		Order issued.—Nov. 14, 1911.
Nov.	17	City of DePere, vs. C. M. & St. P. Ry. Co.	Inadequate depot facilities.	Pending.
Nov.	17	South Milwaukee Fuel & Supply Co., vs. C. & N. W. Ry. Co.	Excessive freight charges.	Decision rendered, order issued—Jan. 11, 1912.

A. FORMAL COMPLAINTS AGAINST CARRIERS—Continued.

Date 1911.	Name.	Subject.	Disposal.
Nov. 18	Jefferson Brick & Tile Co., Jefferson, vs. C. & N. W. Ry. Co.	Exorbitant rates on old brick from Merrimac to Jefferson.	Decision rendered, refund ordered—Feb. 5, 1912.
Nov. 20	A. C. Ledin, Sweden, vs. C. St. P. M. & O. Ry. Co.	Inadequate train service between Ashland and Spooner because of refusal to stop trains on Sundays.	Complaint withdrawn.
Nov. 22	City of Rhineland, vs. M. St. P. & S. S. M. Ry. Co.	Unsatisfactory site for proposed passenger station.	Decision rendered, petition dismissed—March 12, 1912.
Nov. 22	Application of the C. M. & St. P. and "Soo" Ry. Co. for suspension of provisions in ch. 358, Laws 1911, providing carload freight shall be moved not less than 75 miles per day or every 24 hours.		Decision rendered—Nov. 24, 1911.
Nov. 23	<i>In re</i> change which the C. M. & St. P. Ry. Co. proposes to make in its switching rates in the Milwaukee switching district, and investigation by the Railroad Commission on its own motion.	Switching rates.	Pending.
Nov. 25	Town of Gillett, vs. C. & N. W. Ry. Co.	Failure to maintain a public crossing.	Pending.

Nov. 25	Investigation, on motion of Commission, of the apportionment of rates on pulp wood from points on the M. St. P. & S. S. M. Ry. to points on the C. & N. W. Ry.	Rates on pulp wood.	Settled.
Nov. 29	Luder & Vanderwall, Prentice, vs. C. St. P. M. & O. Ry. Co.	Unjust and discriminatory rates, Kaiser to Fairchild.	Dismissed.
Nov. 29	Petition of Nekoosa-Edwards Paper Co. for re-opening of the case of the Rhinelander Paper Co., decided by this Commission Nov. 10, '11, and for permission to intervene in said case when so re-opened, for the purpose of presenting additional facts and evidence.	Rates on pulp wood.	Pending.
Dec. 1	George Wilding, Granton, vs. C. St. P. M. & O. Ry. Co.	Discontinuance of the stopping of certain passenger trains.	Pending.
Dec. 1	Charles H. gen, Black Creek, vs. G. B. & W. R. R. Co., C. & N. W. Ry. Co.	Excessive rates on logs, from Crandon to Black Creek.	Decision rendered, refund ordered— Jan. 31, 1911.
Dec. 2	M. S. McKee, Ray Hugoboom, John Goshaw, Polley (or Lusk) vs. M. St. P. & S. S. M. Ry. Co.	Failure to provide agent and station facilities at Polley (or Lusk.)	Decision rendered—June 22, 1912.

A. FORMAL COMPLAINTS AGAINST CARRIERS—Continued.

Date 1911.	Name.	Subject.	Disposal.
Dec. 2	M. S. McKee, Ray Hugoboom, John Goshaw, vs. Stanley, Merrill & Phillips Ry. Co.	Inadequate station facilities.	Decision rendered—June 22, 1912.
Dec. 5	Investigation by Commission of M. St. P. & S. S. M. crossing, one mile southeast of Dresser Jct.	Dangerous crossing.	Decision rendered, order issued—June 22, 1912.
Dec. 5	Investigation by Commission of C. M. & St. P. Ry. Co.'s crossing one mile east of Hubbleton.	Dangerous crossing.	Pending.
Dec. 5	Investigation by Commission of Green Bay road crossing on Sheboygan Ry. & El. Co. at Sheboygan Falls.	Dangerous crossing.	Pending.
Dec. 5	Investigation by Commission of the Ives crossing on the line of the C. & N. W. Ry. Co.	Dangerous crossing.	Pending.
Dec. 6	Investigation by Commission of highway crossing on the M. L. H. & T. Co., one mile south of Mukwonago on line of M. St. P. & S. S. M. Ry. Co.	Dangerous crossing.	Pending.
Dec. 6	Investigation by Commission of two crossings on the M. St. P. & S. S. M. Ry. south of Mukwonago station.	Dangerous crossing.	Pending.

Dec. 6	Investigation by the Commission of a crossing north of Dresser Jct. on the M. St. P. & S. S. M. Ry.	Dangerous crossing.	Pending.
Dec. 7	Philadelphia & Reading Coal & Iron Co., Milwaukee, vs. M. St. P. & S. S. M. Ry. Co.	Overcharge on coal shipments.	Decision rendered, order issued—Jan. 30, 1912.
Dec. 7	Waukesha Lime & Stone Co. vs. C. M. & St. P. Ry. Co. C. & N. W. Ry. Co.,	Unreasonable and discriminatory rates on gravel, crushed stone and lime.	Decision rendered, order issued—Apr. 25, 1912.
Dec. 8	B. W. Spencer, Delavan, vs. C. M. & St. P. Ry. Co.	Inadequate train service.	Pending.
Dec. 9	John Schultz, S. Milwaukee, vs. C. M. & St. P. Ry. Co.	Unreasonable rates on shipments from Milwaukee to Lake Station.	Pending.
Dec. 9	George B. Davidson, Omro, vs. The Eastern Wis. El. & Ry. Co.	Excessive and unreasonable rates between Oshkosh and village of Omro.	Pending.
Dec. 12	W. E. Martin, et al., Viola, vs. C. M. & St. P. Ry. Co.	Refusal to permit installation of telephone in station at Viola.	Pending.
Dec. 13	Town Board of Beaver Dam, Dodge County, vs. Milw. Sparta & N. W. Ry. Co.	Dangerous highway crossings.	Pending.

A. FORMAL COMPLAINTS AGAINST CARRIERS.—Continued.

Date. 1911.	Name.	Subject.	Disposal.
Dec. 19	Edward F. Maertz, Reedsville, vs. C. & N. W. Ry. Co.	Inadequate passenger and freight service, also inadequate depot and platform lighting.	Pending.
Dec. 19	Commercial Club of Brillion, vs. C. & N. W. Ry. Co.	Inadequate train service.	Pending.
Dec. 19	Commercial Club of Brillion, vs. C. & N. W. Ry. Co.	Inadequate station facilities and freight service.	Pending.
Dec. 23	Menasha Paper Co., Ladysmith, vs. M. St. P. & S. S. M. Ry. Co.	Excessive rates.	Decision rendered, refund ordered— March 27, 1912.
Dec. 26	Milan Store Company, Milan, vs. M. St. P. & S. S. M. Ry. Co.	Inadequate service, lack of station, passenger and freight facilities.	Pending.
1912 Jan. 2	Investigation by Commission of the Division st. crossing, Dodgeville, on the I. C. R. R. line.	Dangerous crossing.	Pending.
Jan. 2	Investigation by Commission of the C. & N. W. Ry crossing at Mount Morris ave., Wautoma.	Dangerous crossing.	Pending.

Jan.	2	Investigation, on motion of the Commission, of the Grand ave. and Hewitt st., crossing, Neillsville, on the line of the C. St. P. M. & O. Ry.	Dangerous crossing.	Complaint satisfied.
Jan.	2	Investigation, on motion of the Commission, of the C. & N. W. highway crossing, one mile north of Milton Jct.	Dangerous crossing.	Pending.
Jan.	2	Investigation, on motion of the Commission, of the C. M. & St. P. Ry. Co. crossing on Spring st., Beaver Dam.	Dangerous crossing.	Pending.
Jan.	3	Investigation, on motion of the Commission, of the C. & N. W. Ry. highway crossing two miles west of Barneveld.	Dangerous crossing.	Case dropped, no jurisdiction.
Jan.	3	Investigation, on motion of the Commission, of the C. M. & St. P. Ry. Co. highway crossing east of Hartland.	Dangerous crossing.	Pending.
Jan.	3	Investigation, on motion of the Commission, of two highway crossings east of Schleisingerville, on the lines of the C. M. & St. P. Ry. and the M. St. P. & S. S. M. Ry.	Dangerous crossings.	Pending.
Jan.	3	Investigation, on motion of the Commission, of highway crossing one-half mile east of Richfield, on the line of the C. M. & St. P. Ry.	Dangerous crossing.	Complaint satisfied.

A. FORMAL COMPLAINTS AGAINST CARRIERS—Continued.

Date 1912	Name.	Subject.	Disposal.
Jan. 3	Investigation, on motion of the Commission, of two highway crossings on the C. & N. W. Ry., west of Dodgeville.	Dangerous crossings.	Pending.
Jan. 4	Investigation, on motion of Commission, of the services, rules & regulations of the Southern Wisconsin Ry. Co.		Decision rendered—Mar. 13, 1912.
Jan. 4	Village of East Milwaukee, vs. T. M. E. R. & L. Co., M. L. H. & T. Co.	Insufficient and inadequate service on Downer ave. line to Edgewood ave. and Mineral Spring road.	Pending.
Jan. 5	Elmore T. Elver, vs. Southern Wis. Ry. Co.	Inadequate service.	Decision rendered, order issued— March 13, 1912.
Jan. 6	Howard Teasdale, Sparta, vs. C. M. & St. P. Ry. Co., C. & N. W. Ry. Co.	Lack of reasonable rates and regulations for switching cars between their respective tracks in Sparta.	Decision rendered, order issued— April 20, 1912.
Jan. 8	Investigation, on motion of the Commission, of crossing of the Juneau-Leipsig road with the line of the Milw., Sparta and N. W. Ry. Co.	Dangerous crossing.	Pending.

Jan.	9	City of Menomonie, vs. C. St. P. M. O. Ry. Co.	Inadequate station facilities at North Menomonie.	Pending.
Jan.	9	City of Columbus, by its Common Council, vs. C. M. & St. P. Ry. Co.	Dangerous crossing, lack of station protection, and inconvenient stop- ping places for trains.	Pending.
Jan.	10	Goodman Lumber Co., Goodman, vs. M. St. P. & S. S. M. Ry. Co.	Charges on log shipments, Goodman to Pembine.	Decision rendered, refund ordered— March 27, 1912.
Jan.	10	Wisconsin Lakes Ice & Cartage Co., Milwaukee, vs. C. & N. W. Ry. Co.	Exorbitant rates on ice.	Decision rendered, refund ordered— April 30—12.
Jan.	11	Emerald Co-operative Creamery As- sociation, Emerald, vs. C. St. P. M. & O. Ry. Co.	Unreasonable rates on coal—Superior to Emerald.	Decision rendered, refund ordered— Feb. 28, 1912.
Jan.	11	Town of Buffalo, vs. Milw., Sparta & N. W. Ry. Co.	Dangerous crossing.	Pending.
Jan.	11	Semrad Bros. & Pusch Brewing Com- pany, Highland, vs. C. & N. W. Ry. Co.	Unreasonable rates on liquor.	Decision rendered, order issued— April 24, 1912.
Jan.	11	Marinette & Menominee Box Co., Mar- inette, vs. C. M. & St. P. Ry. Co.	Overcharges on lumber from Marinette to Oconto.	Decision rendered, refund ordered— March 20, 1912.

A. FORMAL COMPLAINTS AGAINST CARRIERS—Continued.

Date. 1912.	Name.	Subject.	Disposal.
Jan. 11	F. W. Olhoff, Merrill, vs. C. M. & St. P. Ry. Co.	Refusal to re-lay spur track.	Case discontinued.
Jan. 13	Application of the C. M. & St. P. Ry. Co. for approval of the design and location of their tell-tales on their line of railroad in the state of Wis- consin.		Approved.
Jan. 18	Rohlf Bros., Eden, vs. C. & N. W. Ry. Co.	Inadequate and discriminatory freight service, with reference to shipments of cattle.	Decision held in abeyance. Service improved.
Jan. 19	The Elmore-Benjamin Coal Co., Mil- waukee, vs. C. & N. W. Ry. Co.	Excessive rates—Sparta to Elroy.	Pending.
Jan. 19	C. W. Schlaebitz, Beaver Dam, vs. C. M. & St. P. Ry. Co.	Dangerous crossings in Beaver Dam.	Complaint having been signed by an individual, Commission had no juris- diction.
Jan. 19	Owen & Bros. Co., Milwaukee, vs. M. St. P. & S. S. M. Ry. Co.	Exorbitant rates on buckwheat— Ridgeland to Milwaukee.	Decision rendered, refund ordered— March 27, 1912.
Jan. 21	Oscar Anderson et al. Cobban, vs. C. St. P. M. & O. Ry. Co.	Inadequate station facilities at Cobban. *	Pending.

Jan.	22	Village of Afton, vs. C. M. & St. P. Ry. Co.	Lack of station facilities.	Pending.
Jan.	23	Rhineland Paper Co., Rhineland, vs. M. St. P. & S. S. M. Ry. Co. C. M. & St. P. Ry. Co.	Excessive rates on pulp wood.	Decision rendered, refund ordered— April 30, 1912.
Jan.	25	City of Milwaukee vs. C. & N. W. Ry. Co.	Dangerous grade crossings at Eighth, Midland and First avenues, south side, Milwaukee.	Pending.
Jan.	25	O. A. Stolen, Mt. Horeb, vs. C. & N. W. Ry. Co.	Refusal to comply with order of the Commission.	Complaint satisfied and withdrawn.
Jan.	25	James E. Harris et al., Jonesdale, vs. I. C. R. R. Co.	Inadequate station service.	Pending.
Jan.	26	Eau Claire Concrete Co., Eau Claire, vs. C. M. & St. P. Ry. Co., C. St. P. M. & O. Ry. Co., M. St. P. & S. S. M. Ry. Co.	Excessive and unreasonable rates on concrete blocks.	Decision rendered, order issued— April 24, 1912.
Jan.	27	City of Janesville vs. Janesville Traction Co.	Inadequate service.	Complaint withdrawn.
Jan.	29	Arthur J. Thorne, Jefferson, vs. C. M. & Puget Sound Ry. Co.	Refusal to build spur track.	Decision rendered, order issued— May 2, 1912.

A. FORMAL COMPLAINTS AGAINST CARRIERS, 1911—1912.—Continued.

Date 1912.	Name.	Subject.	Disposal.
Jan. 31	E. P. Bacon Co., Milwaukee, vs. M. St. P. & S. S. M. Ry. Co.	Exorbitant charges on rye shipments— coming to Milwaukee.	Decision rendered, refund ordered— April 16, 1912.
Jan. 31	Village Board of Mt. Horeb, vs. C. & N. W. Ry. Co.	Dangerous crossing.	Pending.
Jan. 31	Keith & Hiles Lumber Co., Crandon, vs. M. St. P. & S. S. M. Ry. Co.	Excessive rates on 32 carloads of logs.	Decision rendered, refund ordered— April 8, 1912.
Feb. 1	A. D. Gill, Mauston. vs. C. M. & St. P. Ry. Co.	Complaint in re violation of law—also dangerous crossings.	Complaint withdrawn.
Feb. 2	W. E. Morgan, Unity, vs. M. St. P. & S. S. M. Ry. Co.	Charges on shipments of cordwood.	Decision rendered, refund ordered— May 3, 1912.
Feb. 2	Mons Larson, Campia, vs. M. St. P. & S. S. M. Ry. Co.	Inadequate station service.	Pending.
Feb. 3	G. T. Rowland & Son, Grand Rapids, vs. C. & N. W. Ry. Co.	Excessive rates on brick.	Decision rendered—May 3, 1912.

Feb.	3	City of Milwaukee, vs. T. M. E. R. & L. Co.	Refusal of double transfer privilege on respondent's lines.	Pending.
Feb.	3	Town of Westport, Dane county, vs. C. & N. W. Ry. Co.	Dangerous overhead crossing near Mendota station.	Decision rendered, order issued— May 21, 1912.
Feb.	3	The Industrial Club of New Rich- mond vs. C. St. P. M. & O. Ry. Co., M. St. P. & S. S. M. Ry. Co.	Lack of switching connections and re- fusal of use of sidetrack by C. St. P. M. & O. Ry. Co.	Pending.
Feb.	6	Geo. Ellman, Madison, vs. I. C. R. R. Co.	Refusal to accept perishable goods from Madison to Belleville, Monti- cello and Monroe.	Decision rendered, order issued— May 27, 1912.
Feb.	6	Town of Caledonia, vs. Chicago & Milw. El. Ry. Co.	Dangerous crossing at the Five-mile road, north of Racine.	Pending.
Feb.	6	M. B. Christenson et al., South Range, vs. C. St. P. M. & O. Ry. Co.	Lack of station service at South Range.	Pending.
Feb.	6	Milwaukee Bag. Co., Milwaukee, vs. M. St. P. & S. S. M. Ry. Co., Waupaca-Green Bay R. R. Co.	Excessive rates on bags from Milwau- kee to various points.	Decision rendered, refund ordered— May 6, 1912.
Feb.	6	Milwaukee Bag Co., Milwaukee, vs. C. & N. W. Ry. Co., G. B. & W. R. R. Co., Waupaca-Green Bay R. R. Co.	Excessive rates on bags from Milwau- kee to Stevens point and Waupaca.	Complaint withdrawn.

A. FORMAL COMPLAINT AGAINST CARRIERS, 1911—1912.—Continued.

Date 1912.	Name.	Subject.	Disposal.
Feb. 6	Milwaukee Bag Co., Milwaukee, vs. C. M. & St. P. Ry. Co., G. B. & W. R. R. Co., Waupaca-Green Bay R. R. Co.	Excessive rates on bags from Milwaukee to Waupaca.	Complaint withdrawn.
Feb. 8	Torrey Cedar Company, Clintonville, vs. C. & N. W. Ry. Co.	Excessive rates on cars of cedar poles and posts—Elmhurst to Clintonville.	Decision rendered, refund ordered— May 7, 1912.
Feb. 9	Town of Wauzeka, vs. C. M. & St. P. Ry. Co.	Dangerous crossing on the Wauzeka-Boscobel road.	Pending.
Feb. 10	Geo. B. Stannard vs. Am. Exp. Co., C. & N. W. Ry. Co.	Excessive charges on chicken shipment, Oconomowoc to Lake Geneva.	Complaint satisfied.
Feb. 10	Geo. B. Stannard vs. Wells Fargo & Co. Exp., C. M. & St. P. Ry. Co.	Excessive charges on shipment from Springfield to Oconomowoc.	Complaint satisfied.
Feb. 10	Robt. Krull Commission Co., Milwaukee, vs. C. & N. W. Ry. Co.	Exorbitant charge for car service.	Decision rendered, refund ordered— April 13, 1912.

Feb. 12	In re Modification of Rule 9, of the car service and demurrage rules.		Decision rendered, order issued— Feb. 12, 1912.
Feb. 13	Town of Mentor, vs. C. St. P. M. & O. Ry. Co.	Dangerous crossing at King street, Humbird.	Pending.
Feb. 13	Coe, Converse & Edwards Co., Fort Atkinson, vs. C. & N. W. Ry. Co.	Claim for damages for delayed shipments of nursery stock.	Case dismissed, no jurisdiction.
Feb. 13	J. C. Voelker, Porterfield, vs. C. M. & St. P. Ry. Co.	Inadequate station facilities.	Held in abeyance, pending settlement.
Feb. 14	Town of Salem, vs. C. & N. W. Ry. Co.	Dangerous crossing.	Pending.
Feb. 16	Waukesha Lime & Stone Co., Racine, vs. M. St. P. & S. S. M. Ry. Co.	Overcharge on three carloads of lime.	Decision rendered, refund ordered— May 3, 1912.
Feb. 16	Higgins Spring & Axle Co, Racine, vs. C. & N. W. Ry. Co.	Unjust rates.	Decision rendered, refund ordered— May 4, 1912.
Feb. 17	City of Boscobel, vs. C. M. & St. P. Ry. Co.	Dangerous crossings.	Pending.

A. FORMAL COMPLAINTS AGAINST CARRIERS, 1911—1912—Continued.

Date 1912.	Name.	Subject.	Disposal.
Feb. 17	The Town of Bangor, and the village of Bangor in La Crosse County, vs. C. M. & St. P. Ry. Co., C. & N. W. Ry. Co.	Dangerous crossing near Bangor.	Settled to satisfaction of all.
Feb. 17	William A. Paff, Wausau, vs. C. & N. W. Ry. Co.	Overcharges on shipments of lime— Grimms to Wausau.	Decision rendered, refund ordered— May 3, 1912.
Feb. 21	Town of Hewitt, vs. C. St. P. M. & O. Ry. Co.	Dangerous crossing east of Columbia station.	Pending.
Feb. 21	City of Beaver Dam, vs. C. M. & St. P. Ry. Co.	Dangerous crossings.	Pending.
Feb. 23	Maxson Lumber Co., Stratford, vs. C. & N. W. Ry. Co.	Excessive rates on wood.	Pending.
Feb. 24	Town of Hartford, vs. C. M. & St. P. Ry. Co.	Dangerous crossing one mile west of Schleisingerville.	Complaint satisfied and withdrawn.
Feb. 26	J. L. Hallenbeck, Dunbar, vs. M. St. P. & S. S. M. Ry. Co.	Inadequate station facilities at Dun- bar.	Complaint satisfied and withdrawn.

Mch.	1	Capital Fence Co., Madison, vs. C. & N. W. Ry. Co., C. M. & St. P. Ry. Co.	Unreasonable and excessive rates on wire.	Pending.
Mch.	1	Capital Fence Co., Madison, vs. C. & N. W. Ry. Co., Hillsboro & N. E. Ry. Co.	Unreasonable and excessive rates on shipments of wire fencing.	Pending.
Mch.	4	Stowell Mfg. & Foundry Co., South Milwaukee, vs. C. & N. W. Ry. Co.	Exorbitant and discriminatory rates on pipe between Milwaukee and South Milwaukee.	Pending.
Mch.	4	Farmers' Handy Wagon Co., Saginaw, Mich., vs. C. & N. W. Ry. Co.	Overcharges on shipments from Newton to New Holstein.	Claim paid in full; complaint withdrawn.
Mch.	5	Investigation, on motion of the Commission, of the freight and passenger train service on the Lake Shore division of the C. & N. W. Ry. Co.	Freight and passenger service.	Pending.
Mch.	6	Wm. Braid, Racine, vs. C. & N. W. Ry. Co.	Station and side track facilities.	Complaint satisfied.
Mch.	6	City of Oconto, vs. C. & N. W. Ry. Co.	Dangerous crossings.	Crossings protected, complaint satisfied.
Mch.	6	Herman Stuckey, Bridgeport, vs. C. M. & St. P. Ry. Co.	Dangerous crossing.	Crossings protected, complaint satisfied.

A. FORMAL COMPLAINTS AGAINST CARRIERS, 1911—1912.—Continued.

Date 1912	Name.	Subject.	Disposal.
Mch.	Investigation, on motion of Commission, of the Aldrich street crossing in Milwaukee of the C. & N. W. and the C. M. & St. P. Ry. Cos.	Dangerous crossing.	Pending.
Mch. 9	City of Oconomowoc, vs. C. M. & St. P. Ry. Co.	Dangerous crossing at Wood street.	Complaint satisfied and withdrawn.
Mch. 11	Henry Allen, Tomahawk, vs. C. M. & St. P. Ry. Co.	Exorbitant rates on Christmas trees.	Pending.
Mch. 12	Lorenz Schneider, Stanley, vs. Stanley, Merrill & Phillips Ry. Co.	Unjust and discriminatory rates on green tamarack posts—Siding to Stanley.	Decision rendered, refund ordered— April 16, 1912.
Mch. 12	O. D. Streeter et al., Warrens, vs. C. St. P. M. & O. Ry. Co.	Refusal to re-open Johnson crossing, 2½ miles west of Warrens.	Pending.
Mch. 13	Town of Richfield, vs. C. M. & St. P. Ry. Co.	Three dangerous highway crossings in town of Richfield.	Complaint satisfied and withdrawn.
Mch. 14	John Werner et al., Pittsville, vs. C. M. & St. P. Ry. Co.	Inadequate train service.	Service improved; complaint satisfied and withdrawn.

Mch. 14	Pennsylvania Coal and Supply Co., Milwaukee, vs. C. M. & St. P. Ry. Co.	Inadequate shipping service.	Pending.
Mch. 18	Investigation, on motion of Commission, of minimum weights, classification and rates on agricultural implements.	Classification No. 51.	Pending.
Mch. 18	Ray S. Barkdoll et al., Milwaukee, vs. T. M. E. R. & L. Co.	Inadequate service on the First avenue and Vliet st. line.	Pending.
Mch. 19	Application of the Marathon County Ry. Co. to fix its rates.	Rates.	Pending.
Mch. 20	Wausau Paper Mill Co., Brokaw, vs. C. M. & St. P. Ry. Co.	Exorbitant rates on ground wood pulp between Rothschild and Brokaw.	Pending.
Mch. 20	Adam Happel et al., Richfield, vs. C. M. & St. P. Ry. Co., M. St. P. & S. S. M. Ry. Co.	Dangerous crossing north of Rugby Jct.	Settled by agreement of railway company to install bell.
Mch. 21	Town of Albany, vs. C. M. & St. P. Ry. Co.	Dangerous crossing.	Pending.
Mch. 22	Ahnapee Veneer & Seating Co., vs. M. St. P. & S. S. M. Ry. Co.	Excessive rates on logs.	Pending.

A. FORMAL COMPLAINTS AGAINST CARRIERS, 1911—1912.—Continued.

Date 1912.	Name.	Subject.	Disposal.
April 2	Town of Pewaukee vs. C. M. & St. P. Ry. Co.	Dangerous crossing four miles from Pewaukee.	Pending.
April 2	Heineman Lumber Co., vs. C. M. & St. P. Ry. Co.	Overcharges on shipment of logs.	Decision rendered, refund ordered— June 7, 1912.
April 3	Jesse C. Bradley, Milwaukee, vs. C. M. & St. P. Ry. Co.	Overcharges on shipment; handled on tariff instead of switching rates.	Settlement pending.
April 4	Henry Wrede et al., North Prairie, vs. C. M. & St. P. Ry. Co.	Unsatisfactory train and station ser- vice.	Complaint withdrawn.
April 5	Ripon Veneer & Box Works, Ripon, vs. C. & N. W. Ry. Co.	Overcharges on log shipments.	Pending.
April 8	Investigation, on motion of Commis- sion, of train service on Dodgeville branch of the I. C. R. R. Co.	Train service.	Pending.
April 10	C. J. Rollis, Stoughton, vs. C. M. & St. P. Ry. Co.	Inadequate station facilities; new sta- tion requested.	Pending.

April 11	R. J. Nye, Superior, vs. M. St. P. & S. S. M. Ry. Co.	Dangerous crossing at Belknap street, Superior.	Pending.
April 11	M. C. Mortenson, Cazenovia, vs. Cazenovia & Sauk City Ry. Co.	Unsatisfactory service.	Pending.
April 12	Nic Streveler et al., Emmett, vs. Marathon Co. Ry. Co., C. & N. W. Ry. Co.	No joint rates on C. L. & L. C. L. shipments between Halder and points on C. & N. W. Ry. Co., in Wisconsin.	Pending.
April 15	Kiel Wooden Ware Co., Kiel, vs. C. M. & St. P. Ry. Co.	Overcharges on boxes.	Decision rendered, refund ordered— June 7, 1912.
April 16	Berger-Crittenden Milling Co., Mil- waukee, vs. C. M. & St. P. Ry. Co.	Overcharges on shipments of flour.	Pending.
April 16	Benjamin Webster, Platteville, vs. C. & N. W. Ry. Co.	Inadequate passenger freight service.	Pending.
April 20	Northern Wood Co., Chicago, vs. C. M. & St. P. Ry. Co.	Overcharges on fuel wood shipments from Wausaukee to Fond du Lac.	Pending.
April 22	Village of Lynxville, vs. C. B. & Q. R. R. Co.	Inadequate train service.	Pending.

A. FORMAL COMPLAINTS AGAINST CARRIERS, 1911—1912.—Continued.

Date 1912.	Name.	Subject.	Disposal.
April 23	Town of Cross Plains, vs. C. M. & St. P. Ry. Co.	Three dangerous crossings.	Pending.
April 23	Carl J. Sandquist, Brantwood, vs. M. St. P. & S. S. M. Ry. Co.	Inadequate train service.	Pending.
April 24	E. P. Bacon & Co., Milwaukee, vs. M. St. P. & S. S. M. Ry. Co.	Exorbitant rates on mixed carload of grain.	Pending.
April 24	Southern Wisconsin Sand & Gravel Co., Janesville, vs. C. & N. W. Ry. Co.	Switching charges.	Pending.
April 24	United Commercial Travelers, by B. B. A. Honeycomb, vs. C. M. & St. P. Ry. Co., C. & N. W. Ry. Co., M. St. P. & S. M. Ry. Co.	Unreasonable baggage rates; request for mileage book—500 miles at 2 cts.	Pending.
April 25	A. J. Bolger and Frank W. Rogers, near Superior, vs. C. M. & St. P. Ry. Co., A. H. Stange Co. et al.	Proposed discontinuance of railroad from Hixon to Cedar Falls.	Pending.

April 27	John Hoffman & Sons Co., Milwaukee, vs. C. & N. W. Ry. Co., C. M. & St. P. Ry. Co., G. B. & W. R. R. Co.	Unsatisfactory freight service from Milwaukee to Black Creek, Shiocton and Seymour.	Pending.
April 29	Blackwell & Kaiser, Kaiser, vs. C. St. P. M. & O. Ry. Co., C. M. & St. P. Ry. Co.	Overcharges on shipment of lumber.	Pending.
April 29	Application of the Wisconsin & Northern R.R. Co. for approval of a certain agreement to build a spur track from its main line in Shawano, crossing certain streets and alleys.	Spur tracks.	Order issued May 2, 1912.
May 1	Roddis Lumber & Veneer Co., Marshfield, vs. C. St. P. M. & O. Ry. Co.	Overcharges on wood shipments.	Interstate shipments, no jurisdiction.
May 1	Clark & Fisher, Janesville, vs. C. & N. W. Ry. Co.	Illegal exaction of switching charges; refund asked.	Pending.
May 2	Oscar Gilbertson et al, Oconto Falls, vs. C. & N. W. Ry. Co.	Lack of station; petition for flag station between Gillett and Green Valley.	Pending.
May 3	Jos. Schlitz Brewing Co., Milwaukee, vs. C. M. & St. P. Ry. Co., C. & N. W. Ry. Co., M. St. P. & S. S. M. Ry. Co.	Unsatisfactory demurrage rules, Subdivision "C" of Rule "9".	Pending.

A. FORMAL COMPLAINTS AGAINST CARRIERS, 1911—1912.—Continued.

Date 1912.	Name.	Subject.	Disposal.
May 6	Torrey Cedar Co., Clintonville, vs. C. & N. W. Ry. Co.	Overcharges on cedar posts.	Pending.
May 6	Washington Park Adv. Association, Northwest Neighborhood Civic Club, Milwaukee, vs. T. M. E. R. & L. Co.	Inadequate service on Walnut st.	Pending.
May 6	Theresa Advancement Association, vs. M. St. P. & S. S. M. Ry. Co.	Refusal to build spur track.	Case dismissed.
May 7	John High et al. vs. C. M. & St. P. Ry. Co., C. & N. W. Ry. Co.	Lack of station at Ripon Junction.	Pending.
May 8	Town of Middleton, vs. C. M. & St. P. Ry. Co.	Two dangerous crossings.	Pending.
10	Geo. W. Overmeyer et al., Janesville, vs. C. M. & St. P. Ry. Co.	Inadequate passenger service from Janesville to Mineral Point.	Pending.
May 13	Eagle Lime Products Co., Dousman, vs. C. B. & Q. R. R. Co. et al.	Unreasonable rates on marl.	Pending.

May 14	Blodgett Milling Co., Janesville, vs. C. & N. W. Ry. Co.	Unjust switching charges.	Pending.
May 14	W. A. Stresen-Reuter et al., Milwaukee, vs. C. & N. W. Ry. Co.	Non-compliance with charter in permitting trains to stand at the head of Mason street.	No jurisdiction.
May 24	Town of Menomonee, vs. C. & N. W. Ry. Co.	Dangerous crossings in towns of Granville and Menomonee.	Complaint satisfied.
May 24	Summit Stove Co., La Crosse, vs. C. M. & St. P. Ry. Co.	Exorbitant switching charges.	Pending.
May 24	Sigmund Bloomfield, Elkhart Lake, vs. Wells Fargo & Co. Express.	Exorbitant charges.	Pending.
May 24	Post "B," Wisconsin Division Travelers Protective Asso. of America, vs. C. & N. W. Ry. Co.	Inadequate station facilities and service north of Wisconsin st. and Grand ave., Milwaukee.	Pending.
May 27	Moline Plow Co., Stoughton, vs. Ahnapee & Western Ry. Co. et al.	Unjust classification on wagon and stock scales.	Pending.
May 27	Vaughn Mfg. Co., Jefferson, vs. C. & N. W. Ry. Co.	Exorbitant charges.	Complaint withdrawn.

A. FORMAL COMPLAINTS AGAINST CARRIERS, 1911—1912.—Continued.

Date 1912	Name.	Subject.	Disposal.
May 28	Matt Hemmis et al., Grand Rapids, vs. G. B. & W. R. R. Co.	Lack of station facilities at Mehan.	Pending.
May 29	Lee B. Margrey, Grand Rapids, vs. C. & N. W. Ry. Co.	Inadequate station facilities at Kellner station.	Complaint satisfied and withdrawn.
May 29	John Kirkpatrick, Richland Center, vs. Wells Fargo Co. Exp.	Refusal of free delivery service.	Complaint satisfied and withdrawn.
May 29	George H. Pierce, New Glarus, vs. C. M. & St. P. Ry. Co.	Unsatisfactory train service.	Changes made by company satisfactory to complainant.
June 4	Town of La Prairie, vs. C. M. & St. P. Ry. Co.	Dangerous highway crossing east of beet sugar factory.	Pending.
June 4	Town of La Prairie, vs. C. M. & St. P. Ry. Co.	Dangerous crossings.	Pending.
June 8	Investigation of station facilities provided by the C. M. & St. P. Ry. Co. at Ripon and at Ripon Jct. by the C. & N. W. Ry. and C. M. & St. P. Ry. Co.	Station service at Ripon Junction.	Pending.

June 11	A. G. Roethe, Highland, vs. Mineral Point & Northern Ry. Co.	Inadequate passenger and freight service; unsatisfactory schedule.	Pending.
June 12	Investigation, on motion of Commission, of the reasonableness of Rule "9" of the car service and demurrage rules.	Car service and demurrage rules.	Pending.
June 15	Village of Fall River, vs. C. M. & St. P. Ry. Co.	Dangerous crossing at station; unsatisfactory station service.	Pending.
June 15	Town of Glendale, vs. C. & N. W. Ry. Co.	Dangerous crossing.	Pending.
June 18	Town of Salem, vs. C. & N. W. Ry. Co.	Dangerous highway crossing.	Pending.
June 19	Town of Germantown, vs. C. & N. Ry. Co., C. M. & St. P. Ry. Co.	Dangerous highway crossings.	Pending.
June 19	City of Milwaukee vs. C. M. & St. P. Ry. Co.	Dangerous crossing at Muskego ave.	Pending.
June 19	Sheboygan Pad Co., Sheboygan, vs. C. & N. W. Ry. Co.	Excessive rates on excelsior; Marshfield to Sheboygan.	Pending.

A. FORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Concluded.

Date 1912.	Name.	Subject.	Disposal.
June 20	Wilbur G. Weeks, Lyons, vs. C. M. & St. P. Ry. Co.	Two dangerous crossings at Lyons.	Pending.
June 20	Geo. B. Parkhill, Thorpe, vs. M. St. P. & S. S. M. Ry. Co.	Dangerous highway crossing.	Pending.
June 21	Wisconsin Lakes Ice and Cartage Co. vs. C. & N. W. Ry. Co.	Excessive rates on ice, Silver Springs to Cudahy.	Pending.
June 21	Walsh Sand & Gravel Co., Burlington, vs. C. M. & St. P. Ry. Co.	Excessive rates on gravel.	Pending.
June 24	Onalaska Pickle and Canning Co. Onalaska, vs. C. & N. W. Ry. Co., C. M. & St. P. Ry. Co.,	Unreasonable rates on pickles.	Withdrawn.
June 26	Marinette-Green Bay Mfg. Co., Chic- ago, vs. C. M. & St. P. Ry. Co.	Unjust and discriminatory rates.	Pending.

June 27	Application of Eastern Wis. El. Ry & Lt. Co. for authority to establish an amended schedule of rates and charges on its interurban cars operating between Oshkosh and Fond du Lac.	Rates.	Pending.
June 27	Application of Wis. El. Ry. Co. for authority to establish an amended schedule of rates and charges on its interurban cars operating between Division St., Oshkosh and Omro.	Rates.	Pending.
June 27	Application of Wis. El. Ry. Co. for authority to establish an amended schedule of rates and charges on its interurban cars operating between Main and High streets, in Oshkosh and Commercial street in Neenah.	Rates.	Pending.
June 27	Town of Lincoln, vs. C. St. P. M. & O. Ry. Co.	Obstruction of public highway.	Pending.
June 29	Theresa Milling & Supply Co., Theresa, vs. M. St. P. & S. S. M. Ry. Co.	Refusal to construct spur track from Theresa station to Theresa village.	Pending.
June 29	Nygaard & Rahel, Oshkosh, vs. C. & N. W. Ry. Co., C. M. & St. P. Ry. Co., Wis. Grain & Fuel Co.	Refusal to permit shipping of coal and wood over spur track of respondent Co. at Oshkosh.	Complaint satisfied and withdrawn.

Complaints and Applications.—B. Formal Complaints Against Utilities.

July 1, 1911, to June 30, 1912.

Date.	Name.	Subject.	Disposal.
1911. July 1....	City of Clintonville	Application to be relieved from the necessity of furnishing water meters.	Application withdrawn.
July 6....	Mt. Horeb Electric Light Co.	Application for authority to increase rates.	Application withdrawn.
July 7....	St. Croix Tel. Co., New Richmond	Application for valuation of property.	Valuation made.
July 8....	Mt. Horeb Electric Light Co.	Valuation of property.	Valuation made.
July 11...	La Crosse Gas & Elec. Co. and the La Crosse Water Power Co.	Joint application to the effect that the Railroad Commission act as arbitrator in interpreting the meaning of certain provisions in the contract between applicants, relating to the station cost of producing electric energy.	Opinion rendered October 4, 1911.
July 15...	City of Milwaukee vs. Milwaukee Gas Light Co.	Unreasonable and excessive rates.	Pending.
July 19...	Linzy-Brook Tel. Assn.	Petition for physical connection with the Cecil-Green Valley Tel. Co.	Decision rendered May 8, 1912.

July 22...	Frank Winter, La Crosse.	Application for order directing physical connection between the telephone system of the La Crosse Tel. Co. and the toll lines of the Wis. Tel. Co., and between the toll lines of the La Crosse Tel. Co. and the telephone system of the Wis. Tel. Co.	Pending.
July 25..	Antigo Electric Co.	Application for an order fixing the value of the Antigo Gas Co., under provisions of ch. 593, Laws of 1911.	Order issued July 25, 1911.
July 25..	J. C. Meyer et al., Sheboygan, vs. Sheboygan Gas Light Co.	Complaint filed: alleged unusual and exorbitant rates.	Pending.
July 28...	Green Bay Water Co.	Valuation of property.	Pending.
Aug. 3...	Oconto Electric Co. and the People's Land & Manufacturing Co.	Request for valuation of property— signed by both companies.	Pending.
Aug. 4....	Viking Tel. Co.	Application for physical connection with the Wis. Tel. Co.	Complaint satisfied, application with- drawn.
Aug. 7....	Viroqua Electric Light plant.	Valuation of property.	Valuation made.
Aug. 9....	Benton-Cuba City Tel. Co. vs. Interstate Light & Power Co.	Damage resulting from setting of poles.	Complaint withdrawn.

B. FORMAL COMPLAINTS AGAINST UTILITIES, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1911 Aug. 10...	Alfred Electric Light & Power Co. W. R. Law et al., Darlington, vs. Darlington Electric Light & Power Co.	Complain alleging a dam across Pecatonica river in La Fayette county is being operated so as to impair the navigability of said river.	Dismissed—no jurisdiction.
Aug. 14..	The Milwaukee E. R. & L. Co.	Failure to comply with certain orders of the Railroad Commission of Wisconsin.	Pending.
Aug. 14..	Eastern Wisconsin Railway & Light Co.	Failure to comply with certain orders of the Railroad Commission of Wisconsin.	Pending.
Aug. 14..	Menomonie Light & Fuel Co.	Failure to comply with certain orders of the Railroad Commission of Wisconsin.	Pending.
Aug. 16..	Chippewa Valley Railway, Light & Power Co.	Application for authority to increase rates.	Pending.
Aug. 25...	C. A. Lothrop et al., Sharon, vs. Village of Sharon.	Unreasonable and unlawful rule concerning the installation of water meters.	Decision rendered January 11, 1912.
Sept. 6...	Rhineland Light & Power Co.	Valuation of property.	Pending.

Sept. 6...	City of Neenah.	Application to compel consumers of water to install water meters at the expense of the consumer, when such meters are ordered installed by the board of water commissioners.	Pending.
Sept. 12..	Prairie City Electric Co.	Failure to comply with certain orders of the Railroad Commission of Wisconsin.	Pending.
Sept. 13...	Louis F. Yanko et al. vs. Portage American Gas Co.	Excessive rates.	Pending.
Sept. 13...	Village of Sharon.	Application for relief from the necessity of furnishing water meters.	Decision rendered June 11, 1912.
Sept. 20..	Richland Center Water & Light Plant.	Valuation of property.	Pending.
Sept. 28..	Milwaukee Municipal Water Plant.	Valuation of property.	Pending.
Oct. 2.....	Geo. F. Savoy et al., Pewaukee, vs. Wis. Tel. Co.	Failure to install telephone.	Complaint withdrawn.
Oct. 9....	Darlington Electric Light & Power Co.	Application for authority to increase rates.	Pending.
Oct. 12...	Peter B. Bogart et al., Milwaukee, vs. Wis. Tel. Co.	Unreasonable and unjust rates.	Pending.

B. FORMAL COMPLAINTS AGAINST UTILITIES, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1911.			
Oct. 21...	Plymouth Tel. Exchange.	Application for authority to increase rates.	Decision rendered May 4, 1912.
Oct. 23....	Superior Water, Light & Power Co.	Valuation of property.	Pending.
Oct. 23....	Plymouth Tel. Co.	Valuation of property.	Decision rendered May 4, 1912.
Oct. 24....	City of Waukesha vs. Wis. Tel Co.	Unreasonable rates, tolls and charges, inadequate and discriminatory service.	Pending.
Oct. 24....	City of Waukesha vs. Waukesha Gas & Electric Co.	Exorbitant rates for electric light and power; inadequate service.	Pending.
Oct. 24....	City of Waukesha vs. Waukesha Gas & Electric Co.	Exorbitant rates for gas.	Pending.
Oct. 24...	Hubbard Farmers' Tel. Co., Iron Ridge, vs. Eureka Tel. Co., Neosho.	Discontinuance of telephone service.	Settled between parties.
Oct. 30...	Beaver Dam Water Works.	Valuation of property.	Pending.
Oct. 30...	Kenosha Electric Ry. Co. vs. Kenosha Gas & Electric Co.	Unsatisfactory rates.	Pending.

Nov. 3....	Common Council of the City of Green Bay vs. Green Bay Water Works.	Water rates and hydrant rentals excessive, exorbitant and unreasonable.	Pending.
Nov. 4....	Evansville Electric Light Plant.	Investigation, on motion of the Commission, of the rates, rules and regulations.	Pending.
Nov. 4....	Evansville Municipal Water Works.	Investigation, on motion of the Commission, of the rates, rules and regulations.	Pending.
Nov. 6...	City of Green Bay vs. Minahan Building Co.	Exorbitant and unreasonable charges for electric service.	Pending.
Nov. 6...	City of Green Bay vs. Green Bay Gas & Electric Co.	Excessive, exorbitant and unreasonable charges for electric service.	Pending.
Nov. 21...	E. J. Beuttner et al., Bowler, vs. Morris Tel. Co., Wis. Tel. Co.	Inadequate connection and service at Bowler.	Service improved; complaint satisfied.
Nov. 23...	Equitable Electric Light Co., Lake Geneva.	Valuation of property.	Pending.
Nov. 24...	Beloit Water, Gas & Electric Co. vs. City of Beloit.	Application for the staying of ordinances Nos. 116 and 117 of the city of Beloit, pending a hearing by the Commission.	Decision rendered May 29, 1912.

B. FORMAL COMPLAINTS AGAINST UTILITIES, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1911.			
Dec. 4....	Sheboygan Gas Light Co.	Valuation of property.	Pending.
Dec. 4....	Citizens of Muscoda and Vicinity vs. Muscoda Mutual Tel. Co.	Inadequate service.	Service improved; complaint satisfied.
Dec. 5....	Farmers' Telephone Exchange, Rich- land Center,	Application for authority to increase rates.	Pending.
Dec. 8....	City of Oshkosh vs. Oshkosh Water Works Co.	Rates unjust, unreasonable and ex- cessive; service inadequate and in- sufficient.	Pending.
Dec. 21...	Chas. G. King, et al., Citizens of Altoona vs. Wis. Tel. Co.	Inadequate service.	Pending.
Dec. 26...	City of Milwaukee	Application for authority to install a revised system of water utility ac- counts	Authority granted.
Dec. 26...	Citizens of New Richmond vs. City of New Richmond.	Excessive and discriminatory rates for water; no metered service.	Pending.
Dec. 28...	Neshonoc Light and Power Co., vil- lage of West Salem.	Valuation of property.	Pending.

Year	Complainant	Respondent	Issue	Status
1912				
Jan. 12...	Alexander E. Matheson, Janesville, Wis. Tel. Co.	vs. Rhinelander Mutual Tel. Co.	Un satisfactory service.	Complaint satisfied and withdrawn.
Jan. 16...	Rhineland Mutual Tel. Co.	vs. Clifton Light & Power Co.	Valuation of property.	Pending Valuation made.
Jan. 26...	J. H. Wenzel et al., Prescott	vs. Clifton Light & Power Co.	Inadequate electric light service.	Decision rendered May 29, 1912.
Jan. 27...	Mineral Point Tel. Co.	vs. Rhinelander Mutual Tel. Co.	Application for authority to increase rates.	Decision rendered June 7, 1912. Pending
Jan. 30...	Frederick Knapp et al. Matteson Tel. Co.	vs. Matteson Tel. Co.	Unjust rental charges.	Pending.
Feb. 3...	Bruce Water & Light Commission.	vs. Rhinelander Mutual & Light Co.	Application for authority to increase rates.	Pending. Pending
Feb. 13...	City of Neenah.	vs. Electric Co.	Application for a revision of its water rates.	Pending.
Feb. 15...	Eastern Fond du Lac County Tel. Co.	vs. Rhinelander Mutual & Light Co.	Application for authority to increase rates.	Pending.
Feb. 16...	Minahan Bldg. Co., Green Bay.	vs. Rhinelander Mutual & Light Co.	Valuation of property.	Pending.
Feb. 27...	Doscobel Tel. Co. Crawford County Farmers' Mut. Tel. Co.	vs. Rhinelander Mutual & Light Co.	Unreasonable and unjust rates and regulations with regard to physical connection between petitioner's and respondent's telephone companies.	Pending. Disposed

B. FORMAL COMPLAINTS AGAINST UTILITIES, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1912. Feb. 27...	Union Tel. Co. vs. Western Crawford County Farmers' Mut. Tel. Co. et al.	Unreasonable and unjust rates and regulations with regard to physical connection between petitioner's and respondent's telephone companies.	Pending.
March 1..	Green Bay Gas & Electric Co.	Valuation of property.	Pending.
March 1..	Ft. Atkinson Water & Light Co.	Application for authority to increase rates.	Pending.
March 2..	Berlin Public Service Co.	Investigation, on motion of Commission, of the rules and regulations relating to the use of thermostats.	Pending.
March 5..	Elderon Tel. Co.	Investigation, on motion of the Commission, of service.	Pending.
March 8..	L. B. Caswell, Jr., et al. vs. City Water & Light Dept. of Ft. Atkinson.	Complaint charging inequitable and discriminatory rates for water.	Pending.
March 10.	Oscar A. Alter et al. vs. Board of City Water Com. of Manitowoc.	Complaint charging that the company requires consumers to pay cost of putting in service to curb, including cost of labor, pipe, tapping main and stop cocks.	Pending.

March 15.	Platteville, Rewey & Ellenboro Tel. Co.	Application for authority to increase rates, tolls and charges.	Pending.
March 19..	C. N. Robbin, Madison, vs. Wis. Tel. Co.	Unreasonable rule, in that respondent demands ten dollars as guarantee.	Complaint dismissed.
March 20.	H. L. Markham et al., Manitowoc, vs. City of Manitowoc (Board of Water Commissioners)	Unreasonable rates for water service, refusal to furnish meters, etc.	Pending.
March 22.	Village of Belmont.	Application to be relieved from the necessity of furnishing water meters	Order issued June 27, 1912.
March 23.	Shiocton Tel. Co.	Application for authority to increase rates.	Pending.
March 25.	Board of Water Commissioners of the city of Berlin.	Application to be relieved of the necessity of furnishing water meters.	Order issued April 23, 1912.
March 29.	Clark County Tel. Co. vs. Wis Tel. Co.	Refusal of connection at Spencer.	Complaint satisfied and withdrawn.
Apr. 10..	Whitehall Municipal Electric Light Co.	Application for authority to increase its rates, tolls and charges.	Pending.
Apr. 15...	Ashland Home Tel. Co.	Application for authority to increase rates.	Pending.

B. FORMAL COMPLAINTS AGAINST UTILITIES, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1912. Apr. 15..	A. E. Monroe et al., Clinton.	Application for physical connection between the Clinton Tel. Co. and the Berger Tel. Co.	Pending.
Apr. 15..	Westby Water and Light Plant.	Valuation of property.	Valuation made.
Apr. 17..	Chippewa Valley Railway, Light & Power Co.	Application for authority to increase rates at Elk Mound.	Decision rendered June 7, 1912.
Apr. 19..	Village of Fennimore.	Application for authority to increase rates.	Pending.
Apr. 19..	Brodhead Tel. Co.	Application for authority to increase rates.	Pending.
Apr. 22..	Portage Electric Light Co.	Valuation of property.	Valuation made.
Apr. 27..	Blanchardville Electric and Water Plant.	Valuation of property.	Valuation made.
Apr. 27..	Oconto City Water Supply Co.	Refusal to permit the installation of meters.	Pending.
May 1....	Burlington Elec. Light & Power Co.	Application for authority to equalize rates.	Pending.

May 1....	Chippewa Valley Railway Light and Power Co.	Investigation, on motion of the Commission, of rules, regulations and practices.	Pending.
May 7....	Random Lake Tel. Co.	Application for authority to increase rates.	Pending.
May 8....	Ashland Water Co.	Investigation, on motion of the Commission, of rates, rules and regulations.	Pending.
May 11...	Elkhart Lake Water Works.	Valuation of property.	Valuation made.
May 20...	Ashland Home Tel. Co.	Valuation of property.	Pending.
May 20...	Burlington Electric Light & Power Co.	Valuation of property.	Pending.
May 20...	Brodhead Tel. Co.	Valuation of property.	Pending.
June 6...	Madison Gas & Electric Co. vs. City of Madison.	Unjust ordinance requiring elimination of poles from certain streets in Madison.	Pending.
June 7...	Fort Atkinson Water and Light Commission	Failure to comply with certain orders of Railroad Commission.	Pending.
June 7...	Brodhead Electric Co.	Failure to comply with certain orders of Railroad Commission.	Pending.
June 7...	Midway Telephone Co. ,	Application for authority to increase rates, tolls and charges.	Pending.

B. FORMAL COMPLAINTS AGAINST UTILITIES, 1911-1912.—Concluded.

Date.	Name.	Subject.	Disposal.
1912.			
June 7...	William D. Maxon, L. P. Trimmer, West Bend, vs. Jackson Tel. Co., Washington County Tel. Co.	Inadequate telephone service.	Pending.
June 11..	Farmers' Tel. Exchange, Richland Center.	Valuation of property.	Pending.
June 12..	Ettrick Tel. Co., Ettrick, vs. La Crosse Tel. Co.	Discrimination by refusal of physical connection, and by charging high- er rates than to other telephone companies.	Pending.
June 15..	Paramount Power and Realty Co.	Request for an opinion as to the ne- cessity for making repairs to its dam at Beaver Dam.	Opinion rendered.
June 20..	Neenah Water Works.	Valuation of property.	Pending.
June 25..	Municipal Electric Light and Water Plant of New Glarus.	Application for authority to increase rates.	Pending.

Complaints and Applications.—C. Applications for Certificate of Public Convenience and Necessity.

July 1, 1911 to June 30, 1912.

Date.	Name of Applicant.	Purpose.	Disposal.
1911. Jan. 20...	City of Wausau.	Establishment of a municipal lighting plant.	Abandoned.
Apr. 4....	C. St. P. M. & O. Ry. Co.	Black River Falls Spur.	Application dismissed Aug. 29, 1911.
Apr. 10...	M. St. P. & S. S. M. Ry. Co.	Frederic-Superior extension.	Certificate issued Sept. 21, 1911.
May 9....	Peoples W., Lt. & P. Co. of the city of Mellen.	Construction of second public utility for furnishing water.	Application dismissed Aug. 9, 1911.
July 8....	Wis. & Northern Ry. Co.	Extension of lines from Western Siding to Antigo, Langlade Co., and from Shawano, Shawano Co., to Menasha, Winnebago Co.	Certificate issued Aug. 12, 1911.
Sept. 5...	Marathon Co. Ry. Co.	Extension of line in Marathon Co., Wis.	Certificate issued Oct. 14, 1911.
Sept. 27..	Ontario & Northern Ry. Co.	Extension from Ontario, Vernon Co., to Wilton, Monroe Co.	Certificate issued Oct. 24, 1911.
Nov. 1....	West Salem, village of	Construction of second public lighting utility.	Application dismissed Aug. 7, 1911.
Dec. 20..	Chicago & Wis. Valley Ry. Co.	Extension of line from Madison to Portage.	Certificate issued Jan. 22, 1912.

C. APPLICATIONS FOR CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY, 1911-1912.—Concluded.

Date.	Name of Applicant.	Purpose.	Disposal.
1911. Jan. 27...	C. B. & Q. R. R. Co.	Construction of double track and re-	Certificate issued Mar. 8, 1912.
Feb. 5...	Interstate Lt. & Power Co.	Extension of service into town of	Application dismissed Oct. 21, 1911.
Feb. 9...	Chicago & Lake Superior Ry. Co.	Extension from Cambridge to Rock-	Certificate issued Mar. 6, 1912.
Feb. 26...	Dunbar & Wausaukee Ry.	For the taking over of the private	Certificate issued Apr. 10, 1912.
Mar. 10...	Milwaukee city of	Establishment of a municipal electric	Pending.

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Complaints and Applications.—D. Applications for Authority to Issue Stocks and Bonds.

Date.	Name of Applicant.	Securities Involved.	Certificate Issued.
1911. July 13...	Wis. Cent. Ry. Co.	1,654,000 of bonds.	July 26, 1911.
July 25...	Antigo El. Co.	\$41,500 of bonds.	July 25, 1911.
July 29...	Campbellsport El. Lt. & P. Co.	\$20,000 of bonds.	Aug. 4, 1911.
Aug. 2....	La Crosse Tel. Co.	\$20,000 of preferred stock.	Aug. 14, 1911.
Aug. 2....	N. Mil. Lt. & P. Co.	\$12,040 of stock.	Oct. 24, 1911.
Aug. 13...	Campbellsport El. Lt. & P. Co.	\$10,000 of stock.	Aug. 4, 1911.
Aug. 5....	Superior W., Lt. & P. Co.	\$500,000 of common stock. \$500,000 of preferred stock.	Aug. 8, 1911.
Aug. 8....	Battle Island Co.	\$100,000 of stock.	Dec. 21, 1911.
Aug. 11...	Harmony Tel. Co.	\$5,000 of stock.	Sept. 1, 1911.
Aug. 12...	Apple River P. Co.	\$250,000 of bonds.	Oct. 14, 1911.
Aug. 25...	Rice Lake & North Eastern Tel. Co.	\$2,000 of stock.	Aug. 25, 1911.
Sept. 2....	Wausau Tel. Co.	\$50,000 of bonds.	Sept. 9, 1911.

D. APPLICATIONS FOR AUTHORITY TO ISSUE STOCKS AND BONDS, 1911-1912.—Continued.

Date.	Name of Applicant.	Securities Involved.	Certificate Issued.
1911. Sept. 20..	T. M. E. R. & L. Co.	\$2,000,000 of bonds.	Sept. 28, 1911.
Oct. 2....	Wis. Valley Improvement Co.	\$170,000 of stock.	Nov. 9, 1911.
Oct. 4....	Union Refrigerator Transit Co. of Wisconsin.	\$180,000 of bonds	Oct. 16, 1911.
Oct. 6....	Prairie Farm & S. W. Ry. Co.	\$220,000 of bonds.	Oct. 10, 1911.
Oct. 10....	M. St. P. & S. S. M. Ry. Co.	\$6,000,000 of bonds.	Oct. 16, 1911.
Oct. 18....	Antigo El. Co.	Authority to cancel certificate dated July 25, 1911	Jan. 23, 1912.
Oct. 19...	Wausau St. R. Co.	\$100,000 of stock.	Oct. 21, 1911.
Oct. 9.... and 21.	Chippewa Valley & N. Ry. Co.	\$142,000 of bonds.	Oct. 23, 1911.
Nov. 7....	Berlin Public Service Co.	\$70,000 of bonds	Nov. 28, 1911.
Nov. 27..	C. & N. W. Ry. Co.	Authority to guarantee payment of bonds of the Mil. Sparta & N. W. Ry. Co. provided for under certifi- cate dated Jan. 13, 1912.	Jan. 13, 1912.
Nov. 27..	Mil., Sparta & N. W. Ry. Co.	Authority to purchase the property of the Princeton & Western Ry. Co.	Jan. 13, 1912.

Nov. 27..	Mil., Sparta & N. W. Ry. Co.	\$15,000,000 of bonds.	Jan. 13, 1912.
Dec. 19...	Wausau St. Ry. Co.	\$350,000 of bonds.	Dec. 27, 1911.
Dec. 21...	Mineral Pt. Pub. Serv. Co.	\$23,000 of stock. \$42,000 of bonds.	Dec. 30, 1911.
Dec. 21...	Mineral Pt. Pub. Serv. Co.	\$127,000 of stock. \$75,000 of bonds.	Jan. 3, 1912.
Dec. 22...	T. M. E. R. & L. Co.	\$4,000,000 of bonds.	Dec. 22, 1911.
Dec. 26...	Baldwins Mills Tel. Co.	\$425 of stock.	Dec. 27, 1911.
Dec. 26...	Beloit W. G. & El. Co.	\$900,000 of bonds. \$500,000 of preferred stock.	Dec. 26, 1911.
Dec. 26...	Berlin Pub. Serv. Co.	\$59,500 of bonds and \$10,500 of notes, in lieu of certificate dated Nov. 28, 1911.	Dec. 27, 1911.
Dec. 28...	Racine W. Co.	\$39,000 of bonds.	Jan. 8, 1912.
1912 Jan. 2....	La Crosse G. & El. Co.	\$1,100,000 of bonds.	Jan. 4, 1912.
Jan. 2....	Mineral Pt. Pub. Serv. Co.	\$50,000 of preferred stock and \$77,000 of common stock, in lieu of certifi- cate dated Jan. 3, 1912.	Jan. 19, 1912.
Jan. 5....	C. St. P. M. & O. R. Ry. Co.	\$5,000,000 of bonds.	Jan. 5, 1912.
Jan. 11..	Calumet Tel. Co.	\$1,440 of stock.	Jan. 16, 1912.

D. APPLICATIONS FOR AUTHORITY TO ISSUE STOCKS AND BONDS, 1911-1912.—Continued.

Date.	Name of Applicant.	Securities Involved.	Certificate Issued.
1912.			
Jan. 11...	M. St. P. & S. S. M. Ry. Co.	\$1,520,000 of bonds.	Jan. 16, 1912.
Jan 18....	C. & N. W. Ry. Co.	\$10,000,000 of equipment trust certificates.	Jan. 18, 1912.
Jan 18....	C. & N. W. Ry. Co.	Authority to purchase the property of the Mil. Sparta & N. W. Ry. Co. (including the property of the Princeton & W. Ry. Co.)	Jan. 19, 1912.
Jan. 22...	Marshfield Tel. Exch.	\$35,000 of stock.	Jan. 25, 1912.
Jan. 26...	Horseshoe Tel. Co.	\$510 of stock.	Jan. 31, 1912.
Feb. 2....	Dunbar & Wausaukee Ry. Co.	\$120,000 of stock.	Apr. 10, 1912.
Feb. 2....	Oconto Rural Tel. Co.	\$4,450 of stock.	Mar. 1, 1912.
Feb. 5....	Rhinelandel Tel. Co.	\$21,080 of stock.	Feb. 6, 1912.
Feb. 5....	Wis. Cent. Ry. Co.	\$2,039,000 of bonds.	Feb. 12, 1912.
Feb. 5....	Wis. Pub. Serv. Co.	\$2,250,000 of bonds. \$600,000 of preferred stock. \$400 of common stock.	Feb. 6, 1912.
Feb. 12...	Fairchild & N. E. Ry. Co.	\$499,500 of stock.	Mar. 1, 1912.

Feb. 29...	Tomahawk Lt. Tel. & Imp. Co.	\$50,000 of stock.	Mar. 1, 1912.
Mar. 11...	Eastern Wis. Ry. & Lt. Co.	\$100,000 of bonds.	Mar. 12, 1912.
Mar. 12...	Wis. Cent. Ry. Co.	\$2,039,000 of bonds in lieu of certificate dated Feb. 12, 1912.	Mar. 12, 1912.
Mar. 13...	Peninsular P. Co.	\$100,000 of preferred stock.	Mar. 15, 1912.
Mar. 19...	Monroe El. Co.	\$3,000 of bonds. \$12,000 of stock.	Mar. 23, 1912.
Mar. 25..	Rural Tel. Co.	\$1,000 of stock.	Mar. 27, 1912.
Mar. 30..	Chi. & Wis. Val. R. Co.	\$444,000 of stock.	Apr. 15, 1912.
Apr. 3...	Manitowoc G. Co.	\$2,500 of bonds.	Apr. 23, 1912.
Apr. 5....	Beloit W. G. & El. Co.	\$900,000 of bonds and \$500,000 of preferred stock in lieu of certificate dated Dec. 26, 1911.	Apr. 5, 1912.
Apr. 15..	Ashland Home Tel. Co.	\$30,400 of bonds.	June 12, 1912.
Apr. 16..	Wausau St. Ry. Co.	Authority to amend certificate dated Dec. 27, 1911, changing date on which bonds mature.	Apr. 16, 1912.
Apr. 17...	Eau Galle Tel. Co.	Withdrawn.	
Apr. 17...	Ontario & Northern Ry. Co.	\$75,000 of stock. \$75,000 of bonds.	May 24, 1912.

D. APPLICATIONS FOR AUTHORITY TO ISSUE STOCKS AND BONDS, 1911-1912.—Continued.

Date.	Name of Applicant.	Securities Involved.	Certificate Issued.
1912.			
Apr. 17...	Washington Island Tel. Co.	\$2,000 of stock.	May 20, 1912.
Apr. 18...	Beloit Farm Tel. Co.	\$1,000 of stock.	Apr. 23, 1912.
Apr. 18..	Southern Wis. Ry. Co.	\$55,000 of equipment notes.	Apr. 24, 1912.
Apr. 18..	Superior W. Lt. & P. Co.	\$200,000 of bonds.	May 2, 1912.
Apr. 20..	Rusk Co. Rural Tel. Co.	\$1,000 of stock.	May 24, 1912.
Apr. 22..	Fremont Tel. Co.	\$2,800 of stock.	Apr. 24, 1912.
Apr. 23...	Lafayette Co. Tel. Co.	\$30,000 of stock.	Apr. 23, 1912.
Apr. 23...	Western Wis. Tel. Co.	\$200 of stock.	Apr. 23, 1912.
Apr. 23...	Wisconsin Tel. Co.	Authority to purchase the property of the Evansville Tel. Exch.	Apr. 23, 1912.
Apr. 24...	Almond Tel. Co.	\$1,000 of stock.	May 2, 1912.
Apr. 25...	Kegonsa Independent Tel. Co.	\$640 of stock.	May 2, 1912.
Apr. 26...	Rural Tel. Co.	\$1,000 of stock.	May 7, 1912.
Apr. 27..	Bonduel Tel. Co.	\$2,725 of stock.	June 7, 1912.
Apr. 27..	Fennimore Mut. Tel. Co.	\$630 of stock.	May 1, 1912.

Apr. 27..	Wood Co. Tel. Co.	\$1,000 of stock.	June 26, 1912.
Apr. 29...	Caledonia Farmers' Tel. Co.	\$480 of stock.	May 9, 1912.
Apr. 29..	Casco & Brussels Tel. Co.	\$590 of stock.	May 8, 1912.
Apr. 29...	Ettrick Tel. Co.	\$2,400 of stock.	June 17, 1912.
Apr. 29...	Farmers' Mut. Tel. Co. of Baraboo.	\$2,400 of stock.	May 23, 1912.
Apr. 29..	Prairie Farm, Ridgeland & Dallas Co-op. Tel. Co.	\$1,225 of stock.	May 10, 1912.
Apr. 30...	Arena & Ridgeway Tel. Co.	\$150 of stock.	May 2, 1912.
Apr. 30...	Beaver Tel. Co.	\$240 of stock.	May 16, 1912.
Apr. 30...	Cameron Farmers' Tel. Co.	\$5,700 of stock.	May 9, 1912.
Apr. 30..	Ironwood & Bessemer Ry. & Lt. Co.	\$170,000 of bonds.	Apr. 30, 1912.
Apr. 30...	New Auburn Tel. Co.	\$1,900 of stock.	May 16, 1912.
Apr. 30...	Westby Tel. Co.	\$550 of stock.	May 3, 1912.
May 1...	Lynn Tel. Co.	\$1,180 of stock.	May 23, 1912.
May 1....	Wayside Tel. Co.	\$6,080 of stock.	May 16, 1912.
May 2....	Baldwin Tel. Exca.	\$3,000 of stock.	May 16, 1912.
May 2....	Farmers' Independent Tel. Co.	\$740 of stock.	June 4, 1912.
May 2....	Hawkins Tel. Co.	\$1,550 of stock.	May 3, 1912.

D. APPLICATIONS FOR AUTHORITY TO ISSUE STOCKS AND BONDS, 1911-1912.—Continued.

Date.	Name of Applicant.	Securities Involved.	Certificate Issued.
1912.			
May 2....	Reseburg Mut. Tel. Co.	\$350 of stock.	Pending.
May 3....	Eureka Tel. Co.	\$7,500 of stock.	May 23, 1912.
May 3....	Horicon Lt. & P. Co.	\$10,000 of bonds.	May 23, 1912.
May 3....	Schleswig Tel. Co.	\$600 of stock.	May 23, 1912.
May 3....	Viking Tel. Co.	\$1,000 of stock.	May 23, 1912.
May 4....	Badax Tel. Co.	\$210 of stock.	May 23, 1912.
May 6....	Browntown Tel. Co.	\$1,870 of stock.	May 24, 1912.
May 6....	Marshfield Tel. Exch.	Authority to cancel the part of certificate, dated Jan. 25, 1912, relating to issue of \$10,000 of stock for money only.	May 23, 1912.
May 6....	Marshfield Tel. Exch.	\$15,000 of bonds.	May 23, 1912.
May 7....	Friendship El. Lt. & P. Co.	\$15,000 of stock.	May 7, 1912.
May 7....	Valley Tel. Co.	\$129 of stock.	June 26, 1912.
May 8....	Coon Valley Farmers' Tel. Co.	\$600 of stock.	May 23, 1912.
May 9....	Bristol Tel. Co.	\$1,000 of stock.	June 5, 1912.

May 10...	Belmont & Pleasant View Tel. Co.	\$300 of stock.	June 15, 1912.
May 13...	Allenton-Kohlsville Tel. Co.	Withdrawn	
May 13...	Berlin Tel. Co.	\$1,950 of stock.	May 27, 1912.
May 13...	Poysippi Tel. Co.	\$2,800 of stock.	June 15, 1912.
May 13...	Rapids & Western Tel. Co.	\$100 of stock.	May 27, 1912.
May 15..	Dodgeville Northern Tel. Co.	\$200 of stock.	May 23, 1912.
May 15..	Morris Tel. Co.	\$100 of stock.	May 23, 1912.
May 15..	St. Croix Tel. Co.	\$3,000 of stock.	June 24, 1912.
May 16...	Auburndale Tel. Co.	\$4,000 of stock.	May 20, 1912.
May 17...	Bruckerville Farmers' Tel. Co.	\$198 of stock.	June 15, 1912.
May 18...	Central Heating Co. of Milwaukee.	\$100,000 of stock. \$750,000 of bonds.	May 29, 1912.
May 18...	Hillsdale Western Tel. Co.	\$450 of stock.	June 17, 1912.
May 18...	Ontario & Wilton Tel. Co.	\$1,850 of stock.	May 28, 1912.
May 20...	Ironwood & Bessemer Ry. & Lt. Co.	\$289,000 of bonds.	June 12, 1912.
May 20...	Ripon United Tel. Co.	\$27,800 of stock.	June 28, 1912.
May 21...	Norwalk Independent Tel. Co.	\$500 of stock.	June 4, 1912.

D. APPLICATIONS FOR AUTHORITY TO ISSUE STOCKS AND BONDS, 1911-1912.—Continued.

Date.	Name of Applicant.	Securities Involved.	Certificate Issued.
1912.			
May 21...	Washington Co. Tel. Co.	\$11,310 of stock.	June 15, 1912.
May 21...	Wautoma & Mt. Morris Farmers' Tel. Co.	\$3,500 of stock.	June 24, 1912.
May 21...	Weyauwega Tel. Co.	\$975 of stock.	June 24, 1912.
May 22...	Canton Farmers' Tel. Co.	\$400 of stock.	June 28, 1912.
May 23...	Alto Tel. Co.	\$400 of stock.	Pending.
May 23...	Elk Creek Tel. Co.	\$5,000 of stock.	Jan. 13, 1913.
May 23...	Horicon Lt. & P. Co.	Amendment to certificate dated Feb. 15, 1911, changing use to be made of stock and bonds.	May 23, 1912.
May 23...	St. P. Eastern Grand Trunk Ry. Co.	\$1,120,000 of bonds.	June 7, 1912.
May 25...	River Falls P. Co.	\$75,000 of stock. \$200,000 of bonds.	May 27, 1912.
May 25...	Sawyer & Western Tel. Co.	\$640 of stock.	June 17, 1912.
May 27...	La Crosse Tel. Co.	\$20,000 of preferred stock.	June 13, 1912.
May 27...	M. St. P. & S. S. M. Ry. Co.	\$1,020,000 of equipment notes.	June 3, 1912.

May 29...	Scandinavia Tel. Co.	\$2,075 of stock.	June 17, 1912.
May 29...	Wilson Tel. Co.	\$3,000 of stock.	Pending.
June 1...	Cascade Tel. Co.	\$3,000 of stock.	June 17, 1912.
June 3...	Independence Tel. Co.	\$2,160 of stock.	June 15, 1912.
June 3...	Mosel & Centerville Tel. Co.	\$5,500 of stock.	Pending.
June 5...	Bloomer Tel. Co.	\$2,350 of stock.	June 13, 1912.
June 6...	New Franken Tel. Co.	\$5,000 of stock.	June 26, 1912.
June 7...	Ebenezer Tel. Co.	\$250 of stock.	June 15, 1912.
June 7...	Wis. Pub. Serv. Co.	Amendment to certificate dated Feb. 6, 1912, changing the form and the securities of certain bonds.	June 7, 1912.
June 13..	Bashaw Val. Tel. Co.	\$2,000 of stock.	Pending.
June 17..	Platteville G. Co.	\$10,000 of preferred stock. \$40,000 of common stock.	Sept. 16, 1912.
June 19..	Equity Tel. Co.	\$2,500 of stock.	June 26, 1912.
June 24..	Redgranite Tel. Co.	\$1,350 of notes.	Pending.

D. APPLICATIONS FOR AUTHORITY TO ISSUE STOCKS AND BONDS, 1911-1912.—Concluded.

Date.	Name of Applicant.	Securities Involved.	Certificate Issued.
1912. June 25...	Wisconsin Tel. Co.	Authority to purchase property of Fox River Valley Tel. & Telg. Co. for \$135,000 in cash and \$200,000 in promissory notes.	June 26, 1912.
June 28..	Farmers' Coöperative Tel. Co. of Merrimac and Sumpter.	\$500 of stock.	Pending.

E. INFORMAL COMPLAINTS AGAINST CARRIERS.

July 1, 1911 to June 30, 1912.

Date.	Name.	Subject.	Disposal.
1911. July 1....	D. B. Barrie, Viola, vs. C., M. & St. P. Ry. Co.	Inadequate fences on right of way.	Satisfactorily adjusted.
July 3....	A. A. Farley, Oshkosh, vs. C., M. & St. P. Ry. Co.	Proposed abandonment of track.	Railway company denied intention of abandoning track.
July 3....	W. F. Weiler, Bloomer, vs. C., St. P., M. & O. Ry. Co	Unsatisfactory train service.	Satisfactorily adjusted.
July 6....	John E. Humphrey, Ixonia, vs. Western Union Tel. Co.	Delayed telegraph message.	Cause of delay explained; complaint dropped.
July 7....	H. P. Tanberg, Spring Valley, vs. C., St. P., M. & O. Ry. Co	Claim for loss of shipment.	Interstate shipment. No jurisdiction.
July 7....	Kelley Bros, Bradley, vs. M., St. P. & S. S. M. Ry. Co.	Delayed shipments of fruit.	Complaint satisfied.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1911. July 8....	Electrical Supply Co., (L. W. Burch), Madison, vs. C., M. & St. P. Ry. Co. C. & N. W. Ry. Co. I. C. R. R. Co.	Inadequate freight service.	Interstate shipment. No jurisdiction.
July 11...	The Marschall Dairy Laboratory, Madison, vs. Wells Fargo & Co. Exp.	Unsatisfactory service.	Complaint satisfied.
July 12...	E. R. Baldwin, Eau Claire, vs. C. & N. W. Ry. Co., C., M. & St. P. Ry. Co.	Unsatisfactory service for shipments of stock.	Complaint satisfied.
July 13...	H. J. Mortensen, New London, vs. C., M. & St. P. Ry. Co.	Trains Nos. 5 and 6 Wis. Val. division run with less than required crew under prov. ch. 402, Laws '07.	Question involves construction of "full crew" law.
July 14...	A. P. Hansen, Eau Claire, vs. American Express Co., Wells Fargo & Co. Express.	Alleged excessive express rates.	Interstate shipment. No jurisdiction.

July 17...	Chas. J. Buss, (Town of Osceola) Dresser Jct., vs. M., St. P. & S. S. M. Ry. Co.	Proposed change in crossing.	Settled by formal investigation and order.
July 17...	W. E. Morgan, Unity, vs. M., St. P. & S. S. M. Ry. Co.	Claim for overcharges on minimum weight.	Formal complaint filed.
July 21...	Baumbach, Reichel Co., Milwaukee, vs. C. & N. W. Ry. Co.	Claim for damage to shipment by fire.	Fire having been caused by lightning railway company refused claim.
July 22...	H. R. Dent, Tigerton, vs. C. & N. W. Ry. Co.	Unsafe condition of bridge.	Complaint satisfied.
July 24...	Mike Filbern, Windsor, vs. C. & N. W. Ry. Co.	Alleged dangerous crossings in town of Westport.	Company agreed to take this matter up with town board and effect a settlement.
July 26...	Geo. A. Schroeder, Milwaukee, vs. C., M. & St. P. Ry. Co.	Increased elevator charges in Milwaukee.	Approval of proposed increase refused by Commission.
July 28...	L. Cass, Ferryville Cream. Co., Ferryville, vs. C., B. & Q. R. R. Co.	Freight train service.	Arrangement for improved service made by respondent company.
July 29...	Jas. O. Klapp, Milwaukee.	Inquiry concerning law on free transportation for employes.	Informal opinion of Commission forwarded.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1911. July 29...	Wis. State Board of Agriculture, Wm. McLaren, Milwaukee.	Inquiry concerning right of railway companies to give reduced rates of freight for horses to and from expositions for exhibition purposes.	Decision of Commission in like case cited.
July 31...	J. B. Loomis, Menomonee Falls, vs. M., St. P. & S. S. M. Ry. Co.	Highway crossing obstructed by rail- way company.	Railway company declined to open crossing. Formal complaint filed by town board.
Aug. 1....	E. D. Stacey, Beaver Dam, vs. C., M. & St. P. Ry. Co.	Unsatisfactory sleeping car service.	Complaint dropped.
Aug. 1....	A. & S. Hansche, Racine, vs. C. & N. W. Ry. Co.	Unsatisfactory condition of loading track.	Complainant advised to file formal complaint.
Aug. 2....	Geo. A. Green, Milwaukee, vs. C., M. & St. P. Ry. Co.	Refusal to check certain stuff as bag- gage.	Formal complaint suggested and filed.
Aug. 3....	W. H. Gerathee, Milwaukee, vs. C. M. Elec. R. R. Co.	Passenger fares.	Complaint satisfied.
Aug. 5....	F. J. Antonie, Prairie du Chien, vs. Wells Fargo & Co. Exp.	Excessive rates on drugs.	Commission is without jurisdiction unless formal complaint filed.

Aug. 7....	R. A. Runser, Foxboro, vs. M., St. P. & S. S. M. Ry. Co.	Proposed location of crossing.	Arrangement for a satisfactory adjustment of the matter made.
Aug. 7....	Quin Sporting Goods Co., Milwaukee, vs. Wells Fargo & Co. Exp.	Loss of goods in transit.	Interstate shipment. No jurisdiction.
Aug. 8....	M. R. Nejedio, Green Bay, vs. Bay Shore St. R. R. Co.	Refusal of company to stop cars at complainant's place of business	Formal complaint filed.
Aug. 8....	Melvin S. Halverson, Stoughton, vs. C., M. & St. P. Ry. Co.	Claims for damaged goods.	Claim settled in full.
Aug. 9...	Adell Canning Co., Adell, vs. C., M. & St. P. Ry. Co.	Inquiry concerning right to cross railroad track with guy wires.	Company refused to allow request.
Aug. 10..	C. K. Lush, Milwaukee, vs. C. & N. W. Ry. Co.	Claim for overcharge on baggage.	Complaint satisfied.
Aug. 10..	J. D. Bass Owen, vs. M., St. P. & S. S. M. Ry. Co.	Illegal passenger rates.	Copy of tariff from company did not bear out complainant's charges.
Aug. 11...	John F. Schlosstein, Cochrane, vs. C., B. & Q. R. R. Co.	Train service.	Formal complaint filed.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1911. Aug.11....	C. J. Robley, Milwaukee, vs. M., St. P. & S. S. M. Ry. Co.	Train service at Nekoosa.	Arrangements made improving service.
Aug. 14..	Wis. Lakes Ice & Cartage Co., Milwaukee, vs. C. & N. W. Ry. Co.	Excessive rate on ice.	Complainant was charged regular tariff rates. Formal complaint filed.
Aug. 9...	R. Kellogg, Wausau,	Inquiry concerning C. & N. W. Ry. G. F. D. 8408-B, Rule 1, supplement 14, absorption of switching charges.	Settled.
Aug. 15..	Henry J. Smith, Racine, vs. Chicago & Milwaukee Elec. Ry. Co.	Penalty for cash passenger fares as a result of closed station.	Complaint satisfied.
Aug. 15..	William Evans, Antioch, Ill., vs. M., St. P. & S. S. M. Ry. Co.	Neglect of railway company to fur- nish witnesses at inquest.	Arrangements made to furnish de- sired witnesses.
Aug. 18...	Hon. R. J. Nye, Superior, vs. C., St. P., M. & O. Ry. Co	No station maintained at South Range.	Railway company considers present facilities sufficient. Complaint with- drawn.
Aug. 18...	Albert F. Forman, Milwaukee, vs. T. M. E. R. & L. Co.	Complaint concerning car service, Greenfield ave. and Burnham st.	Complaint satisfied.

Aug. 18...	E. A. Sommerfeld, Fond du Lac, vs. Eastern Wis. Ry. & Lt. Co.	Unsatisfactory arrangements for ticket selling.	Complaint satisfied.
Aug. 18...	John Gallagher Co., Madison, vs. C., M. & St. P. Ry. Co.	Loss sustained by reason of delay of car in transit.	Investigation made—complaint dropped.
Aug. 19...	E. Frank, Stevens Point, vs. M., St. P. & S. S. M. Ry. Co.	Claim for damage to shipment of fruit.	Interstate shipment. No jurisdiction.
Aug. 21...	C & N. W. Ry. Co., C., M. & St. P. Ry. Co.	<i>In re</i> pasenger train service Madison —Milwaukee.	Investigated—complaint dropped.
Aug. 24..	Frank Hessel & Sons, Manitowoc, vs. C. & N. W. Ry. Co.	Unsatisfactory condition of sidetrack at Francis Creek.	Complaint satisfied.
Aug. 24..	Martin C. Kipper, Sec. Milw. Produce & Fruit Exchange, Milwaukee, vs. Railway Companies.	Complaint concerning the handling of perishable commodities.	Letters referred to operating departments of different railways and service improved.
Aug. 24..	A. J. Muehlenbein, Boyd, vs. M., St. P. & S. S. M. Ry. Co.	Claim for damage caused by delayed shipment.	Delay caused by unavoidable accident—complaint dropped.
Aug. 24...	M. Wes. Tubbs (and F. C. Anderson), Madison, vs. M., St. P. & S. S. M. Ry. Co.	Inadequate train service on Rib Lake branch.	Pending.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1911.			
Aug. 26...	Jas. P. Hall, Madison, vs. C., M. & St. P. Ry. Co.	Failure to comply with law relating to upper berths in sleeping cars.	Referred to attorney-general by railway company.
Aug. 28...	J. Ruplinger & Co., Allenton, vs. M., St. P. & S. S. M. Ry. Co.	Refusal to furnish cars.	Cars were furnished as soon as possible.
Aug. 29...	Benjamin Rastall, Viola, vs. Wells Fargo & Co. Exp.	Claim for loss and damage to shipment.	Claim settled.
Aug. 29...	Samuel Titus, Madison, vs. C., M. & St. P. Ry. Co.	Complaint concerning method of operating certain passenger train on Babcock-Romadka line.	Complaint dropped.
Aug. 29...	Chas. H. Cross, Chicago, Ill., John H. James, Arcadia, Wis., vs. C., M. & St. P. Ry. Co.	Train service at Portage.	Improved service promised by railway company.
Aug. 29...	F. L. Forward, Seymour, vs. G. B. & W. R. R. Co.	Protest against discontinuance of Sunday service.	Formal complaint filed.
Aug. 31..	J. L. Jensen, Rosholt, vs. C. & N. W. Ry. Co.	Train service at Rosholt.	Service on branch at Rosholt rearranged. Complaint satisfied.

Aug. 31..	Miller & Adams, Beloit, vs. C. & N. W. Ry. Co.	Unsatisfactory rules for stoppage in transit to finish loading live stock.	No jurisdiction over interstate rates.
Sept. 5...	M. A. DeSmedt, Cedar Grove, vs. Milwaukee Nor. Ry. Co.	Claim for damage caused by delayed shipment.	Railway company paid for shipment and canceled freight bill—declined further claim.
Sept. 8...	Richard Lloyd-Jones, Madison, vs. C., M. & St. P. Ry. Co.	Unsatisfactory passenger service.	Formal complaint filed.
Sept. 11..	E. F. Conley, Darlington, vs. C., M. & St. P. Ry. Co.	Proposed removal of sidetrack.	After correspondence connection restored.
Sept. 11..	A. M. Maeder, Appleton, vs. C., St. P., M. & O. Ry. Co	Checking baggage.	Complaint dropped.
Sept. 12..	Wm. J. Pollworth, 1356 Forest Home ave., Milwaukee, vs. Adams Express Co.	Claim for damage to shipment of chickens.	Only redress is through the courts.
Sept. 13..	Joan V. Sturner, Dorchester, vs. M., St. P. & S. S. M. Ry. Co.	Car shortage.	Complaint satisfied.
Sept. 14..	George Wetmore Colles, Milwaukee, vs. C., M. & St. P. Ry. Co.	Unsatisfactory practices with regard to turning freight over to transfer companies.	Commission has no jurisdiction over interstate shipments.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1911. Sept. 15...	Frank L. Wood, Milwaukee, vs. C. & N. W. Ry. Co., C., M. & St. P. Ry. Co., M., St. P. & S. S. M. Ry. Co.	Unsatisfactory rules covering mixed carloads of stock.	Companies agreed upon uniform rules; complaint dropped.
Sept. 15...	W. S. Thorn, Clinton, vs. C. & N. W. Ry. Co.	Inadequate station facilities.	Adjusted to satisfaction of all.
Sept. 16..	D. Assoosky, Sun Prairie, vs. C. & N. W. Ry. Co.	Claim for loss of shipment.	Claim adjusted.
Sept. 16..	Fred C. Mansfield Co., Johnson Creek, vs. C., M. & St. P. Ry. Co.	Refusal to settle claim in full.	Redress is with the courts.
Sept. 18..	James G. Peterson, La Crosse, B. H. Anderson, Fond du Lac, vs. M., St. P. & S. S. M. Ry. Co.	Inadequate station service.	Matters adjusted to satisfaction of all concerned.
Sept. 19..	D. C. Converse, Ft. Atkinson, vs. C., M. & St. P. Ry. Co.	Inconvenient train service.	Arrangements made to better service.

Sept. 20..	Peter W. Wolf, Richfield, vs. C., M. & St. P. Ry. Co.	Claim for damages for loss of part of shipment.	Railway company proposed settle- ment on certain basis—Commission has no jurisdiction.
Sept. 22..	Thomas Produce Co., Branns & Van, Green Bay, vs. C., M. & St. P. Ry. Co., C. & N. W. Ry. Co., G. B. & W. R. R. Co.	Transient merchants sell at retail from cars.	No jurisdiction.
Sept. 25..	Rev. F. N. Geier, Maplewood, R. 3, lawyer, vs. G. B. & W. R. R. Co.	Excessive rates.	Formal complaint filed.
Sept. 25..	Hering & Gluth, Lodi, vs. C. & N. W. Ry. Co.	Claim for damage to shipment of poultry.	Claim adjusted.
Sept. 25..	Clara Eichmann, Fond du Lac, vs. E. Wis. El. Ry. Co.	Request for reduced passenger rates.	No authority to grant request.
Sept. 26..	Westboro Lumber Co., Westboro, vs. M., St. P. & S. S. M. Ry. Co.	Discriminatory switching charges.	Claim adjusted.
Sept. 26..	Albert Schoelkof, Welcome, vs. C. & N. W. Ry. Co.	Request for crossing over tracks in Waupaca county.	Request granted by railway company.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1911. Sept. 28..	D. M. Jessner, Deerfield, vs. C. & N. W. Ry. Co.	Penalty charge.	Complaint withdrawn and satisfied.
Sept. 29..	D. E. Riordan, De Pere, vs. C. & N. W. Ry. Co.	Storage charges on baggage.	Railway company declines claim. Commission has no jurisdiction.
Oct. 2....	G. Edwards, Deerfield, vs. C. & N. W. Ry. Co.	Claim for loss of grain in transit.	Claim declined by railway company. Commission has no jurisdiction.
Oct. 2....	O. L. Stinson, Unity, vs. C., M. & St. P. Ry. Co., M., St. P. & S. S. M. Ry. Co.	Charges on shipment of household goods.	Complaint dropped.
Oct. 2....	S. P. Bradley, Milwaukee, vs. C. & N. W. Ry. Co.	Condition of highway crossings in towns of Greenfield and Wauwatosa.	Considered in connection with formal complaint.
Oct. 3.....	Geo. A. Schroeder, Chamber of Com- merce, Milwaukee, vs. C., B. & Q. R. R. Co.	Rates on grain products.	Satisfactory tariff arranged.

Oct. 3....	C. Starkweather & Son, Beaver Dam, vs. C., M. & St. P. Ry. Co.	Demurrage charges.	Formal complaint suggested.
Oct.7.....	Wm. L. Cox, Milwaukee, vs. T. M. E. R. & L. Co.	Inadequate street railway service.	Considered in connection with formal complaint.
Oct. 9....	Arthur V. DeNevere, Tisch Mills, vs. C. & N. W. Ry. Co.	Inadequate train service.	Readjusted to satisfaction of complainant.
Oct. 9....	R. J. Keefe, La Crosse, vs. La Crosse St. Ry. Co.	Discriminatory rates to school children.	Company proved that rates complained of were not discriminatory.
Oct. 10...	Mrs. A. M. Bloomer, Lake Geneva, vs. C. & N. W. Ry. Co.	Inquiry concerning passenger rates.	Correct fare was charged.
Oct. 10..	F. W. Ziesenis, Chetek, vs. C., St. P., M. & O. Ry. Co	Car shortage.	Complaint satisfied.
Oct. 11...	H. F. Pazik, Waukesha, vs. T. M. E. R. & L. Co.	Passenger rates between Waukesha and Sunny Slope.	Complaint dropped.
Oct. 11....	W. H. Wagner & Sons, Freeport, Ill., vs. Wis. & Nor. Ry. Co.	Delayed shipment.	Interstate shipment. No jurisdiction.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1911.			
Oct. 11...	Byron Carter, for E. C. Best & Co., Chetek, vs. C., St. P., M. & O. Ry. Co	Car shortage.	Cars furnished.
Oct. 11...	G. M. Hill, Baraboo, vs. C. & N. W. Ry. Co.	Overcharge on shipment of live stock.	Taken up with agent and adjusted.
Oct. 12...	W. C. Baldwin, Waupaca, vs. M. St. P. & S. S. M. Ry. Co.	Unsatisfactory switching service.	Service greatly improved.
Oct. 12...	U. W. Iverson, Milwaukee, vs. T. M. E. R. & L. Co.	Inadequate street car equipment, with regard to head lights.	Service to be improved.
Oct. 12...	Fred M. Smith, Waupaca, vs. Waupaca El. Lt. & Ry. Co.	Discriminatory rates.	Company showed that rates complained of were not discriminatory. Complaint dropped.
Oct. 13...	Feld & Feld, Plymouth, vs. M. St. P. & S. S. M. Ry. Co.	Inadequate freight service.	Formal complaint suggested.
Oct. 15...	W. T. McCaskey, Chicago, Ill., vs. C. M. & St. P. Ry. Co.	Proposed reduction of service at Middle Inlet station.	Adjusted satisfactorily.

Oct. 16....	A. M. Rogers, Caswell, vs. C. & N. W. Ry. Co., M. St. P. & S. S. M. Ry. Co.	Request for connecting track.	Formal complaint filed.
Oct. 16....	Herman Kuenzli, Milwaukee, vs. C. M. & St. P. Ry. Co.	Unsatisfactory milk train service.	Additional service furnished.
Oct. 18...	H. W. Selle & Co., Chicago, vs. C. M. & St. P. Ry. Co.	Request for reduced rates for labor- ers on special freight trains.	Rates refused by railway company.
Oct. 19....	N. M. Hamilton, Westfield, vs. M. St. P. & S. S. M. Ry. Co.	Car shortage.	Complaint satisfied.
Oct. 19....	Complaint against C. & N. W. Ry. Co.	Connections at Jefferson Junction.	Will be made in the future.
Oct. 19....	Oscar J. Olson, South Wayne, vs. C. M. & St. P. Ry. Co.	Request for installation of telephone in station.	Not thought necessary by railway company.
Oct. 20...	H. Berns, Milwaukee, vs. Milw. Nor. Ry. Co.	Excessive milk rates.	The published rate is the lawful rate and can be changed only on formal hearing and investigation.
Oct. 21...	Ft. Atkinson Gas Co., Ft. Atkinson, vs. C. & N. W. Ry. Co.	Overcharge on coke.	Claim adjusted.
Oct. 25...	H. D. Latimer, Wauwatosa, vs. T. M. E. R. & L. Co.	Inadequate street car service.	Pending.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1911. Oct. 26...	M. N. Schill, Edgar, vs. C. & N. W. Ry. Co.	Inadequate service.	Complaint satisfied.
Oct. 30...	W. A. Marling Lumber Co., Madison, vs. M. St. P. & S. S. M. Ry. Co.	Claim for switching charges.	Railway company requested papers for settlement of claim.
Nov. 1....	W. H. Onstad, Escanaba, Mich., vs. C. St. P. M. & O. Ry. Co.	Complaint concerning mileage de- tached.	Amount of excess mileage refunded.
Nov. 1....	F. A. Caswell, Whitehall, vs. G. B. & W. R. R. Co.	Refusal to furnish cars for shipments of hay and straw.	Complaint satisfied.
Nov. 2...	Victor H. Naffz, Sauk City, vs. C. M. & St. P. Ry. Co.	Failure of railway company to build sidewalk on right of way.	Sidewalk constructed.
Nov. 3....	Oostburg Evaporated Milk Co., Oost- burg, vs. C. & N. W. Ry. Co.	Discriminatory rates on milk.	Formal complaint suggested.
Nov. 3....	Antigo Confectionery Co., Antigo, vs. C. & N. W. Ry. Co.	Refusal to grant through rate.	Complaint withdrawn.

Nov. 3....	J. R. Beggs & Co., Cameron, vs. C. St. P. M. & O. Ry. Co.	Failure to furnish refrigerator cars.	Situation improved.
Nov. 3....	Mike Tilbern, Windsor, vs. C. & N. W. Ry. Co.	Failure to protect crossing.	Formal complaint filed.
Nov. 3....	Chas. Marquette, Kendall, vs. C. & N. W. Ry. Co.	Failure to furnish refrigerator cars.	Complaint satisfied.
Nov. 6....	Menton C. Kipper, Milw. Prod. Fruit Exchange, Milwaukee, vs. M. St. P. & S. S. M. Ry. Co., C. & N. W. Ry. Co.	Inadequate freight service.	Service improved.
Nov. 6....	Campbell & Cameron Co., by Thomp- sens, Pinkerton & Juckem, Oshkosh, vs. M. St. P. & S. S. M. Ry. Co.	Rates on saw logs.	Complaint withdrawn.
Nov. 7....	T. E. Chamberlain, Porterfield, vs. C. M. & St. P. Ry. Co.	Inadequate station service.	Considered in connection with formal case.
Nov. 9....	Geo. A. Rubin, Janesville, vs. C. & N. W. Ry. Co.	Car shortage.	Complaint satisfied.
Nov. 9....	F. W. Heberlein, Tomahawk, vs. C. M. & St. P. Ry. Co.	Unsatisfactory service and rates for special train.	No jurisdiction.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1911.			
Nov. 9...	Davis Bros. Cheese Co., Plymouth, vs. C. M. & St. P. Ry. Co.	Change in cheese rates.	Former tariff reinstated.
Nov. 10...	E. D. Roth, Muscoda, vs. C. M. & St. P. Ry. Co.	Station service.	Complaint dropped.
Nov. 10..	E. N. Keyes, Necedah, vs. C. M. & St. P. Ry. Co.	Car shortage.	Cars supplied.
Nov. 11..	Willard Temple, A. D. Gill, Mauston, vs. C. M. & St. P. Ry. Co.	Inadequate train service.	Formal complaint filed.
Nov. 11..	A. C. Ledin, Sweden, vs. C. St. P. M. & O. Ry. Co.	Request for Sunday train service.	Formal complaint filed.
Nov. 15...	B. L. Milliren, Pepin, vs. C. B. & Q. R. R. Co.	Station facilities.	Improvement promised by company.
Nov. 16...	Henry Broeg, Milwaukee, vs. T. M. E. R. & L. Co.	Unsatisfactory service.	Delay caused by severe storm.

Nov. 17..	Reiland Packing Co., Grand Rapids, vs. C. M. & St. P. Ry. Co.	Unsatisfactory switching service.	Service improved.
Nov. 17..	Wm. Peters, Wonewoc, vs. C. & N. W. Ry. Co.	Refusal of stoppage in transit privileges.	Adjusted satisfactorily.
Nov 20...	Capt. C. A. Kneisel, Milwaukee, vs. Wells Fargo & Co. Exp.	Unsatisfactory delivery service.	Complaint dropped.
Nov. 21..	C. E. Berg, Rio, vs. C. M. & St. P. Ry. Co.	Car shortage.	Complaint satisfied.
Nov. 22..	Carl P. Houg, Spring Valley, vs. M. St. P. & S. S. M. Ry. Co.	Excessive passenger rates.	Complaint dropped.
Nov. 22...	Albert C. Fichs, Ablemans, vs. C. & N. W. Ry. Co.	Car shortage.	Complaint satisfied.
Nov. 23...	O. D. Streeter, Warrens, vs. C. St. P. M. & O. Ry. Co.	Farm crossing closed.	Formal complaint filed.
Nov. 23..	W. C. Baldwin, Waupaca, vs. Waupaca & G. B. R. R. Co.	Discrimination in furnishing cars.	Company denies discrimination.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1911. Nov. 24...	J. R. Leadley, Pewaukee, vs. C. M. & St. P. Ry. Co.	Shortage of refrigerator cars.	Complaint satisfied.
Nov. 24...	C. M. & St. P. Ry. Co.	Informal investigation, on motion of the Commission, relating to alleged violation of sixteen-hour law.	Company denied allegation.
Nov. 24...	C. & N. W. Ry. Co.	Informal investigation, on motion of the Commission, relating to alleged violation of sixteen-hour law.	Company denied allegation.
Nov. 25...	Jones & Jones, Reedsburg, vs. C. & N. W. Ry. Co., C. St. P. M. & O. Ry. Co.	Proposed removal of spur track; failure to build satisfactory fence.	Complaint satisfied.
Nov. 27...	Engen & Andon, Brodhead, vs. C. M. & St. P. Ry. Co.	Claim for shortage in shipment.	Company declined the claim; Commission has no jurisdiction.
Nov. 27...	Christ Gussman, Kilbourn, vs. C. M. & St. P. Ry. Co.	Inadequate train service between La Crosse and Portage.	Investigation in connection with other complaints.
Nov. 28...	Fred C. Jured, Browning, vs. C. & N. W. Ry. Co.	Dangerous crossing.	Crossing bell installed.

Nov. 28...	J. C. Voelker, Porterfield, vs. C. M. & St. P. Ry. Co.	Station facilities.	Formal complaint filed.
Nov. 28...	Wooster & Case Hardware Co., Am- herst vs. M. St. P. & S. S. M. Ry. Co.	Delayed shipment of stoves.	Improved service promised by com- pany.
Nov. 28...	J. S. Herliky, Cazenovia, vs. C. & N. W. Ry. Co.	Delayed shipments.	Improved service promised by com- pany.
Nov. 29...	Chas. Ehlert, Columbia, vs. C. St. P. M. & O. Ry. Co.	Claim for loss of part of shipment.	Interstate shipment; no jurisdiction.
Dec. 1....	Minnesota Mercantile Co., Stillwater, Minn., vs. M. St. P. & S. S. M. Ry. Co.	Inadequate freight service.	Complaint dropped.
Dec. 6....	C. M. & St. P. Ry. Co.	Informal investigation, on motion of the Commission, of train service between La Crosse and Portage.	Railway company cannot change service at present.
Dec. 6....	E. D. Upson, Brooklyn, vs. C. M. & St. P. Ry. Co.	Failure to stop train on signal.	Complaint dropped.
Dec. 7....	F. E. Waite, Oshkosh, vs. M. St. P. & S. S. M. Ry. Co., C. & N. W. Ry. Co.	Refusal to sell through ticket and to check baggage, Oshkosh to Madison, via Waukesha.	No joint tariff between companies has been provided for this route.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1911.			
Dec. 7....	F. E. Waite, Oshkosh, vs. M. St. P. & S. S. M. Ry. Co., C. M. & St. P. Ry. Co.	Refusal to sell through tickets, Oshkosh to Brodhead.	No joint tariff provided for this route; time given at Janesville to purchase tickets.
Dec. 8....	C. O. Davis, Welcome, vs. C. & N. W. Ry. Co.	Railway crossing.	Formal complaint suggested.
Dec. 9....	H. C. Schofield, Sturgeon Bay, vs. G. B. & W. R. R. Co.	Delayed freight service.	Service improved.
Dec. 9....	L. Rosenheimer, Kewaskum, vs. C. & N. W. Ry. Co.	Demurrage on refrigerator cars.	Complaint withdrawn.
Dec. 11...	Geo. J. Gaerth, Cumberland, vs. American Express Co.	Overcharge on ice cream.	Claims adjusted.
Dec. 11...	Mrs. Geo. H. Wahl, Madison, vs. Southern Wisconsin Ry. Co.	Unsatisfactory rules and service.	Complaint withdrawn.
Dec. 12...	H. G. Bennett, Milwaukee, vs. C. M. & St. P. Ry. Co.	Train service.	Formal complaint suggested.

Dec. 12...	John Harrington, Madison, vs. C. & N. W. Ry. Co.	Train service.	Complaint dropped.
Dec. 12...	A. H. Darrow, Necedah, vs. C. M. & St. P. Ry. Co.	Refusal to stop train.	Complaint dropped.
Dec. 13...	Gustav A. Polterman, Hamburg. vs. American Express Co.	Claim for shipment lost in transit.	Interstate shipment; no jurisdiction.
Dec. 13...	Wagner Mercantile & Mfg. Co., Sur- ing, vs. C. & N. W. Ry. Co.	Demurrage charges.	Complaint dropped.
Dec. 14...	M. E. Albee, Shell Lake, vs. C. St. P. M. & O. Ry. Co.	Contract for telephone at station.	Pending.
Dec. 14...	George A. Rubin, So. Wis. Sand & Gravel Co., Janesville, vs. C. & N. W. Ry. Co.	Switching charges.	Complaint satisfied.
Dec. 14...	Aug. P. Karow, Merrill, vs. C. M. & St. P. Ry. Co.	Contract for purchase of railroad ties.	No jurisdiction.
Dec. 16...	Dr. A. A. Mesch, Saukville, vs. C. M. & St. P. Ry. Co.	Penalty charge for failure to buy ticket.	Complaint dropped.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1911. Dec. 18...	George Wylie, Madison, vs. C. M. & St. P. Ry. Co.	Unsatisfactory service relating to shipments of live stock.	Complaint satisfied.
Dec. 20...	C. E. Ryan, Baraboo, vs. W. U. Teleg. Co.	Inadequate telegraph service.	Complaint satisfied.
Dec. 22...	R. A. Anunson, Fence, vs. Dunbar & Wausaukee Ry. Co.	Inquiry concerning ownership of rail- road right of way in Florence county.	This being a private logging road, Commission has no jurisdiction over rates.
Dec. 26...	R. S. Kellog, Wausau, vs. C. & N. W. Ry. Co.	Removal of bunks and chains from logging cars.	Formal complaint suggested.
Dec. 26...	E. R. Wagner Mfg. Co., No. Milwau- kee, vs. T. M. E. R. & L. Co.	Ventilation of street cars.	Satisfactorily adjusted.
Dec. 28...	R. H. Koehler, Plymouth, vs. Sheboygan Ry. & Elec. Co.	Street railway service.	Settled satisfactorily.
Dec. 29...	W. F. Roder, Tomah, vs. C. M. & St. P. Ry. Co.	Failure to receive cars.	Complaint satisfied.

Dec. 29...	R. A. Honeycomb, L. M. Dickert, Madison, vs. M. St. P. & S. S. M. Ry. Co., C. M. & St. P. Ry. Co., C. & N. W. Ry. Co.	<i>In re</i> five hundred mile tickets.	Formal complaint filed.
Dec. 30...	F. H. Daniells, Loyal, vs. C. & N. W. Ry. Co.	Claim for damaged baggage.	Railway company declines claim. Commission has no jurisdiction.
1912 Jan. 2....	Arthur Wagner, Edgar, vs. M. St. P. & S. S. M. Ry. Co.	Station closed at night before ar- rival of last trains.	Complaint dropped.
Jan. 2....	C. P. Gross, Powell, vs. C. M. & St. P. Ry. Co.	Failure to stop trains at junction point.	Complaint dropped.
Jan. 2....	Carl P. Houg, Spring Valley, vs. C. St. P. M. & O. Ry. Co.	Unsatisfactory shipping service.	Complaint withdrawn.
Jan. 4...	Gus. Elger, Calhoun, vs. C. & N. W. Ry. Co.	Station facilities for shipments of stock.	Complaint dropped.
Jan. 4....	O. H. Bruemmer, Kewaunee, vs. K. G. B. & W. R. R. Co.	Inadequate station service at Casco Jct.	Complaint satisfied.
Jan. 4....	Clarence Schoenike, Oconomowoc, vs. Mil. Lt. Heat & Traction Co.	Lack of shelter at interurban station.	Permanent shelter constructed.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1912.			
Jan. 4....	Haskell Bick, Wausau, vs. C. M. & St. P. Ry. Co.	Destruction of property by fire on right of way.	No jurisdiction.
Jan. 5....	R. Zellman, Colby, vs. M. St. P. & S. S. M. Ry. Co.	Unsatisfactory station service.	Service to be improved.
Jan. 5....	E. J. Henning, Milwaukee, vs. C. M. & St. P. Ry. Co.	Dangerous crossing.	Gates installed.
Jan. 8....	E. J. Henning, Milwaukee, vs. T. M. E. R. & L. Co.	Street car service.	Settled by conference between parties.
Jan. 8....	H. Howard Taylor, Milwaukee, vs. T. M. E. R. & L. Co.	Street car service.	Complaint dropped.
Jan. 8....	Paul Peterson, Milwaukee, vs. M. St. P. & S. S. M. Ry. Co.	Refusal to pay claim.	Complaint satisfied.
Jan. 9....	Henry A Giles, Marshfield, vs. C. M. & St. P. Ry. Co., C. & N. W. Ry. Co.	Claim for damage caused by fire set by locomotive.	Settled by parties interested.

Jan. 9....	Geo. H. Metcalf, Platteville, vs. C. & N. W. Ry. Co.	Unsatisfactory train service.	Complaint dropped.
Jan. 11...	Barkhausen Oil Co., Green Bay, vs. C. & N. W. Ry. Co.	Inadequate switching service.	The cause of this complaint was due to weather conditions.
Jan. 12...	John Cadigan, Packwaukee, vs. Mil. Sparta & N. W. Ry. Co.	Damage to highway crossing.	Formal complaint filed.
Jan. 12...	Lindsey Bros., Milwaukee, vs. Western Classification Commission.	Proposed changes in class No. 51.	Formal complaint filed.
Jan. 15...	L. A. Lockwood, Minneapolis, Minn., vs. American Express Co.	Claim for goods damaged in transit.	Claim settled.
Jan. 15...	Royal F. Clark, Randolph, vs. C. M. & St. P. Ry. Co.	Inadequate station facilities.	Changes made to satisfy complainant.
Jan. 15...	O. Griesser, Sr., Medford, vs. M. St. P. & S. S. M. Ry. Co.	Refusal to construct sidetrack.	Taken up and settled by railroad company.
Jan. 15...	Van Meter-Welch Printing Company, New Richmond, vs. C. St. P. M. & O. Ry. Co., M. St. P. & S. S. M. Ry. Co.	Lack of switching connections.	Receiving consideration in a formal complaint.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1912. Jan. 15...	Hon. G. A. Buckstaff, Oshkosh, vs. C. & N. W. Ry. Co., C. M. & St. P. Ry. Co., M. St. P. & S. S. M. Ry. Co.	Unsatisfactory service. Informal investigation, on motion of the Commission, <i>in re</i> blocking of	This was taken up personally by the interested parties and settled.
Jan. 16...	C. M. & St. P. Ry. Co.	sidewalks at West Madison station.	Satisfactory orders issued by railway company.
Jan. 17...	Lynn S. Pease, Milwaukee, vs. T. M. E. R. & L. Co.	Unauthorized change in schedule.	Better service promised; complaint dropped.
Jan. 17...	H. A. Sharpe, M. D., Mt. Vernon, vs. C. & N. W. Ry. Co.	Charges for railway tickets.	On investigation the rates charged were found correct.
Jan. 17...	Miss Charlotte Metstrand, Benoit, vs. C. St. P. M. & O. Ry. Co.	Refusal of Sunway train service.	Complaint dropped.
Jan. 17...	Informal Complaint, Oshkosh, vs. C. M. & St. P. Ry. Co.	Baggage room not heated.	Matter adjusted.

Jan. 17...	Henry Kingston, Mountain, vs. C. & N. W. Ry. Co.	Logging train service.	Service improved.
Jan. 18...	G. W. Mansfield, Pewaukee, vs. C. M. & St. P. Ry. Co.	Inadequate station service.	Complaint satisfied.
Jan. 20...	H. B. Stanz Co., Milwaukee, vs. C. & N. W. Ry. Co.	Inadequate train service.	Satisfactorily adjusted.
Jan. 22...	U. T. Horton, Kent, vs. C. & N. W. Ry. Co.	Failure to receive cars.	Cars furnished.
Jan. 22...	Berg & Jones, Rockland, vs. C. & N. W. Ry. Co.	Claim for damage to stock delayed in transit.	Claim settled.
Jan. 23...	Oostburg Evaporated Milk Co., vs. C. & N. W. Ry. Co.	Failure to receive cars.	Interstate shipment. No jurisdiction.
Jan. 23...	Haug Bros., Exeland, vs. M. St. P. & S. S. M. Ry. Co.	Claim for damages for stock killed on crossing.	Claim declined by railway company.
Jan. 24...	Charles Hawkinson, Gratiot, vs. C. M. & St. P. Ry. Co.	Car lost in transit.	Car located and delivered.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1912.			
Jan. 27...	Steiner & Waltenberg Bros., Mauston, vs. C. M. & St. P. Ry. Co.	Failure to receive cars.	Cars furnished.
Jan. 27...	E. F. Malweg, Bowler, vs. C. & N. W. Ry. Co.	Failure to receive cars.	Weather conditions responsible.
Jan. 29...	L. L. Lake, Medford, vs. M., St. P. & S. S. M. Ry. Co.	Delay in settling claim.	Complaint dropped.
Jan. 29...	A. R. Kibbe, New Richmond, vs. C., St. P., M. & O. Ry. Co., M., St. P. & S. S. M. Ry. Co.	Lack of switching connections.	Formal complaint filed.
Jan. 30...	E. F. Conley, Darlington, vs. C., M. & St. P. Ry. Co.	Failure to receive cars.	Cars furnished.
Jan. 31...	Wm. Braid, Racine, vs. C. & N. W. Ry. Co.	Lack of sidetrack facilities.	Formal complaint filed.
Feb. 1....	T. H. Cochran Co., Portage, vs. M., St. P. & S. S. M. Ry. Co.	Failure to receive cars.	Shipments being interstate, should be taken up with interstate com- mission.

Feb. 1....	H. H. Engelking, Sheboygan, vs. Sheboygan Ry. & Elec. Co.	Blocking of highway by snow thrown from tracks.	Complaint dropped.
Feb. 3....	Luder & Vanderwall, Prentice, vs. M., St. P. & S. S. M. Ry. Co.	Failure to receive cars.	Complaint satisfied.
Feb. 3...	E. H. Steiger, Oshkosh, vs. C., M. & St. P. Ry. Co.	Failure to receive cars.	Complaint satisfied.
Feb. 5...	A. F. Soetebeer, Phillips, vs. M., St. P. & S. S. M. Ry. Co.	Failure to receive cars.	Complaint satisfied.
Feb. 5...	V. H. Goedecke, Kilbourn, vs. C., M. & St. P. Ry. Co.	Inadequate train service on La Crosse division.	Railway company declined to change schedule; complaint dropped.
Feb. 5....	D. I. Sicklesteel, Stevens Point, vs. American Express Co.	Claim for shipment lost in transit.	Commission has no jurisdiction to compel payment of claims.
Feb. 6....	M. S. Henderson, Shullsburg, vs. C., M. & St. P. Ry. Co.	Shipments delayed in transit.	Complaint satisfied.
Feb. 6....	F. S. Moody, Weyauwega, vs. C., M. & St. P. Ry. Co.	Failure to make connection at junc- tion point.	Orders given to prevent repetition of this complaint.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date.	Name.	Subject.	Disposal.
1912.			
Feb. 6....	O. E. Heller, Chilton, vs. C. & N. W. Ry. Co.	Claim for loss by delayed shipment.	Delay due to weather conditions. Com- pany declines claim.
Feb. 6....	Jess Burkhort, Kent, vs. C. & N. W. Ry. Co.	Failure to receive cars; proposed re- moval of track.	Complaint satisfied.
Feb. 7....	W. F. Roder, Tomah, vs. C., M. & St. P. Ry. Co.	Failure to receive cars.	Complaint satisfied.
Feb. 7....	G. W. Hill, Baraboo, vs. C. & N. W. Ry. Co.	Claim for overcharge on shipment of stock.	Claim adjusted.
Feb. 7....	Henry Johnson, Madison, vs. M., St. P. & S. S. M. Ry. Co.	Claim for damage to baggage.	Commission has no jurisdiction to compel payment of claim.
Feb. 8....	Thomas H. Tash, Menomonie, vs. C., St. P., M. & O. Ry. Co.	Failure to make connections.	Formal complaint suggested.
Feb. 8....	H. L. Fielding, Fountain City, vs. G. B. & W. R. R. Co.	Inquiry concerning construction of sidetrack.	Information forwarded.

Feb. 9....	Edgar Ewers, Richland Center, vs. C., M. & St. P. Ry. Co.	Request for farm crossing.	Request not granted.
Feb. 9....	J. E. Ovren, Stoughton, vs. C., M. & St. P. Ry. Co.	Unsatisfactory train service.	Delay caused by accident to another train.
Feb. 9....	Rahm Bros. Co., Spencer, vs. C., M. & St. P. Ry. Co.	Shipment delayed in transit.	Complaint satisfied.
Feb. 9....	Arch E. Ray, J. Keliher, Madison, vs. C., M. & St. P. Ry. Co.	Delayed train service.	Delay caused by accident to another train.
Feb. 10...	Orestes A. Crowell, Almond, vs. C. & N. W. Ry. Co.	Inquiry concerning removal of lease for potato warehouse	Satisfactorily adjusted.
Feb. 12...	Fred Miller Brewing Co., Milwaukee, vs. C. & N. W. Ry. Co.	Failure to receive refrigerator cars.	Service improved.
Feb. 12..	Larson & Larson, Arcadia, vs. G. B. & W. R. R. Co.	Failure to receive cars.	Cars furnished.
Feb. 12..	E. C. Brown, Hillsdale, vs. M., St. P. & S. S. M. Ry. Co.	Unsatisfactory freight service.	Complaint satisfied.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

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REPORT OF THE RAILROAD COMMISSION.

Date	Name.	Subject.	Disposal.
1912. Feb. 12...	Wm. J. Wagstaff, Oshkosh, vs. C. & N. W. Ry. Co.	Claim for overcharge on weight.	Complaint satisfied.
Feb. 13...	Little Chute Pulp Co., Little Chute, vs. C. & N. W. Ry. Co.	Failure to receive cars.	Cars furnished.
Feb. 13...	P. E. Anderson, Racine, vs. C., M. & St. P. Ry. Co.	Passenger train service.	Complaint satisfied.
Feb. 13...	O. A. Schaekel, Butternut, vs. M., St. P. & S. S. M. Ry. Co.	Failure to receive cars.	Cars supplied.
Feb. 14...	Wisconsin Zinc Mining Co., Chicago, vs. C. & N. W. Ry. Co.	Failure to furnish cars for shipments of ore.	Informal hearing held; complaint ad- justed.
Feb. 14...	E. G. Updike, Madison, vs. C. & N. W. Ry. Co.	Failure to receive cars.	Complaint dropped.
Feb. 14...	M. T. Mogensen, Chetek, vs. C., St. P., M. & O. Ry. Co.	Failure to receive cars.	Complaint dropped.

Feb. 14...	J. S. Rowell Mfg. Co., Beaver Dam, vs. C. & N. W. Ry. Co., C., M. & St. P. Ry. Co.	Delayed freight service.	Complaint satisfied.
Feb. 15...	H. A. Lubeno, Trevor, vs. M., St. P. & S. S. M. Ry. Co.	Failure to receive refrigerator cars.	Complaint satisfied.
Feb. 15...	John Beck, Benton, vs. C. & N. W. Ry. Co.	Delayed shipment of coal.	Caused by weather conditions.
Feb. 15...	W. F. Dunlap (for Klan-Van Pieter- son Co.), Milwaukee, vs. American Express Co.	Inadequate express service.	Service improved.
Feb. 16..	J. F. Baker, Madison, vs. C. & N. W. Ry. Co.	Station facilities at Union Center.	Improvements contemplated by rail- way company.
Feb. 19...	Leroy Colbert, Chetek, vs. C., St. P., M. & O. Ry. Co.	Station service and facilities at Val- ley Junction.	Railway company promises improved service.
Feb. 20...	L. E. Scott, Stanley, vs. M., St. P. & S. S. M. Ry. Co.	Station service and facilities.	Service improved.
Feb. 20...	Collins Bros. Lumber Co., Madison, vs. C. & N. W. Ry. Co.	Claim for overcharges on lumber.	Complaint dropped.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1912.			
Feb. 20...	J. M. Moe (for Chetek Farmers Produce Co.), Chetek, vs. C., St. P., M. & O. Ry. Co.	Failure to receive cars.	Cars furnished as soon as possible.
Feb. 20...	Geo. E. Lund, Sprague, vs. C., M. & St. P. Ry. Co.	Failure to receive cars.	Complaint satisfied.
Feb. 21...	S. J. Falck, Unity, vs. M., St. P. & S. S. M. Ry. Co.	Passenger train service.	Formal complaint suggested.
Feb. 23...	H. C. Prien, Columbus, vs. C., M. & St. P. Ry. Co.	Failure to receive cars.	Complaint satisfied.
Feb. 23...	H. Bergstresser, Fremont, vs. M., St. P. & S. S. M. Ry. Co.	Discrimination in furnishing cars.	Adjusted to the satisfaction of complainant.
Feb. 23..	Lindsey Bros., Milwaukee, vs. C., St. P., M. & O. Ry. Co.	Refund on unused and returned coupon book.	Satisfactorily adjusted.
Feb. 26...	J. H. Russell & Son, St. Louis, Mo., vs. M., St. P. & S. S. M. Ry. Co. Waupaca—Green Bay Ry. Co.	Failure to receive cars at Waupaca.	Cars furnished.

Feb. 26...	Thomas Brehm, Medford, vs. M., St. P. & S. S. M. Ry. Co.	Failure to receive cars.	Cars furnished.
Feb. 26...	Chas. Schoss, Milwaukee, vs. American Express Co.	Claim for shipment lost in transit.	Claim adjusted.
Feb. 27...	E. C. Best, Minneapolis, vs. Northern Pacific Ry. Co.	Failure to receive cars.	Condition improved.
Feb. 27...	V. Wironen, Tripoli, vs. M., St. P. & S. S. M. Ry. Co.	Failure to receive cars.	Cars furnished.
Feb. 27...	Star Malt & Grain Co., Lomira, vs. C. & N. W. Ry. Co.	Refusal of spur track service.	Complaint satisfied.
Feb. 28...	Arch E. Ray, Madison, vs. M., St. P. & S. S. M. Ry. Co., I. C. R. R. Co.	Inadequate shipping facilities at Dodgeville and Dill.	Railway company declines to consid- er the complaint.
Feb. 28...	Mrs. A. Rice, Columbia, vs. C., St. P., M. & O. Ry. Co.	Claim for loss of shipment delayed in transit.	Adjusted.
Feb. 28...	Chas. F. Murphy Co., Chicago, vs. C., St. P., M. & O. Ry. Co.	Discrimination in car distribution.	Complaint satisfied.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1912. Feb. 28...	Jos. Rauschinger, Deerbrook, vs. C. & N. W. Ry. Co.	Failure to receive cars.	Complaint withdrawn.
Feb. 29...	A. W. Slocum, Eau Claire, vs. C. St. P. M. & O. Ry. Co.	Overcharge in mileage for passenger fare.	Complaint satisfied.
Mch. 1...	Jacob Petaja, Clifford, vs. M. St. P. & S. S. M. Ry. Co.	Failure to receive cars.	Complaint satisfied.
Mch. 2...	Felix Weinberg, Birnamwood, vs. C. & N. W. Ry. Co.	Failure to receive cars.	Cars furnished.
Mch. 5...	Chas. P. Newton, Janesville, vs. C. M. & St. P. Ry. Co.	Failure to adjust claim.	Complaint dropped.
Mch. 6...	G. B. Lewis Co., Watertown, vs. C. & N. W. Ry. Co.	Failure to secure car weights on outgoing shipments.	Adjusted.
Mch. 6...	H. R. Gardiner, Milwaukee, vs. C. & N. W. Ry. Co.	Inadequate train service at Eland.	Complaint satisfied.

Mch. 8....	Mrs. Clementine Ott, Genoa, vs. C. B. & Q. R. R. Co.	Alleged refusal to pay for right of way.	No jurisdiction.
Mch. 8....	Payson Smith Lumber Co., Minne- apolis. vs. M. St. P. & S. S. M. Ry. Co.	Failure to receive cars.	Cars furnished.
Mch. 8....	Rahm Bros., Spencer, vs. C. M. & St. P. Ry. Co.	Failure to receive cars.	Cars furnished.
Mch. 9...	Osceola Mill & Elevator Co., Osceola, vs. M. St. P. & S. S. M. Ry. Co.	Failure to receive cars.	Cars furnished.
Mch. 9...	John V. Sturner, Dorchester, vs. M. St. P. & S. S. M. Ry. Co.	Failure to receive cars; proposed advance in rate.	Adjusted.
Mch. 10..	J. N. Bassett, Lena, vs. C. M. & St. P. Ry. Co.	Failure to receive cars.	Complaint satisfied.
Mch. 11..	H. Langer, Bennett, vs. M. St. P. & S. S. M. Ry. Co.	Failure to receive cars.	Cars furnished.
Mch. 12...	W. W. Smith, Hustler, vs. C. St. P. M. & G. Ry. Co.	Inadequate service; request that certain train be stopped on signal.	Complaint satisfied.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1912. Mch. 13..	C. C. Emerson & Co., St. Paul, vs. C. & N. W. Ry. Co.	Failure to receive cars.	Cars furnished.
Mch. 13..	Engebretson Bros., New Auburn, vs. C. St. P. M. & O. Ry. Co.	Failure to receive cars.	Cars furnished.
Mch. 15..	Blodgett Milling Co., Janesville, vs. C. & N. W. Ry. Co.	Switching charges.	Formal complaint filed.
Mch. 16..	Coye Furniture Co., Stevens Point, vs. M. St. P. & S. S. M. Ry. Co.	Alleged exorbitant demurrage charges.	No jurisdiction.
Mch. 18...	Geo. A. Schroeder, Milwaukee, vs. C. & N. W. Ry. Co., C. M. & St. P. Ry. Co., M. St. P. & S. S. M. Ry. Co.	Unsatisfactory method of collecting demurrage charges.	Satisfactory adjustment reached.
Mch. 18...	Thomas J. McNeil, Sheboygan, vs. C. & N. W. Ry. Co.	Rates on furniture.	Complaint dropped.

Mch. 19...	Oostburg Evaporated Milk Co. vs. C. & N. W. Ry. Co.	Failure to receive cars.	Complaint satisfied.
Mch. 19..	R. S. Joslin, Mauston, vs. C. M. & St. P. Ry. Co.	Failure to receive cars.	Cars furnished.
Mch. 20..	J. N. Tittlemore, Omro, vs. G. B. & W. R. R. Co.	Unsatisfactory rules of railway co.	Complaint dropped.
Mch. 20..	Charles Todd, Wilton, vs. C. & N. W. Ry. Co.	Inadequate station service.	Adjusted.
Mch. 20..	Dr. E. E. Stiehn, Helenville, vs. C. & N. W. Ry. Co.,	Unsatisfactory station service.	Arrangements made to improve service.
Mch. 20..	Cranston & Co., Milwaukee, vs. C. & N. W. Ry. Co.	Claims for damaged shipments.	Settlement promised.
Mch. 20..	Lake Mills Electric Light & Water Com. vs. C. & N. W. Ry. Co.	Delayed shipment.	Shipment traced and delivered.
Mch. 21..	H. B. Stanz Co., Milwaukee, vs. C. & N. W. Ry. Co.	Delayed shipments.	Delay caused by weather conditions.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1912. Mch. 23...	Henry Sarkela, North York, vs. M. St. P. & S. S. M. Ry. Co.	Proposed removal of sidetrack.	Track will not be removed.
Mch. 23..	Rahm Bros. Co., Spencer, vs. C. St. P. M. & O. Ry. Co.	Failure to receive cars.	Cars furnished.
Mch. 26..	J. Edward Dake, Medford, vs. Western Express Co.	Failure to receive payment for C. O. D. shipment.	Claim settled.
Mch. 27..	E. D. Wheeler et al., Beloit, vs. C. M. & St. P. Ry. Co.	Train service and connections at Bardwell.	Complaint dropped.
Mch. 28..	Jensen-Christensen Co., Racine, vs. C. & N. W. Ry. Co.	Delayed shipments	Pending.
Apr. 1....	Edw. F. Ackley, Chippewa Falls, vs. C. St. P. M. & O. Ry. Co.	Proposed withdrawal of train.	Complaint dropped.
Apr. 2....	Neshkoro Stock Co., Neshkoro, vs. C. & N. W. Ry. Co.	Claim for loss of shipment.	Claim settled.

Apr. 2....	Lougdin-Brugger Co., Fond du Lac, vs. C. & N. W. Ry. Co., C. M. & St. P. Ry. Co., M. St. P. & S. S. M. Ry. Co.	Unsatisfactory rules with regard to delivery of freight.	Service improved.
Apr. 3....	Mrs. E. H. Merrell, Ripon, vs. C. M. & St. P. Ry. Co.	Inadequate station facilities,	Complaint dropped.
Apr. 3....	A. J. Miller, M. Michelson, Milltown, vs. M. St. P. & S. S. M. Ry. Co.	Proposed withdrawal of stock train.	Complaint dropped.
Apr. 5....	York Bros. Co., Superior, vs. N. P. Ry. Co.	Shortage of cars for hay shipments.	Cars furnished.
Apr. 5....	A. D. Burnett & Co., Spooner, vs. M. St. P. & S. S. M. Ry. Co.	Storage charges on bridge material.	Complaint satisfied.
Apr. 7....	R. P. Koenig & Co., Watertown, vs. C. & N. W. Ry. Co.	Rates on oats, Ripon to Watertown,	Rate satisfactorily adjusted.
Apr. 8....	H. B. Stanz Co., Milwaukee, vs. C. & N. W. Ry. Co.	Unsatisfactory freight service.	Service improved.
Apr. 8....	O. A. Sergent, Hawkins, vs. M. St. P. & S. S. M. Ry. Co.	Unsatisfactory station service.	Complaint withdrawn.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

1912.	Name.	Subject.	Disposal.
Date Apr. 9...	Medford Veneer Co., Medford, vs. M. St. P. & S. S. M. Ry. Co.	Failure to receive cars.	Interstate shipment; no jurisdiction.
Apr. 11...	H J. Grell Butter & Egg Co., Mil- waukee, vs. C. M. & St. P. Ry. Co.	Unsatisfactory freight service.	Service improved.
Apr. 12..	W. M. Curtiss, Trevor, vs. M. St. P. & S. S. M. Ry. Co.	Inadequate passenger service.	Complaint dropped upon report of railroad company that through trains cannot be stopped at Trevor.
Apr. 12..	A. M. Stavrum, Elk Mound, vs. C. St. P. M. & O. Ry. Co.	Change in track making farm cross- ing unsafe.	Formal complaint suggested.
Apr. 15...	C. & N. W. Ry. Co. C. M. & St. P. Ry. Co.	Investigation, on motion of the Com- mission, of the non-observance of sec. 1809r, ch. 402, Laws 1907, re- lating to full passenger crews.	Investigated.
Apr. 15...	J. H. Timm Co., Plymouth, vs. C. M. & St. P. Ry. Co.	Claim for shortage on shipment of barley.	Claim settled by company.
Apr. 16..	Ehlert Mercantile Co., Hillsboro, vs. Hillsboro & N. E. Ry. Co.	Express charges on bread.	Complaint dropped.

Apr. 19...	H. B. Stanz Co., Milwaukee, vs. M. St. P. & S. S. M. Ry. Co., C. M. & St. P. Ry. Co.	Unsatisfactory freight service between Curtiss and Milwaukee.	Service improved.
Apr. 19...	Wm. L. Cox, Milwaukee, vs. T. M. E. R. & L. Co.	Disturbance on street car.	Complaint dropped.
Apr. 20...	Theresa Advancement Asso., Theresa, vs. M. St. P. & S. S. M. Ry. Co.	Refusal to build spur track.	Formal complaint filed.
Apr. 20...	Osseo Telephone Co., Osseo, vs. C. & N. W. Ry. Co.	Failure to receive cars.	Complaint dropped.
Apr. 20...	C. E. McMillan, Sparta, vs. C. M. & St. P. Ry. Co., C. & N. W. Ry. Co.	Request for union station.	Complaint dropped.
Apr. 20...	Mrs. S. R. Campbell, Waukesha, vs. M. St. P. & S. S. M. Ry. Co.	Charge on shipment of household goods.	Adjusted.
Apr. 22...	E. H. Burnham, Holcombe, vs. C. St. P. M. & O. Ry. Co.	Inadequate train service on Holcombe branch.	Service improved.
Apr. 22...	H. B. Stanz Co., Milwaukee, vs. C. & N. W. Ry. Co.	Delayed shipments.	This delay unavoidable.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1912.			
Apr. 22...	Willis N. Calkins, (National Meter Co.), Chicago, vs. Pullman Company.	Charges for sleeping berth.	Adjusted.
Apr. 24...	L. J. Boucher, Marshfield, vs. M. St. P. & S. S. M. Ry. Co.	Unsatisfactory condition of highway crossing.	Complaint satisfied.
Apr. 24...	Clinton Hanson, Barron, vs. M. St. P. & S. S. M. Ry. Co.	Dangerous highway crossing.	Formal complaint suggested.
Apr. 24...	James F. Andrus, Arpin, vs. M. St. P. & S. S. M. Ry. Co.	Claim for loss of shipment.	Satisfactorily adjusted.
Apr. 24...	E. Brinkman, Afton, vs. C. & N. W. Ry. Co.	Obstruction of crossing by trains.	Conductor responsible for this, disciplined.
Apr. 24...	Olson & Co., Mountain, vs. C. & N. W. Ry. Co.	Failure to build sidetrack.	Work started immediately.
Apr. 24...	E. C. Dodge, Lake Mills, vs. C. St. P. M. & O. Ry. Co.	Rates on cream.	Complaint dropped.

Apr. 25...	Paul Waech, No. Milwaukee, vs. C. & N. W. Ry. Co.	Penalty charge for failure to buy ticket.	Complaint dropped.
Apr. 26..	A. H. Melville, Madison, vs. C. M. & St. P. Ry. Co.	Failure to settle claim for lost ship- ment.	Claim paid.
Apr. 26..	John A. Piepkorn, Milwaukee, vs. T. M. E. R. & L. Co.	Unsatisfactory street car service.	Formal complaint suggested.
Apr. 26...	C. F. Engelhardt, Brodhead, vs. C. St. P. M. & O. Ry. Co.	Passenger service at Warrens.	Service improved.
Apr. 29...	Anton Hoffman, St. Cloud, vs. C. & N. W. Ry. Co.	Train service for loading of stock.	Schedule arranged to suit the largest number of shippers; cannot be changed.
Apr. 30...	J. Stoneman Co., Forestville, vs. C. M. & St. P. Ry. Co.	Delay in settlement of claim.	Claim declined.
Apr. 30...	Lee B. Margrey, Grand Rapids, vs. C. & N. W. Ry. Co.	Train and station service at Kellner.	Formal complaint filed.
Apr. 30...	H. R. Wigdahl, Colfax, vs. M. St. P. & S. S. M. Ry. Co.	Unsatisfactory condition of fences on right of way.	Complaint satisfied.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1912. Apr. 30...	Frederick D. Whisler, Missoula, Montana, vs. C. M. & St. P. Ry. Co.	Refusal of refund on sleeping car check.	Company willing to make refund through interstate commerce com- mission.
May 1....	Rhineland Creamery & Produce Co., Rhineland, vs. M. St. P. & S. S. M. Ry. Co., Western Express Co.	Discriminatory charges.	Rates adjusted.
May 1....	Aug. Ritger, Allenton, vs. M. St. P. & S. S. M. Ry. Co.	Claim for overcharges.	Settled.
May 1....	J. H. Teichmiller, Richmond, Va., vs. C. M. & St. P. Ry. Co.	Delayed shipment.	Shipment delivered.
May 2....	Will Wattermath, Shennington, vs. C. St. P. M. & O. Ry. Co.	Claim for loss of goods in transit.	Claim settled.
May 3....	Shippers of cream, vs. C. M. & St. P. Ry. Co., C. & N. W. Ry. Co.	Application for joint rates on cream.	Pending.

May 4....	Wm. Canley, Jr., Custer, vs. Western Express Co.	Inefficient service at station.	Improved service promised.
May 6....	Marinette Flour Mill Co., Marinette, vs. C. M. & St. P. Ry. Co.	Rates on grain.	Complaint satisfied and withdrawn.
May 8....	Albany Canning Co., Albany, vs. C. M. & St. P. Ry. Co.	Rates on tin cans.	Interstate commerce commission should be addressed.
May 8.....	C. O. Hopkins, Sheboygan, vs. American Express Co.	Alleged refusal of delivery service.	Packages delivered.
May 9....	Mrs. Fred Carpenter, Rhinelander, vs. Western Express Co.	Delay in settling claim.	Claim paid.
May 10...	A. F. Schwahn, Eau Claire, vs. Wells Fargo & Co. Express.	Unsatisfactory express service.	Arrangements made by company to satisfy complaint.
May 10...	Curtice Produce Co., Curtice, vs. C. & N. W. Ry. Co.	Refusal to settle claim.	No jurisdiction.
May 10...	Henry Thoma, Richfield, vs. C. & N. W. Ry. Co., M. St. P. & S. S. M. Ry. Co.	Overcharges on household goods.	Correct charges made; company de- clines claim.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1912. May 13...	W. C. Blissett, Oshkosh, vs. C. & N. W. Ry. Co., M. St. P. & S. S. M. Ry. Co.	Delay in delivery of freight.	Service improved.
May 13...	W. M. Laux, Sr., Appleton, vs. Wis. Tr. Lt. Ht. & Power Co.	Unsatisfactory street car service.	Formal complaint suggested.
May 13...	Schneider Furniture Co., No. Milwau- waukee, vs. C. M. & St. P. Ry. Co.	Proposed removal of sidetrack.	Satisfactory adjustment.
May 13...	J. F. Baker, Madison, vs. C. M. & St. P. Ry. Co.	Unsatisfactory station service at Portage.	Service improved.
May 16...	Jas. B. Bingham, Madison, vs. C. M. & St. P. Ry. Co.	Claim for damage to shipment.	Claim settled.
May 17...	W. A. Hazeltine, Mazomanie, vs. Ill. Cen. R. R. Co.	Station service at Woodford.	Complaint dropped.

May 17...	H. R. Vaughn, Elk Mound, vs. C. M. & St. P. Ry. Co., C. St. P. M. & O. Ry. Co.	Connections at Camp Douglas.	No jurisdiction.
May 18...	Thos. W. Ferguson, So. Milwaukee, vs. C. & N. W. Ry. Co.	Rates on milk and cream.	Lower rate granted; complaint withdrawn.
May 20...	Henry Burmeister, J. W. Fix, La Valle, vs. Cazenovia & Sauk City Ry. Co.	Unsatisfactory fences on right of way.	Fences put in order.
May 20...	A. E. Hill, Chicago, Ill., vs. C. M. & St. P. Ry. Co.	Refusal to sell ticket at Necedah.	Complaint dropped.
May 21...	A. D. Shattuck, Chippewa Falls, vs. C. St. P. M. & O. Ry. Co.	Discriminatory passenger rates.	Pending.
May 22...	Charles Speering, Lyndhurst, vs. C. & N. W. Ry. Co.	Claim for loss of shipment of household goods.	No jurisdiction.
May 23...	George Bargabos, Staadt, vs. C. & N. W. Ry. Co.	Inadequate freight service.	Pending.
May 23...	Gerrit T. Thorn, Oshkosh, vs. C. & N. W. Ry. Co.	Unsatisfactory station service at various points in Wisconsin.	Pending.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1912.			
May 24...	John Olmsted, Appleton, vs. Wis. Tr. Lt. Ht. & Power Co.	Unsatisfactory service on cars.	Complaint dropped.
May 24..	Wm. F. Schanen, Port Washington, vs. Milw. Nor. Ry. Co.	Insufficient crossings.	Formal complaint suggested.
May 24...	Geo. C. Mansfield Co., Milwaukee, vs. Wells Fargo & Co. Express.	Delayed shipments of ice cream.	Improved service promised.
May 25...	F. H. Cochrane & Co., Portage, vs. C., M. & St. P. Ry. Co.	Demurrage charges.	Pending.
May 27...	E. W. Schmoldt, Wyeville, vs. C. & N. W. Ry. Co.	Lack of driveway facilities.	Satisfactory arrangements made.
May 28...	Herman Reel, Milwaukee, vs. C., M. & St. P. Ry. Co.	Non-delivery of shipments.	Adjusted.
May 28...	John Gallagher, Madison, vs. C., M. & St. P. Ry. Co.	Non-delivery of shipments.	Pending.

May 28...	Geo. B. Schoen, Milwaukee, vs. T. M. E. R. & L. Co.	Street car service.	Rules of company explained to employees.
May 29...	Apperson Edgar, Kokomo, Ind., vs. C. & N. W. Ry. Co.	Lack of station facilities at Newbold.	Platform built.
June 1...	H. McGinley, Eau Claire, vs. C., St. P. M. & O. Ry. Co.	Passenger rate on Hannibal branch.	Passenger tariff revised to provide correct rate.
June 3...	D. C. Converse, Ft. Atkinson, vs. M., St. P. & S. S. M. Ry. Co.	Passenger service at Goodrich.	Pending.
June 4...	P. B. Amondson, Pittsville, vs. C., M. & St. P. Ry. Co.	Failure to receive shipment.	Shipment located and delivered.
June 5...	W. H. Jenkins, Oshkosh, vs. E. Wis. Ry. & Lt. Co.	Discriminatory rates.	Same rates open to all.
June 6...	F. S. Rich, Madison, vs. Chicago & L. Sup. Ry. Co.	Passenger service between Cambridge and Madison.	Pending.
June 6...	C. Larson, Spring Valley, vs. C., St. P., M. & O. Ry. Co.	Unsatisfactory condition of road.	Complaint satisfied.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1912.			
June 6...	Island Paper Co., Menasha, vs. C. & N. W. Ry. Co.	Switching charges caused by failure to receive cars of certain dimensions.	Formal complaint suggested.
June 7...	Fred Best, Milwaukee, vs. C., M. & St. P. Ry. Co.	Penalty charge for failure to buy ticket.	Pending.
June 8...	Henry Schempf Co., Ft. Atkinson, vs. C. & N. W. Ry. Co.	Delayed shipments.	Refrigerator service rearranged.
June 10..	J. F. Murphy, vs. Wells Fargo & Co. Express.	Failure to deliver shipment.	Shipment traced and delivered.
June 10..	J. Henry Schultz & Co., Milwaukee, vs. C., M. & St. P. Ry. Co.	Failure to place cars for unloading.	Pending.
June 11...	Herman Zunke, Milwaukee, vs. Milwaukee Nor. Ry. Co.	Inadequate culvert.	Pending.
June 14...	Jung Brewing Co., Milwaukee, vs. C., M. & St. P. Ry. Co., C. & N. W. Ry. Co.	Delay in handling claims.	Claims will be adjusted.

June 14...	W. A. Barber, Warrens, vs. C., M. & St. P. Ry. Co., C., St. P., M. & O. Ry. Co.	Failure to connect at Camp Douglas.	Pending.
June 15..	R. B. Wood, Necedah, vs. C., M. & St. P. Ry. Co.	Failure to settle claims.	Pending.
June 17..	John Buckley, Cylon, vs. M., St. P., & S. S. M. Ry. Co.	Unsatisfactory condition of road.	Pending.
June 18..	C. Starkweather & Son, Beaver Dam, vs. C., M. & St. P. Ry. Co.	Unsatisfactory rates on sand.	Pending.
June 18..	C H. Day, Crandon, vs. C. & N. W. Ry. Co.	Claim for damaged shipment.	Pending.
June 20..	Geo. E. Downie, Waukesha, vs. C., M. & St. P. Ry. Co.	Method of determining wages.	Pending.
June 20..	M. Wes. Tubles, Madison, vs. C., M. & St. P. Ry. Co.	Lack of conformity of tickets with name of station and call of train men.	Pending.
June 22..	O. E. Matts, Angus, vs. C., St. P., M. & O. Ry. Co.	Passenger rating at Angus Station.	Pending.

E. INFORMAL COMPLAINTS AGAINST CARRIERS, 1911-1912.—Concluded.

Date	Name.	Subject.	Disposal.
1912. June 24...	<i>In re</i> Railway Companies.	Circular letter by the Commission to railway companies regarding furnishing of drinking water on interurban cars.	Pending.
June 24...	John H. Thickers, Wausau, vs. Appleton St. Ry. Co.	Street railway service.	Pending.
June 25..	H. S. Laun, Wausau, vs. C., M. & St. P. Ry. Co.	Dangerous condition on right of way.	Right of way cleared.
June 26..	Mrs. Lynne Downie, Waukesha, vs. T. M. E. R. & L. Co.	Discontinuance of stop.	Improved service promised
June 28..	Andrew Beardsley, Ellsworth, vs. C., St. P., M. & O. Ry. Co.	Failure to receive cars.	Pending.
June 29...	O. K. Evenson, Chippewa Falls, vs. C., St. P., M. & O. Ry. Co.	Illegal passenger rates.	Pending.
June 29..	G. W. Deacon, Cambria, vs. C. & N. W. Ry. Co., Milw. Sparta & N. W. Ry Co.	Proposed discontinuance of station at Engle.	Pending.

F. Informal Complaints Against Utilities.

July 1, 1911 to June 30, 1912.

Date	Name.	Subject.	Disposal.
1911. July 5....	Daniel Ruggles, Baraboo, vs. Wis. Tel. Co.	Refusal of service.	Complaint satisfied.
July 6....	Dr. Frank H. Edsall, Madison, vs. Wis. Tel. Co.	Inadequate telephone service.	Service improved.
July 7....	Wisconsin Telephone Co.	Informal investigation of telephone service, on motion of the Commission.	Conditions improved.
July 8....	Alex Caldwell, agent for Geo. F. Savoy, Pewaukee, vs. Wis. Tel. Co.	Refusal of telephone service.	Wis. Tel. Co. has no exchange at Pewaukee and cannot give service.
July 8....	Mrs. Piper, Sheboygan, vs. City Water Commission.	Complaint concerning character of water supply.	Investigation made by engineers and by University, and recommendations made to water commission.
July 14...	Charles Cowhan, Oshkosh, vs. Oshkosh Gas Light Co.	Refusal to extend gas mains.	Complaint dropped.

F. INFORMAL COMPLAINTS AGAINST UTILITIES, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1911. July 14...	Swedish Protective & Investment Co., vs. Ashland Water Co.	Complaint concerning minimum charge.	Principle involved receiving consid- eration in formal investigation.
July 14...	A. H. Adams, Juneau, vs. Horicon Tel. Co.	Unsatisfactory telephone service.	Adjusted between parties.
July 22..	P. J. Hartnett, Richland Center, vs. Farmers' Tel. Exchange Co.	Refusal of service.	Complaint satisfied.
July 26...	Joseph Pickart, Calvary, vs. Eastern Wis. Tel. Co.	Refusal of telephone company to make connections.	Complaint dropped.
July 26...	The American Utility Co., Milwaukee, vs. Wis. Tel. Co.	Methods of charging for telephone service.	Complaint dropped.
July 29...	W. E. Cannon, Chippewa Falls, vs. Chippewa Valley Ry., Light & Power Co.	Increase in certain lighting rates.	Principles involved receiving consid- eration in formal case.
July 31...	Thos. Carroll, Madison, vs. Madison Water Works.	Complaint alleging excessive water rates.	Complaint dropped.

Aug. 1...	Mrs. John Lloyd, Oshkosh, vs. Oshkosh Water Works Co.	Excessive water charges.	Charges are according to rates filed with Commission.
Aug. 3...	R. Valentine, Sec., G. M., Rock Is- land Tel. Co. vs. Wis. Tel. Co.	Complaint concerning rates.	Formal complaint suggested.
Aug. 3...	Paul W. Mahoney, La Crosse, vs. La Crosse Tel. Co.	Unsatisfactory service.	Service improved.
Aug. 4...	Hon. Carl Hansen, Manitowoc, vs. Wis. Tel. Co.	Unsatisfactory rules regarding sus- pension of service.	Misunderstanding adjusted.
Aug. 5....	A. H. Harpin, Kendall Tel. Exch.	Inquiry concerning right to install telephone in depot.	Railway company refused to pay for telephone.
Aug. 5....	J. F. Dougherty, Kilbourn, vs. Southern Wisconsin Power Co.	Overcharge for electric power.	Formal complaint suggested.
Aug. 7....	E. Kerswill, Park Falls, vs. Glidden Tel. Co.	Refusal of company to furnish tele- phone service.	Service promised.
Aug. 8...	Dr. Edward Ihle, Chippewa Falls, vs. C. F. W. W. & Lt. Co.	Unsatisfactory water charges.	Complaint dropped.

F. INFORMAL COMPLAINTS AGAINST UTILITIES, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1911. Aug. 9...	Alfred W. Weller, Oshkosh, vs. Oshkosh Water Works.	Charges for installation of meters.	Complaint dropped.
Aug. 9...	Milwaukee Hospital for Insane, John Falbe, Steward, vs. Wis. Tel. Co., Milwaukee Gas Light Co.	Rules for discounts on bills.	Complaint satisfied.
Aug. 9...	August Ripley, Kewaunee, vs. Wis. Tel. Co.	Failure to provide telephone connections.	Formal complaint suggested.
Aug. 10..	J. F. Hotten, Sec., Y. M. C. A. Institute and Training School, Williams Bay, vs. Wis. Tel. Co.	Alleged increase in rates.	Principles involved receiving consideration in formal case now before Commission.
Aug. 11..	Edwin D. Gibbs, Fox Lake, vs. Peoples Tel. Co. of Fox Lake.	Inadequate telephone service.	Improved service promised.
Aug. 11..	Dr. T. W. Evans, Madison, vs. Wis. Tel. Co.	Manner of placing name in telephone directory.	Adjusted.

Aug. 14..	E. J. Chappell Belmont, vs. Belmont Elec. & Water Plant.	Complaint concerning meter testing.	Complaint satisfied.
Aug. 17..	Southamer Bros., Milwaukee, vs. Wis. Tel. Co.	Overcharge for telephone calls.	Complaint satisfied by conference between parties.
Aug. 17..	A. D. Eldridge, Neenah, vs. Neenah Municipal Water Works.	Unsatisfactory rules regarding installation of water meters.	Complaint dropped.
Aug. 18..	Matt M. Ryan, Milwaukee, vs. Wis. Tel. Co.	Charges for removal of telephone.	Charges explained; complaint dropped.
Aug. 18..	Wetlaufer & Waldo, Montello, vs. Westfield Farmers Tel. Co.	Method of charging for tolls.	Formal complaint suggested.
Aug. 23..	R. Ellsworth, Mineral Point, vs. Mineral Point Electric Light Co.	Refusal to furnish service.	Complaint satisfied.
Aug. 23..	Frederic S. La Rue, Beaver Dam, vs. Wis. Tel. Co.	Undesirable location of central offices.	Complaint satisfied.
Aug. 23..	Dr. Chas. A. Lathrop, Sharon, vs. Sharon Water Works Co.	Refusal of company to install water meters.	Receiving consideration in formal case.

F. INFORMAL COMPLAINTS AGAINST UTILITIES, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1911. Aug. 28..	Melvin S. Baker, Beloit, vs. Beloit Water, Gas & Electric Co.	Refusal of electric service.	Complaint satisfied.
Aug. 31...	Louis Meyer, Milwaukee, vs. Wis. Tel. Co.	Telephone charges.	Formal complaint suggested.
Sept. 5...	Dr. W. L. Jones, Beaver Dam, vs. Beaver Dam Fuel & Light Co.	Rates and service.	Complaint dropped.
Sept. 9...	Mrs. M. Friddle, Fairchild, vs. Wis. Tel. Co.	Refusal of service.	Complaint dropped.
Sept. 11..	C. S. Foster, Racine, vs. Wis. Tel. Co.	Discriminatory charges.	Complaint dropped.
Sept. 12..	Informal investigation of electric service of Interstate Light & Power Co., Galena, Ill.	Failure to comply with rules of elec- tric service.	Service improved.
Sept. 13..	W. E. Golden, Milwaukee, vs. Wis. Tel. Co.	Refusal to publish certain names in telephone directory.	Complaint dropped.

Sept. 18..	G. W. Sehrkind, Washington Cutlery Co., Watertown, vs. Watertown Gas & Electric Co.	Interrupted electric service.	Complaint dropped.
Sept. 19..	Dr. E. Mihleis, Ellsworth, vs. Ellsworth Heat, Water & Light Co.	Exorbitant electric rates.	Meter installed by company; complaint withdrawn.
Sept. 20...	Frederick Bullwinkel, New Holstein, vs. Eastern Wis. Tel. Co.	Alleged increase of rates.	Adjusted.
Sept. 20...	T. Herold Knight, by Wm. H. Rohan, Mgr., vs. T. M. E. R. & L. Co.	Excessive rates for electric service.	Complaint satisfied.
Sept. 25..	H. P. Jamieson, Poynette Tel. Co., vs. Poynette Farmers' Mut. Tel. Co.	Discriminatory rates.	Rates investigated and telephone company advised that discriminations must cease.
Sept. 27..	Ernest & Southwick, Williams Bay, vs. Wis. Tel. Co.	Violation of contract.	Adjusted between parties.
Sept. 28..	Richland Center Municipal Plant.	Informal application for adjustment of rates.	Assistance given.
Sept. 29..	M. H. Pratt, Montello, vs. Montello Granite Co.	Objection to installation of meter.	Complaint satisfied.

F. INFORMAL COMPLAINTS AGAINST UTILITIES, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1911.			
Oct. 2....	A. H. Flatly, State Bank of Stock- bridge, vs. Eastern Wis. Tel. Co.	Proposed discontinuance of service.	Complaint dropped.
Oct. 2....	Olie Rudie, Roselawn, Shawano.	Lack of telephone service.	Complaint satisfied.
Oct. 5.....	W. H. McCoy, Spring Valley, vs. Spring Valley Water Co.	Refusal to extend mains for water service.	Complaint dropped.
Oct. 6....	Wm. A. Fannon, Appleton, vs. Wis. Tel. Co.	Unsatisfactory service.	Complaint dropped.
Oct. 7....	Irving L. Eales, Fort Atkinson, vs. Wis. Tel. Co.	Service and charges.	Satisfactorily adjusted.
Oct. 11....	Onalaska Pickle & Canning Co. vs. La Crosse Water Power Co.	Failure to receive electric current.	Failure caused by washout of dam; service to be restored as soon as possible.
Oct. 14...	A. E. Parkinson, American Amuse- ment Co., vs. La Crosse Gas & Electric Co.	Refusal to install meters.	Complaint satisfied.

Oct. 14...	D. C. Reynolds, Ripon, vs. Ripon Water Works.	Unsatisfactory water rates.	Rates charged found to be in accordance with rates filed with Commission.
Oct. 20...	Perry Niskern, Berlin, vs. Berlin Public Service Co.	Refusal to install thermostats.	Receiving consideration in formal case before the Commission.
Oct. 23...	Belle Painter Nair, M. D., Fort Atkinson, vs. Wis. Tel. Co.	Request for pay telephone service at station.	Telephone company agreed to take up the matter with railway company.
Oct. 26...	Emil H. Koepke, Milwaukee, vs. T. M. E. R. & L. Co.	Refusal of service.	Settled between parties.
Oct. 27...	E. P. Bacon, for Beloit College, vs. Beloit Water, Gas & Electric Co.	Charges for water at Beloit College.	Adjusted.
Oct. 28...	Lloyd L. Livingston, Milwaukee, vs. Milwaukee Gas Light Co.	Failure to furnish service.	Complaint dropped.
Nov. 2...	G. L. Prescott, Milwaukee Steel Post Co., vs. Wis. Tel. Co.	Discontinuance of service.	Complaint satisfied and withdrawn.
Nov. 6...	E. M. Holston, Milton, vs. McGowan Water Light & Power Co.	Practice of company in setting poles and stringing wires.	No jurisdiction.

F. INFORMAL COMPLAINTS AGAINST UTILITIES, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1911. Nov. 7...	Geo. H. Dobbins, for Fremont Co. Tel. Co. vs. Wis. Tel. Co.	Commissions on toll business.	Complaint dropped.
Nov. 8...	T. S. Adams, Madison, vs. Board of Water Commissioners.	Unsatisfactory quality of water.	Referred to state board of health.
Nov. 13..	John E. Wedlake, Dodgeville, vs. Wis. Tel. Co.	Charges for connections between companies.	Complaint satisfied and withdrawn.
Nov. 17..	Frederick Knapp, Welcome, vs. Matteson Tel. Co.	Charges for rental of instruments.	Formal complaint filed.
Nov. 24...	Frances McCanany, St. John's Cath High School, Milwaukee, vs. Wis. Tel. Co.	Failure to receive service.	Complaint satisfied.
Nov. 29..	M. H. Collbohn, Madison, vs. Wis. Tel. Co.	Inadequate telephone service.	Complaint satisfied.

Dec. 2....	I. S. Meyers, Verona, vs. Mt. Vernon Tel. Co.	Complaint regarding inefficient tele- phone service.	Complaint satisfied.
Dec. 4....	Judge Clyde L. Warren, Wausau, vs. Wausau Tel. Co.	Rules and charges of telephone com- pany.	Complaint dropped.
Dec. 6....	H. E. Rosenow, Badger Tel. Co., Oconomowoc, vs. Wis. Tel. Co.	Refusal of exchange service.	Complaint satisfied.
Dec. 6....	S. P. Woodburg, Dodgeville, Mont Kendall, Mineral Point, vs. New Union Tel. Co., Mineral Point Tel. Co.	Refusal of telephone connection.	Principles involved before Commis- sion in formal hearing.
Dec. 12...	Sherwood & McWilliam, Bijou The- atre, La Crosse, vs. La Crosse Gas & Electric Co.	Exorbitant rates for moving picture theater.	Adjusted between parties.
Dec. 15..	Fred Butterworth, Menasha, vs. Wis. Tel. Co.	Classification of telephone service.	Complaint satisfied.
Dec. 22...	D. Blum, Mondovi, vs. Mondovi Tel. Co.	Refusal of service.	Complaint satisfied.

F. INFORMAL COMPLAINTS AGAINST UTILITIES, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1911. Dec. 27...	Carl Isenberg, Baraboo, vs. Wis. Tel. Co.	Refusal of telephone service.	Complaint satisfied.
Dec. 28 .	C. C. Uber, Tomahawk Lumber Co., vs. Tomahawk Water Co.	Practices and charges of water com- pany.	Rules explained; complaint dropped.
Dec. 29...	James McNely, Berlin, vs. Berlin Public Service Co.	Complaint concerning rules of com- pany.	Receiving consideration in formal case.
1912 Jan. 4....	C. M. Gates, Lake Geneva, vs. Wis. Tel. Co.	Increase in rates.	Principles involved before Commis- sion in formal hearing.
Jan. 5....	Thomas Edwards, Ashland, vs. Ashland Water Co.	Inquiry concerning the furnishing of water meters.	Inquiry answered.
Jan. 8....	A. Aldrich, Beloit, vs. Beloit Water and Gas Co.	Charges and services.	Adjusted.

Jan. 8....	W. A. Gierhart, Almena Farmers' Tel. Exch., Turtle Lake, vs. City Tel. Co. of Turtle Lake.	Charges for exchange service.	Formal complaint suggested.
Jan. 10..	S. E. Knickerbocker, Wyoming, vs. Wis. Tel. Co.	Refusal of telephone connections.	Adjusted.
Jan. 10..	A. J. Plowman, Elderon, vs. Wittenberg Tel. Exch.	Refusal of connections.	Formal complaint suggested.
Jan. 15...	H. S. Livingston, Grant Co. Tele- phone Co., vs. Wis. Tel. Co.	Physical connection with Wisconsin Telephone Company.	Satisfactory arrangements made; complaint withdrawn.
Jan. 15...	C. R. Thomson, Richland Center, vs. Farmers' Tel. Exch.	Refusal of service.	Complaint satisfied.
Jan. 15...	O. C. Luder, Prentice, vs. Chippewa Valley Tel. Co.	Unsatisfactory service.	Formal complaint suggested.
Jan. 18..	E. A. Kyle, Colby, vs. Municipal Electric Light Plant.	Electric service.	Formal complaint suggested.
Jan. 18...	James T. Fulton, Fond du Lac, vs. Fond du Lac Water Co.	Charges for meter repairs.	Adjusted between parties.

F. INFORMAL COMPLAINTS AGAINST UTILITIES, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1912.			
Jan. 20...	Miss Marion Adams, Janesville, vs. Janesville Water Co.	Discriminatory rates.	Complaint dropped.
Jan. 22...	Creamery Package Mfg. Co., by E. R. Fargo, Lake Mills, vs. L. M. Mun. Elec. Lt. & Water Com- mission.	Increased rates.	Formal complaint suggested.
Jan. 23...	C. E. Van Vlack, Ashland, vs. Ashland Water Co.	Inquiry concerning furnishing of water meters.	City has been exempted from the furnishing of meters.
Jan. 25...	R. H. Hackett, Oshkosh, vs. Wis. Tel. Co.	Unsatisfactory service.	Service improved.
Jan. 27...	J. L. Jensen, Rosholt, vs. State Bank of Scandinavia.	Proposed discontinuance of service.	Adjusted between parties.
Jan. 30...	A. W. Biebesheimer, Milwaukee, vs. Wis. Tel. Co.	Rules of company with regard to pay telephones.	Settled between parties.

Feb. 1....	H. S. Livingston, Grant Co. Tel. Co., vs. Interstate Light & Power Co.	Inquiry with regard to the building of a line by power company, which will interfere with telephone line.	Adjusted between parties; complaint withdrawn.
Feb. 1....	F. W. Shepherd, Platteville, vs. Platteville, Ellenboro & Rewey Tel. Co.	Refusal of service.	Rates and service of company receiving consideration in a formal case before Commission.
Feb. 5....	Dr. Stephen Fisher, Milwaukee, vs. Wis. Tel. Co.	Alleged excessive rates.	Satisfactorily adjusted.
Feb. 5....	G. W. Rickert, Angelica, vs. Bonduel Tel. Co.	Discriminatory charges and classification.	Formal complaint suggested.
Feb. 5....	Frank B. Lamoreaux, Ashland, vs. Ashland Water Co.	Refusal to furnish meters.	Company has been exempted from furnishing meters until further orders.
Feb. 7....	M. R. Strouse, Tomah, vs. Tomah Electric Light & Tel. Co.	Inquiry concerning legality of certain charges to a household employe.	Quoted "Finding 4," <i>Free and Reduced Rate Telephone Service.</i>
Feb. 7....	The Mellen Water & Light Co. vs. People's Water & Light Co.	Inadequate service, due to broken hydrant.	Adjusted.
Feb. 8....	Gustav Pipkorn, Cedarburg, vs. Ozaukee & Washington Co. Tel. Co.	Alleged advance in rates.	Complaint dropped.

F. INFORMAL COMPLAINTS AGAINST UTILITIES, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1912.			
Feb. 8....	Frederic Craneheld, Madison, vs. Wis. Tel. Co.	Unsatisfactory telephone service.	Service improved.
Feb. 10...	R. H. Whitbeck, Madison, vs. Madison Gas & Elec. Co.,	Charges for laterals leading from gas main to curbs.	Formal complaint suggested.
Feb. 13..	Mohr-Statzer Lbr. Co., Holt, vs. Elderon Tel. Service.	Unsatisfactory telephone service.	Formal complaint filed.
Feb. 14...	George B. Skogmo, River Falls, vs. Wis. Tel. Co.	Inadequate telephone service.	Formal complaint suggested.
Feb. 15...	A. B. Kehl, Brookfield, vs. Wis. Tel. Co.	Unsatisfactory telephone service.	Complaint satisfied.
Feb. 15...	Van Meter-Welch Pr't'g Co., New Richmond, vs. Wis. Tel. Co.	Failure of telephone companies to connect.	Complaint satisfied.
Feb. 17..	R. S. Starks, Berlin, vs. Berlin Municipal Water Co.	Inquiry concerning the furnishing of meters.	Companies are expected to furnish meters unless exempted by special order.

Feb. 18...	D. C. Converse, Ft. Atkinson, vs. Water & Light Commission.	Alleged increase in rates.	Rates complained of are not effective, not having been filed with Commission.
Mch. 2...	Rev. W. J. Luby, Omro, vs. Wis. Tel. Co.	Exorbitant toll rates.	Adjusted.
Mch. 4...	Daniel Mayer, Milwaukee, vs. Wis. Tel. Co.	Claim for discount on bill paid in advance.	Claim adjusted.
Mch. 6...	L. Olson Ellis, Black River Falls, vs. Central Wis. Tel. Co.	Refusal of service.	Complaint satisfied.
Mch. 9...	J. D. Werbelowsky, Seymour, vs. Shiocton Tel. Co.	Increase in rates.	Increase in rates illegal without order from Commission.
Mch. 11..	Will Moore, Verona, vs. Mt. Vernon Tel. Co.	Inadequate service.	Complaint dropped.
Mch. 16...	W. G. Coapman, Racine, vs. Wis. Tel. Co.	Classification of service.	Satisfactorily adjusted.
Mch. 23..	W. W. Witchpalck, Collins, vs. Rockland Tel. Co.	Inefficient telephone service.	Complaint dropped.

F. INFORMAL COMPLAINTS AGAINST UTILITIES, 1911-1912.—Continued.

Date	Name.	Subject.	Disposal.
1912. Mch. 26...	Fosher, Hanna & Cashin, Stevens Point. vs. Stevens Point Water Co.	Inquiry concerning furnishing of meters.	Company must furnish meters unless exempted by Commission.
Apr. 4...	Roth Bros. Co., Superior, vs. Wis. Tel. Co.	Refusal of connection with private telephone system.	Formal complaint suggested.
Apr. 12...	C. H. Taylor, Dodgeville, vs. New Union Tel. Co.	Classification of telephone service.	Formal complaint suggested.
Apr. 17...	C. F. Crane, Weyauwega, vs. Wis. Tel. Co.	Exorbitant toll rates.	Adjusted between parties.
Apr. 24...	John W. Stone, Lancaster. vs. Lancaster Electric Light Co.	Uncovered electric light wires.	Investigated by Commission.
Apr. 25..	Gustav F. Kocher, Milwaukee, vs. Milwaukee Gas Light Co.	Failure to furnish service.	Service furnished.
Apr. 30..	J. L. Reeve, for Farmers & Merchants Tel. Co., vs. Wis Tel. Co.	Refusal of compensation for toll service.	Complaint dropped.

May 2...	D. M. Hunter, Viola, vs. La Crosse Interurban Tel. Co.	Refusal to remove poles from sidewalks.	Complaint dropped.
May 9....	I. A. La Certe, Wausau, vs. Wausau Tel. Co.	Unsatisfactory service.	Formal complaint suggested.
May 13...	Mrs. M. O. Anderson, Lodi vs. Lodi Tel. Co.	Refusal of service.	Complaint dropped.
May 13...	W. P. Pfeil, Oshkosh, vs. Oshkosh Water Co.	Exorbitant water charges.	Charges found to be correct.
May 17...	Cecil-Green Valley Toll Line Co., Cecil, vs. Wis. Tel. Co.	Refusal of connecting service— (other line charges).	Complaint dropped.
June 8...	C. H. Bromley, Whitewater, vs. Eagle Tel. Co.	Increased rates.	Complaint not justified; dropped.
June 15.	Rev. Raymond G. Pierson, Milwaukee, vs. T. M. E. R. & L. Co.	Unsatisfactory charges for electric service.	Adjusted.
June 19...	Peter Marx, Cudahy, vs. Wis. Tel. Co.	Overcharge.	Satisfactorily adjusted.

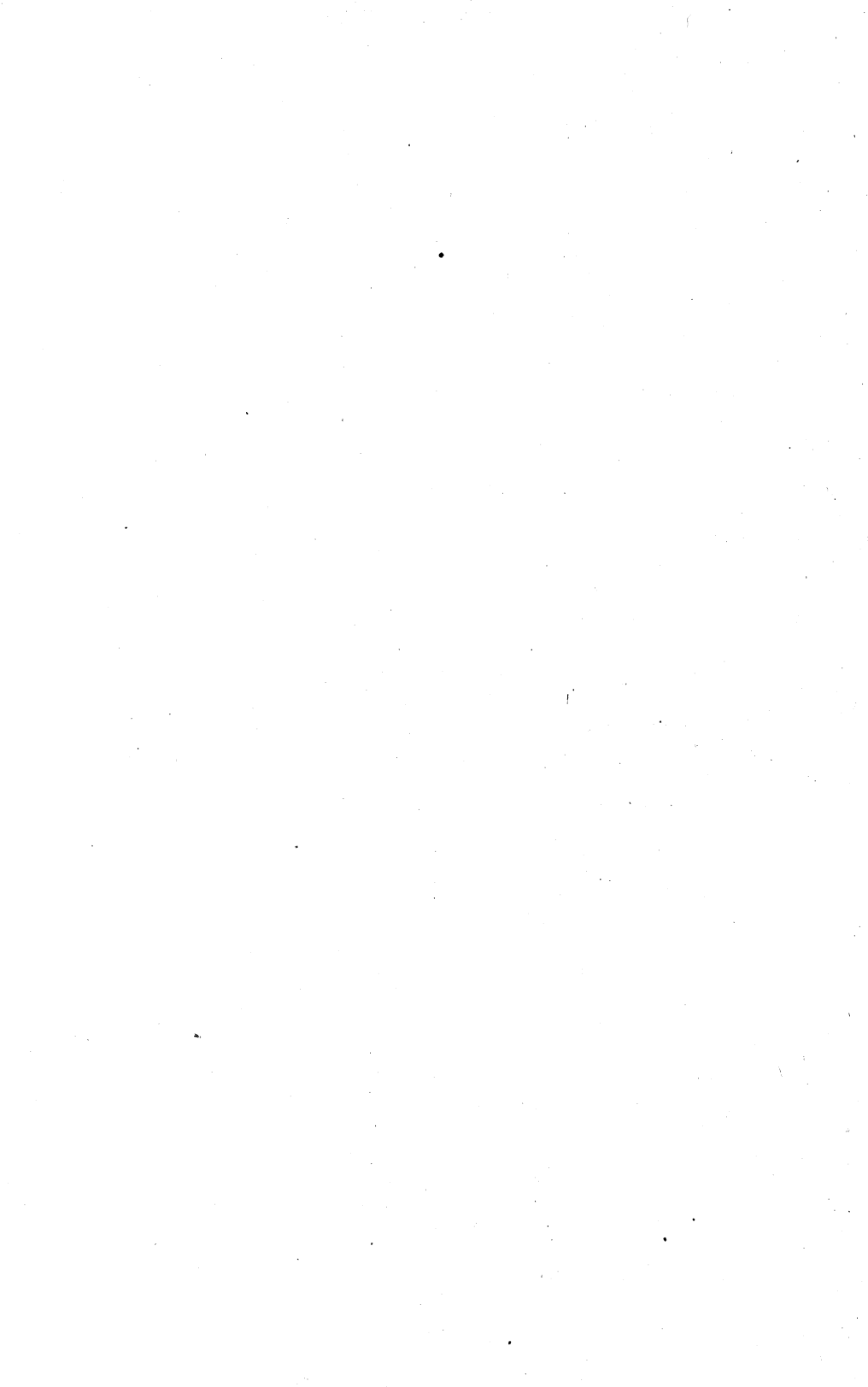
F. INFORMAL COMPLAINTS AGAINST UTILITIES, 1911-1912.—Concluded.

Date	Name.	Subject.	Disposal.
1912. June 20..	N. Tyhski, Milwaukee, vs. Wis. Tel. Co.	Unreasonable charges.	Satisfactorily adjusted.
June 22..	W. Rauschenberger, Milwaukee, vs. Wis. Tel. Co.	Refusal of discount.	Adjusted.
June 24..	M. B. Bulger, Beaver Dam, vs. Beaver Dam Light & Power Co.	Unsatisfactory electric service; wires in dangerous condition.	Complaint dropped.
June 28..	Glenway Maxon, Milwaukee, vs. Milwaukee Gas Light Co.	Charges for installation of gas mains.	Pending.

PART III.

Statistics of Public Utilities—Financial and
Operating.

- A. RETURNS UNDER CH. 499, LAWS OF 1907.
- B. ELECTRIC.
- C. GAS.
- D. WATER.
- E. TELEPHONE.
- F. HEATING.
- G. UNIT COSTS.



FINANCIAL AND OPERATING STATISTICS OF PUBLIC UTILITIES

A. Returns under Chapter 499, Laws of 1907.

LIST OF UTILITIES EXCLUDED FROM TABULATIONS.

The following utilities filed incomplete reports:

ELECTRIC UTILITIES.

Private.

Fairchild.....	Fairchild Elec. Lt. Plant.
Port Edwards.....	Nekoosa-Edwards Paper Co.
Prairie du Sac.....	Prairie du Sac Elec. Lt. Plant.
Warren.....	Geo. Warren Co.

Municipal.

Black River Falls.....	Municipal Light Plant.
Clintonville.....	" " "
Cuba City.....	" " "
Colby.....	" " "
Florence.....	" " "
New Glarus.....	" " "
Oconto Falls.....	" " "
Spooner.....	" " "

GAS UTILITIES.

Municipal.

Juneau.....	Municipal Gas Plant.
Sharon.....	" " "

WATER UTILITIES.

Private.

Milton Junction.....Milton Junction Water Works.

Municipal.

Black River Falls.....	Municipal Water Works.
Chetek.....	“ “ “
Clintonville	“ “ “
Colby.....	“ “ “
Cuba City.....	“ “ “
East Milwaukee.....	“ “ “
Florence.....	“ “ “
Ladysmith	“ “ “
Middleton.....	“ “ “
Monticello.....	“ “ “
New Glarus.....	“ “ “
Oconto Falls.....	“ “ “
Rice Lake.....	“ “ “
Soldiers Grove.....	“ “ “
Spooner.....	“ “ “
Tomah.....	“ “ “

TELEPHONE UTILITIES.

Benton	Benton & Cuba City Tel. Co.
Kewaunee.....	Carlton-Kewaunee Tel. Co.
New London....	County Line Tel. Co.
Five Points.....	Five Points Tel. Co.
Cuba City.....	Grand View Tel. Co.
Livingston.....	Grant Co. Tel. Co.
Darlington.....	Lamont Central Tel. Co.
New London.....	Marasch B. Tel. Co.
Dorchester	Mayville Farmers Tel. Co.
Kilbourn.....	New Haven & Dell Prairie Tel. Co.
Platteville.....	Platteville, Rewey & Ellenboro Tel. Co.
Viroqua	Pleasant Ridge Tel. Co.
Phillips	Price County Tel. Co.
Shawano.....	Town Line Farmers Tel. Assn.
Center.....	Twelve Corners & Mackville Tel. Co.

Among the companies which failed to make report within the time required by statute and were for this reason omitted from this report are the following:

ELECTRIC UTILITIES.

Private.

Birnamwood	Birnamwood Elec. Lt. Co;
Eagle River.....	Eagle River Lt. & Water Co.
Iola.....	Iola Elec. Lt. & Pr. Co.
Menomonee Falls.....	Menomonee Falls Elec. Co.
Withee.....	Withee Elec. Lt. Plant.

Municipal.

Hazel Green.....	Municipal Electric Light Plant.
Independence.....	“ “ “ “
Kaukauna.....	“ “ “ “
Reedsburg.....	“ “ “ “
Sun Prairie.....	“ “ “ “

WATER UTILITIES.

Private.

Eagle River	Eagle River Lt. & Water Co.
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Municipal.

Delavan.....	Municipal Water Works.
Hazel Green.....	“ “ “
Hudson	“ “ “
Independence.....	“ “ “
Juneau.....	“ “ “
Minocqua	“ “ “
Reedsburg.....	“ “ “

TELEPHONE UTILITIES.

Algoma	Algoma Farmers Tel. Co.
Waupun.....	Banner Tel. Co.
Monticello.....	Busy Farmers Tel. Co.
Madison.....	Dane County Rural Tel. Co.
Darien.....	Darien Tel. Co.
New Rome.....	Davis, H. E.
Mineral Point.....	Diamond Grove Tel. Co.
Soldiers Grove.....	Elmwood Farmers Tel. Co.

Evansville.....	Evansville Tel. Co.
Minona	Farmers Mutual Tel. Co.
Footville	Footville Tel. Co.
Gilmantown	Gilmantown & Dover Farmers Tel. Co.
Shullsburg	Glenville Tel. Co.
Elmwood	Highland Tel. Co.
Calamine	Independent Tel. Exch.
Minong.....	Lake Shore Tel. Co.
Platteville.....	Long Grove Farmers Tel. Co.
Mosinee	Mosinee Tel. Co.
Blue Mounds.....	Perry Mutual Tel. Co.
Waupun.....	Rock River Tel. Co.
Shullsburg	Silverthorn Tel. Co.
Weyerhauser	Weyerhauser & Island Lake Tel. Co.

A number of electric utilities were not in operation for the full period and were still in process of construction. The companies excused from report for this reason were the following:

Private.

Colfax.....	Colfax Mill & Pr. Plant.
Elderon	Elderon Lt. & Pr. Co.
Gresham	Gresham Elec. Lt. & Pr. Co.
Hustisford	Hustisford Elec. Lt. & Pr. Co.
La Valle.....	La Valle Roller Mills.
Milwaukee.....	Badger Ry. & Lt. Co.
Mosinee	Mosinee Elec. Co.
Prescott.....	River Falls Power Co.
Wyocena.....	Columbia Co. Elec. Lt. & Pr. Co.

COMPARATIVE FINANCIAL STATISTICS OF ALL UTILITIES REPORTING TO THE COMMISSION.

SUMMARY OF GROSS EARNINGS FROM OPERATION.

ALL UTILITIES REPORTING UNDER CHAP. 499, LAWS OF 1907.

Year Ending June 30.

CLASS.	1912.			1911.			1910.		
	Municipal.	Private.	Total.	Municipal.	Private.	Total.	Municipal.	Private.	Total.
<i>Electric:</i>									
Class A.....		\$1,350,742 03	\$1,350,742 03		\$4,084,941 30	\$4,084,941 30		\$3,163,051 00	\$3,163,051 00
Class B.....	\$221,397 60	950,362 88	1,171,760 48	\$221,190 99	875,156 47	1,096,347 46	\$174,321 48	770,442 98	944,764 46
Class C.....	238,950 13	362,700 33	601,650 48	169,297 96	278,516 64	447,814 60	153,738 18	182,376 72	336,114 90
Total.....	\$160,347 73	\$5,663,805 26	\$6,124,152 99	\$390,488 95	\$5,238,614 41	\$5,629,103 36	\$328,059 66	\$4,115,870 70	\$4,443,930 36
<i>Gas:</i>									
Class A.....		\$4,023,058 75	\$4,023,058 75		\$3,898,972 78	\$3,898,972 78		\$3,769,288 78	\$3,769,288 78
Class B.....		310,168 31	310,168 31		255,025 04	255,025 04		205,273 75	205,273 75
Class C.....	\$27,426 73	2,649 03	30,075 76	\$22,254 50	5,161 82	27,416 32	\$29,794 07	4,848 05	34,642 12
Total.....	\$27,426 73	\$4,335,876 09	\$4,363,302 82	\$22,254 50	\$4,159,159 64	\$4,181,414 14	\$29,794 07	\$3,979,410 58	\$4,009,204 65
<i>Water:</i>									
Class A.....	\$1,406,874 34	\$635,194 15	\$2,042,068 49	\$1,044,590 74	\$772,172 46	\$1,816,763 20	\$973,005 44	\$711,788 84	\$1,684,794 28
Class B.....	287,643 69	140,845 60	428,489 29	270,365 19	148,152 39	418,517 58	203,440 67	136,877 85	340,318 52
Class C.....	156,862 46	61,760 33	218,622 79	102,472 17	62,067 76	164,539 93	126,680 03	18,839 92	145,519 95
Total.....	\$1,851,380 49	\$837,800 08	\$2,689,180 57	\$1,417,428 10	\$982,392 61	\$2,399,820 71	\$1,303,126 14	\$867,506 61	\$2,170,632 75
<i>Telephone:</i>									
Utility as a whole.....		\$4,769,711 35	\$4,769,711 35		\$4,373,950 44	\$4,373,950 44		\$4,035,795 44	\$4,035,795 44
Condensed form.....		241,639 11	241,639 11		193,032 73	193,032 73		136,067 76	136,067 76
Total.....		\$5,011,350 46	\$5,011,350 46		\$4,566,983 17	\$4,566,983 17		\$4,171,863 20	\$4,171,863 20
<i>Heating: Total</i>	\$2,151 44	\$311,945 00	\$314,096 44	\$2,014 98	\$231,944 56	\$233,959 54	\$1,104 48	\$231,363 53	\$232,468 01
Total all utilities.....	\$2,341,306 39	\$16,160,776 89	\$18,502,083 28	\$1,832,186 53	\$15,179,094 39	\$17,011,280 92	\$1,662,084 35	\$13,366,014 62	\$15,028,098 97

SUMMARY OF OPERATING EXPENSES.
ALL UTILITIES REPORTING UNDER CHAP. 499, LAWS OF 1907.
Year Ending June 30.

CLASS.	1912			1911			1910		
	Municipal.	Private.	Total.	Municipal.	Private.	Total.	Municipal.	Private.	Total.
<i>Electric:</i>									
Class A.....		\$2,826,598 24	\$2,826,598 24		\$2,495,126 65	\$2,495,126 65		\$1,893,712 65	\$1,893,712 65
" B.....	\$161,509 81	756,624 27	918,134 08	\$170,104 77	706,923 80	877,028 57	\$133,325 87	615,306 65	748,632 52
" C.....	208,428 71	308,926 51	517,355 22	136,678 25	221,209 60	357,887 85	130,374 81	144,022 22	274,397 03
Total.....	\$369,938 52	\$3,892,149 02	\$4,263,087 54	\$306,783 02	\$3,423,260 05	\$3,730,043 07	\$263,700 68	\$2,653,041 52	\$2,916,742 20
<i>Gas:</i>									
Class A.....		\$2,725,246 38	\$2,725,246 38		\$2,552,119 95	\$2,552,119 95		\$2,483,360 23	\$2,483,360 23
Class B.....		248,856 26	248,856 26		196,734 98	196,734 98		164,355 19	164,355 19
Class C.....	\$53,586 97	2,065 42	35,652 39	\$29,734 88	4,975 39	34,710 27	\$34,386 72	4,172 76	38,559 48
Total.....	\$53,586 97	\$2,976,168 06	\$3,009,755 03	\$29,734 88	\$2,753,830 32	\$2,783,565 20	\$34,386 72	\$2,651,888 18	\$2,686,274 90
<i>Water:</i>									
Class A.....	\$538,482 00	\$333,565 82	\$872,047 82	\$411,969 60	\$371,470 30	\$783,439 90	\$381,794 80	\$344,087 61	\$725,882 49
Class B.....	189,251 53	79,111 34	268,362 87	216,742 19	85,073 21	301,815 40	125,703 54	77,741 15	203,444 69
Class C.....	139,535 00	36,233 20	175,768 20	80,207 53	35,713 33	115,920 86	100,862 04	17,492 71	118,354 75
Total.....	\$867,268 53	\$448,910 36	\$1,316,178 89	\$708,919 32	\$492,256 84	\$1,201,176 16	\$608,360 38	\$439,321 55	\$1,047,681 93
<i>Telephone:</i>									
Utility as a whole.....		\$3,706,197 20	\$3,706,197 20		\$3,334,008 48	\$3,334,008 48		\$3,128,471 88	\$3,128,471 88
Condensed form.....		181,509 57	181,509 57		143,566 32	143,566 32		94,416 47	94,416 47
Total.....		\$3,887,706 77	\$3,887,706 77		\$3,477,574 80	\$3,477,574 80		\$3,222,888 35	\$3,222,888 35
<i>Heating: Total.....</i>	\$2,575 33	\$266,099 61	\$268,674 94	\$760 04	\$194,445 65	\$195,205 69	\$573 56	\$185,061 89	\$185,635 45
Total all utilities.....	\$1,273,369 35	\$11,471,033 82	\$12,744,403 17	\$1,046,197 26	\$10,341,367 66	\$11,387,564 92	\$907,021 34	\$9,152,201 49	\$10,059,222 83

SUMMARY OF NET OPERATING REVENUES.
ALL UTILITIES REPORTING UNDER CHAP. 499, LAWS 1907.
Year Ending June 30.

Italic figures denote deficits.

CLASS.	1912			1911			1910		
	Municipal.	Private.	Total.	Municipal.	Private.	Total.	Municipal.	Private.	Total.
<i>Electric:</i>									
Class A.....		\$1,524,143 79	\$1,524,143 79		\$1,589,814 65	\$1,589,814 65		\$1,269,338 35	\$1,269,338 35
" B.....	\$59,887 79	193,738 61	253,626 40	\$51,086 22	168,232 67	219,318 89	\$40,995 61	155,136 33	196,131 94
" C.....	30,521 42	53,773 84	84,295 26	32,619 71	57,307 04	89,926 75	23,363 37	38,354 50	61,717 87
Total.....	\$90,409 21	\$1,771,656 24	\$1,862,065 45	\$83,705 93	\$1,815,354 36	\$1,899,060 29	\$64,358 98	\$1,462,829 18	\$1,527,188 16
<i>Gas:</i>									
Class A.....		\$1,297,812 37	\$1,297,812 37		\$1,346,852 83	\$1,346,852 83		\$1,285,928 55	\$1,285,928 55
" B.....		61,312 05	61,312 05		58,290 06	58,290 06		40,918 56	40,918 56
" C.....	\$6,160 24	583 61	5,576 63	\$7,480 38	186 43	7,293 95	\$4,592 65	675 29	3,917 36
Total.....	\$6,160 24	\$1,359,708 03	\$1,353,547 79	\$7,480 38	\$1,405,329 32	\$1,397,848 94	\$4,592 65	\$1,327,522 40	\$1,322,929 75
<i>Water:</i>									
Class A.....	\$868,392 34	\$301,628 33	\$1,170,020 67	\$632,621 14	\$400,702 16	\$1,033,323 30	\$591,210 64	\$387,701 15	\$958,911 79
" B.....	98,392 16	61,734 26	160,126 42	53,625 00	63,079 18	116,702 18	77,737 13	59,136 70	136,873 83
" C.....	17,327 46	25,527 13	42,854 59	22,264 64	26,354 45	48,619 09	25,817 99	1,347 21	27,165 20
Total.....	\$984,111 96	\$388,889 72	\$1,373,001 68	\$708,508 78	\$490,135 79	\$1,198,644 57	\$694,765 76	\$428,185 06	\$1,122,950 82
<i>Telephone:</i>									
Utility as a whole.....		\$1,063,514 15	\$1,063,514 15		\$1,039,941 96	\$1,039,941 96		\$907,323 56	\$907,323 56
Condensed form.....		60,129 54	60,129 54		49,466 41	49,466 41		41,651 29	41,651 29
Total.....		\$1,123,643 69	\$1,123,643 69		\$1,089,408 37	\$1,089,408 37		\$948,974 85	\$948,974 85
<i>Heating: Total</i>	\$423 89	\$45,845 39	\$45,421 50	\$1,254 94	\$37,498 91	\$38,753 85	\$530 92	\$46,301 04	\$46,831 96
Total all utilities.....	\$1,067,937 04	\$4,689,743 07	\$5,757,680 11	\$785,989 27	\$4,837,726 75	\$5,823,716 02	\$755,063 01	\$4,213,812 53	\$4,968,875 54

SUMMARY OF NON-OPERATING REVENUES.
ALL UTILITIES REPORTING UNDER CHAP. 499, LAWS OF 1907.
Year Ending June 30.

CLASS.	1912			1911			1910		
	Municipal.	Private.	Total.	Municipal.	Private.	Total.	Municipal.	Private.	Total.
<i>Electric:</i>									
Class A.....		\$315,973 07	\$315,973 07		\$224,794 25	\$224,794 25		\$167,059 76	\$167,059 76
" B.....	\$6,514 00	21,143 16	27,657 16	15,797 28	25,320 72	41,118 60	\$13,687 74	34,936 59	48,624 33
" C.....	5,193 33	7,094 95	12,288 28	1,991 07	3,466 84	5,457 91	759 85	3,508 47	4,268 32
Total.....	\$11,707 33	\$344,211 18	\$355,918 51	\$17,788 95	\$253,581 81	\$271,370 76	\$14,447 59	\$205,504 82	\$219,952 41
<i>Gas:</i>									
Class A.....		\$83,713 51	\$83,713 51		\$58,059 74	\$58,059 74		\$60,197 66	\$60,197 66
" B.....		1,452 92	1,452 92		8,870 78	8,870 78		2,942 19	2,942 19
" C.....		72 43	72 43	\$1,750 00	40 00	1,790 00	\$1,063 40	40 25	1,103 65
Total.....		\$85,238 86	\$85,238 86	\$1,750 00	\$66,970 52	\$68,720 52	\$1,063 40	\$63,180 10	\$64,243 50
<i>Water:</i>									
Class A.....	\$13,443 80	\$13,890 47	\$27,334 27	\$16,460 70	\$6,176 13	\$52,636 83	\$67,532 33	\$6,524 89	\$74,057 22
" B.....	40,451 94	306 42	40,758 36	33,397 21	2,860 09	41,257 30	42,343 30	853 62	43,196 92
" C.....	8,961 09		8,961 09	4,365 89		4,365 89	3,314 36	40 00	3,354 36
Total.....	\$62,856 83	\$14,196 89	\$77,053 72	\$89,223 80	\$9,036 22	\$98,260 02	\$113,189 99	\$7,418.51	\$120,608 50
<i>Telephone:</i>									
Utility as a whole.....		\$74,275 20	\$74,275 20		\$90,801 14	\$90,801 14		\$39,432 05	\$69,432 05
Condensed from.....									
Total.....		\$74,275 20	\$74,275 20		\$90,801 14	\$90,801 14		\$39,432 05	\$69,432 05
<i>Heating: Total.....</i>					\$300 06	\$600 06		\$44 50	\$44 50
Total all utilities.....	\$74,564 16	\$517,922 13	\$592,486 29	\$108,762 75	\$421,989 75	\$530,752 50	\$128,700 98	\$345,579 98	\$474,280 96

SUMMARY OF GROSS INCOME.
ALL UTILITIES REPORTING UNDER CHAP. 499, LAWS OF 1907.
Year Ending June 30.

Italic figures denote deficits.

CLASS.	1912.			1911.			1910.		
	Municipal.	Private.	Total.	Municipal.	Private.	Total.	Municipal.	Private.	Total.
<i>Electric:</i>									
Class A.....		\$1,840,116 86	\$1,840,116 86		\$1,814,608 90	\$1,814,608 90		\$1,436,398 11	\$1,436,398 11
" B.....	\$66,401 79	214,881 77	281,283 56	\$66,884 10	194,553 39	261,437 49	\$54,683 35	190,072 92	244,756 27
" C.....	35,714 75	60,868 79	96,583 54	31,610 78	60,773 88	95,384 66	24,123 22	41,862 97	65,986 19
Total.....	\$102,116 54	\$2,115,867 42	\$2,217,983 96	\$101,494 88	\$2,069,936 17	\$2,171,431 05	\$78,806 57	\$1,668,334 00	\$1,747,140 57
<i>Gas:</i>									
Class A.....		\$1,381,525 88	\$1,381,525 88		\$1,404,912 57	\$1,404,912 57		\$1,346,126 21	\$1,346,126 21
" B.....		62,704 97	62,764 97		67,160 84	67,160 84		43,860 75	43,860 75
" C.....	\$6,160 24	656 04	5,504 20	\$5,730 38	226 43	5,503 95	\$3,529 25	715 54	2,813 71
Total.....	\$6,160 24	\$1,444,946 89	\$1,438,786 65	\$5,730 38	\$1,472,299 84	\$1,466,569 46	\$3,529 25	\$1,390,702 50	\$1,387,173 25
<i>Water:</i>									
Class A.....	\$881,836 14	\$315,518 80	\$1,197,354 94	\$679,081 84	\$406,878 29	\$1,085,960 13	\$658,742 97	\$374,226 04	\$1,032,969 01
" B.....	138,844 10	62,040 68	200,884 78	92,020 21	65,939 27	157,959 48	120,080 43	59,990 32	180,070 75
" C.....	26,288 55	25,527 13	51,815 68	26,630 53	26,354 45	52,984 98	29,132 35	1,387 21	30,519 56
Total.,.....	\$1,046,968 79	\$403,086 61	\$1,450,055 40	\$797,732 58	\$499,172 01	\$1,296,904 59	\$807,955 75	\$435,603 57	\$1,243,559 32
<i>Telephone:</i>									
Utility as a whole.....		\$1,137,789 35	\$1,137,789 35		\$1,130,743 10	\$1,130,743 10		\$976,755 61	\$976,755 61
Condensed form.....		60,129 54	60,129 54		49,466 41	49,466 41		41,651 29	41,651 29
Total.....		\$1,197,918 89	\$1,197,918 89		\$1,180,209 51	\$1,180,209 51		\$1,018,406 90	\$1,018,406 90
<i>Heating: Total.....</i>	\$423 89	\$45,845 39	\$45,421 50	\$1,254 94	\$38,098 97	\$39,353 91	\$530 92	\$46,346 14	\$46,877 06
Total all utilities.....	\$1,142,501 20	\$5,207,665 20	\$6,350,166 40	\$894,752 02	\$5,259,716 50	\$6,154,468 52	\$883,763 99	\$4,559,393 11	\$5,443,157 10

SUMMARY OF DEDUCTIONS FROM GROSS INCOME.
ALL UTILITIES REPORTING UNDER CHAP. 499, LAWS OF 1907.
Year Ending June 30.

CLASS.	1912.			1911.			1910.		
	Municipal.	Private.	Total.	Municipal.	Private.	Total.	Municipal.	Private.	Total.
<i>Electric:</i>									
Class A.....		\$862,877 50	\$862,877 50		\$1,008,592 72	\$1,008,592 72		\$716,282 87	\$716,282 87
" B.....	\$16,227 86	93,023 33	109,251 19	\$15,232 15	87,784 74	103,016 89	\$12,650 38	66,344 39	78,994 77
" C.....	15,878 72	28,488 26	44,366 98	11,322 97	21,962 38	33,285 35	7,891 65	11,156 30	19,047 95
Total.....	\$32,106 58	\$984,389 09	\$1,016,495 67	\$26,555 12	\$1,118,339 84	\$1,144,894 96	\$20,542 03	\$793,783 56	\$814,325 59
<i>Gas:</i>									
Class A.....		\$513,469 72	\$613,469 72		\$611,485 91	\$611,485 91		\$602,538 70	\$602,538 70
" B.....		47,636 13	47,636 13		35,288 92	35,288 92		25,698 34	25,698 34
" C.....	\$990 00	650 00	1,640 00	\$440 00	675 00	1,115 00	\$1,519 25	134 17	1,653 42
Total.....	\$990 00	\$661,755 85	\$662,745 85	\$440 00	\$647,449 83	\$647,889 83	\$1,519 25	\$628,371 21	\$629,890 46
<i>Water:</i>									
Class A.....	\$31,036 35	\$251,998 38	\$313,034 73	\$52,777 71	\$277,058 21	\$329,835 92	\$108,958 46	\$256,276 73	\$365,235 19
" B.....	59,626 33	36,801 38	96,427 71	61,712 08	44,768 86	106,480 94	37,413 58	40,638 66	78,052 24
" C.....	20,318 80	11,520 99	31,839 79	17,319 00	17,488 50	34,807 50	30,971 08	128 39	31,099 47
Total.....	\$140,981 48	\$300,320 75	\$441,302 23	\$131,808 79	\$339,315 57	\$471,124 36	\$177,343 12	\$297,043 78	\$474,386 90
<i>Telephone:</i>									
Utility as a whole.....		\$67,367 41	\$67,367 41		\$64,899 67	\$64,899 67		\$59,571 43	\$59,571 43
Condensed form.....					26,186 68	26,186 68		16,450 93	16,450 93
Total.....		\$67,367 41	\$67,367 41		\$91,086 35	\$91,086 35		\$76,022 36	\$76,022 36
<i>Heating: Total.....</i>									
Total all utilities.....	\$174,078 06	\$2,013,833 10	\$2,187,911 16	\$158,803 91	\$2,196,191 59	\$2,354,995 50	\$199,404 40	\$1,795,220 91	\$1,994,625 31

SUMMARY OF DISPOSITION OF NET INCOME.
ALL UTILITIES REPORTING UNDER CHAP. 493, LAWS OF 1907,
Year Ending June 30.

CLASS.	1912			1911			1910		
	Municipal.	Private.	Total.	Municipal.	Private.	Total.	Municipal.	Private.	Total.
<i>Electric:</i>									
Class A.....		\$504,747 77	\$504,747 77		\$451,527 02	\$451,527 02		\$314,536 07	\$314,536 07
" B.....	\$3,659 91	56,828 21	65,488 12	\$10,186 91	77,886 36	88,073 27	\$10,536 78	41,928 40	52,465 18
" C.....	2,175 30	11,401 30	13,576 60		4,918 00	4,918 00	2,100 00	3,196 53	5,296 53
Total.....	\$10,835 21	\$572,977 28	\$583,812 49	\$10,186 91	\$534,331 38	\$544,518 29	\$12,636 78	\$359,661 00	\$372,297 78
<i>Gas:</i>									
Class A.....		\$526,254 07	\$526,254 07		\$468,859 65	\$468,859 65		\$704,679 26	\$704,679 26
" B.....		14,238 62	14,238 62		7,365 70	7,365 70		4,445 99	4,445 99
" C.....								130 00	130 00
Total.....		\$540,492 69	\$540,492 69		\$476,225 35	\$476,225 35		\$709,255 25	\$709,255 25
<i>Water:</i>									
Class A.....	\$699,970 03	\$60,224 91	\$760,194 94	\$157,393 15	\$60,647 64	\$218,040 79	\$105,784 25	\$59,546 29	\$165,330 54
" B.....	11,163 39	3,584 00	14,747 39	9,601 95	1,556 09	11,158 04	9,834 67	474 10	10,308 77
" C.....	3,828 07	448 00	4,276 07		4,398 00	4,398 00	7,721 98	112 00	7,833 98
Total.....	\$714,961 49	\$64,256 91	\$779,218 40	\$166,995 10	\$66,601 73	\$233,596 83	\$123,340 90	\$60,132 39	\$183,473 29
<i>Telephone:</i>									
Utility as a whole.....		\$874,951 76	\$874,951 76		\$873,170 46	\$873,170 46		\$697,027 97	\$697,027 97
Condensed form.....		29,698 07	29,698 07						
Total.....		\$904,649 83	\$904,649 83		\$873,170 46	\$873,170 46		\$697,027 97	\$697,027 97
<i>Heating: Total.....</i>	\$329 04	\$31,882 51	\$32,211 55	\$175 70	\$31,956 79	\$32,132 49	\$101 25	\$31,235 22	\$31,336 47
Total all utilities.....	\$726,125 74	\$2,114,259 22	\$2,840,384 96	\$177,357 71	\$1,982,285 71	\$2,159,643 42	\$136,078 93	\$1,857,311 83	\$1,993,390 76

SUMMARY OF SURPLUS.
ALL UTILITIES REPORTING UNDER CHAP. 499, LAWS OF 1907.
Year Ending June 30.

Italic figures denote deficits.

CLASS.	1912			1911			1910		
	Municipal.	Private.	Total.	Municipal.	Private.	Total.	Municipal.	Private.	Total.
<i>Electric:</i>									
Class A		\$472,491 59	\$472,491 59		\$354,489 16	\$354,489 16		\$405,679 16	\$405,679 16
" B	\$41,514 02	65,030 23	106,544 25	\$11,465 04	28,882 29	70,347 33	\$31,496 19	81,800 13	113,296 32
" C	17,660 73	20,979 23	38,639 96	23,287 81	33,873 50	57,161 31	14,131 57	27,410 15	41,541 72
Total.....	\$59,174 75	\$558,501 05	\$617,675 80	\$64,752 85	\$417,244 95	\$481,997 80	\$45,627 76	\$514,889 44	\$560,517 20
<i>Gas:</i>									
Class A		\$241,802 09	\$241,802 09		\$324,567 01	\$324,567 01		\$38,677 56	\$38,677 56
" B		890 22	890 22		24,506 22	24,506 22		13,682 42	13,682 42
" C	\$7,150 24	6 04	7,144 20	\$6,170 38	448 57	6,618 95	\$5,048 50	716 06	4,332 44
Total.....	\$7,150 24	\$242,698 35	\$235,548 11	\$6,170 38	\$348,624 06	\$342,454 28	\$5,048 50	\$53,076 04	48,027 54
<i>Water:</i>									
Class A	\$120,829 76	\$3,295 51	\$124,125 27	\$468,910 98	\$39,172 44	\$538,083 42	\$444,000 26	\$58,403 02	\$502,403 28
" B	65,054 38	21,655 30	89,709 68	20,706 18	19,614 32	40,320 50	72,832 18	18,877 56	91,709 74
" C	2,141 68	13,558 14	15,699 82	9,311 53	4,487 95	13,779 48	9,560 71	1,146 82	8,413 89
Total.....	\$191,025 82	\$38,508 95	\$229,534 77	\$498,928 69	\$93,254 71	\$592,183 40	\$507,271 73	\$78,427 40	\$585,699 13
<i>Telephone:</i>									
Utility as a whole		\$195,470 18	\$195,470 18		\$192,672 97	\$192,672 97		\$220,156 21	\$220,156 21
Condensed form.....		30,431 47	30,431 47		23,279 73	23,279 73		25,200 36	25,200 36
Total.....		\$225,901 65	\$225,901 65		\$215,952 70	\$215,952 70		\$245,356 57	\$245,356 57
<i>Heating: Total.....</i>	<i>\$752 93</i>	<i>\$13,962 88</i>	<i>\$13,209 95</i>	<i>\$1,079 24</i>	<i>\$6,142 18</i>	<i>\$7,221 42</i>	<i>\$429 67</i>	<i>\$15,110 92</i>	<i>\$15,540 59</i>
Total all utilities.....	\$242,297 40	\$1,079,572 88	\$1,321,870 28	\$558,590 40	\$1,081,219 20	\$1,639,809 60	\$548,280 66	\$906,860 37	\$1,455,141 03

SUMMARY OF PLANT VALUE.
ALL UTILITIES REPORTING UNDER CHAP. 499, LAWS OF 1907.
As of June 30.

CLASS.	1912			1911			1910		
	Municipal.	Private.	Total.	Municipal.	Private.	Total.	Municipal.	Private.	Total.
<i>Electric:</i>									
Class A		\$35,498,358 53	\$35,498,358 53		\$33,718,114 68	\$33,718,114 68		\$27,049,450 68	\$27,049,450 68
" B	\$718,971 08	3,286,679 09	4,005,650 17	\$667,776 93	2,789,329 92	3,457,106 85	\$544,598 50	3,081,478 50	3,626,077 00
" C	726,863 16	1,516,541 86	2,243,405 02	583,474 45	1,665,992 98	2,254,467 43	459,876 31	1,146,015 66	1,605,891 97
Total	\$1,445,834 24	\$40,301,579 48	\$41,747,413 72	\$1,256,251 38	\$38,173,437 58	\$39,429,688 96	\$1,004,474 81	\$31,276,944 84	\$32,281,419 65
<i>Gas:</i>									
Class A		\$23,848,324 56	\$23,848,324 56		\$23,653,347 40	\$23,653,347 40		\$23,163,977 96	\$23,163,977 96
" B		\$1,935,149 50	1,935,149 50		1,392,288 53	1,392,288 53		1,382,795 99	1,382,795 99
" C	\$72,880 97	14,050 00	86,930 97	\$68,326 15	17,550 00	85,876 15	\$61,648 35	17,541 32	79,189 67
Total	\$72,880 97	\$25,797,524 06	\$25,870,405 03	\$68,326 15	\$25,063,185 93	\$25,131,512 08	\$61,648 35	\$24,564,315 27	\$24,625,963 62
<i>Water:</i>									
Class A	\$11,240,367 36	\$7,966,689 62	\$19,207,056 98	\$9,916,644 02	\$8,475,265 67	\$18,391,909 69	\$7,410,067 02	\$10,315,248 53	\$17,725,315 55
" B	2,416,002 71	1,434,453 00	3,850,455 71	2,369,644 88	1,392,001 95	3,761,646 83	2,056,685 91	1,309,098 49	3,365,784 40
" C	1,274,756 70	457,435 19	1,732,191 89	993,722 50	494,069 85	1,487,792 35	1,189,136 93	457,167 69	1,646,304 62
Total	\$14,931,126 77	\$9,858,577 81	\$24,789,704 58	\$13,280,011 40	\$10,361,337 47	\$23,641,348 87	\$10,655,889 86	\$12,081,514 71	\$22,737,404 57
<i>Telephone:</i>									
Utility as a whole		\$17,325,413 34	\$17,325,413 34		\$15,751,622 31	\$15,751,622 31		\$15,016,178 44	\$15,016,178 44
Condensed form		983,303 93	983,303 93		869,748 36	869,748 36		701,206 92	701,206 92
Total		\$18,308,717 27	\$18,308,717 27		\$16,621,370 67	\$16,621,370 67		\$15,717,385 36	\$15,717,385 36
<i>Heating: Total</i>	\$10,752 95	\$1,340,384 10	\$1,351,137 05	\$8,834 55	\$1,278,419 71	\$1,287,254 26	\$6,543 75	\$1,034,312 95	\$1,040,856 70
Total all utilities	\$16,460,594 93	\$95,606,782 72	\$112,067,377 65	\$14,613,423 48	\$41,497,751 36	\$106,111,174 84	\$11,728,556 77	\$84,674,473 13	\$96,403,029 90

SUMMARY OF BONDS.
ALL UTILITIES REPORTING UNDER CHAP. 499, LAWS OF 1907.
As of June 30.

CLASS.	1912.			1911.			1910.		
	Municipal.	Private.	Total.	Municipal.	Private.	Total.	Municipal.	Private.	Total.
<i>Electric:</i>									
Class A.....		\$21,504,038 86	\$21,504,038 86		\$20,585,943 61	\$20,585,943 61		\$14,771,083 81	\$14,771,083 81
" B.....	\$224,548 33	1,969,879 00	2,194,427 33	\$287,440 00	793,814 72	1,081,254 72	\$222,040 00	1,149,386 96	1,371,426 96
" C.....	326,484 71	399,223 63	725,708 34	284,409 32	448,700 00	733,109 32	203,900 00	301,783 34	505,683 34
Total.....	\$551,033 04	\$23,873,141 49	\$24,424,174 53	\$571,849 32	\$21,828,458 33	\$22,400,307 65	\$425,940 00	\$16,222,254 11	\$16,648,194 11
<i>Gas:</i>									
Class A.....		\$13,193,095 42	\$13,193,095 42		\$13,143,485 42	\$13,143,485 42		\$13,230,671 36	\$13,230,671 36
" B.....		995,805 98	995,805 98		869,650 00	869,650 00		668,550 00	668,550 00
" C.....	\$26,750 00		26,750 00	\$38,425 00	100 00	38,525 00	\$38,500 00	400 00	38,900 00
Total.....	\$26,750 00	\$14,188,901 40	\$14,215,651 40	\$38,425 00	\$14,013,235 42	\$14,051,660 42	\$38,500 00	\$13,899,621 36	\$13,938,121 36
<i>Water:</i>									
Class A.....	\$2,083,000 00	\$4,320,666 67	\$6,403,666 67	\$1,133,750 00	\$4,600,766 67	\$5,734,516 67	\$1,193,500 00	\$3,885,150 00	\$5,078,650 00
" B.....	1,164,020 71	426,272 00	1,590,292 71	1,082,250 00	488,450 00	1,570,700 00	1,093,088 67	555,783 33	1,648,872 00
" C.....	407,426 17	221,700 00	629,126 17	368,691 77	242,300 00	610,991 77	255,833 33	229,600 00	485,433 33
Total.....	\$3,654,446 88	\$4,968,638 67	\$8,623,085 55	\$2,584,691 77	\$5,331,516 67	\$7,916,208 44	\$2,542,422 00	\$4,670,533 33	\$7,212,955 33
<i>Telephone:</i>									
Utility as a whole.....		\$851,067 72	\$851,067 72		\$819,500 00	\$819,500 00		\$888,282 80	\$888,282 80
Condensed form.....	\$4,050 00	287,900 00	291,950 00					26,000 00	26,000 00
Total.....	\$4,050 00	\$1,138,967 72	\$1,143,017 72		\$819,500 00	\$819,500 00		\$914,282 80	914,282 80
<i>Heating: Total.....</i>				\$4,050 00	\$241,354 38	\$245,404 38	\$4,050 00	\$127,000 00	\$131,050 00
Total all utilities.....	\$4,236,279 92	\$44,169,649 28	\$48,405,929 20	\$3,199,016 09	\$42,234,064 80	\$45,433,080 89	\$3,010,912 00	\$35,833,691 60	\$38,844,603 60

SUMMARY OF CAPITAL STOCK.
ALL UTILITIES REPORTING UNDER CHAP. 499, LAWS OF 1907,
As of June 30.

CLASS.	1912.			1911.			1910.		
	Municipal.	Private.	Total.	Municipal.	Private.	Total.	Municipal.	Private.	Total.
<i>Electric:</i>									
Class A	\$18,498,809 89	\$18,498,809 89	\$18,498,809 89	\$17,846,668 88	\$17,846,668 88	\$17,846,668 88	\$14,556,215 00	\$14,556,215 00	\$14,556,215 00
" B	2,053,246 98	2,053,246 98	2,053,246 98	1,447,080 10	1,447,080 10	1,447,080 10	1,730,289 79	1,730,289 79	1,730,289 79
" C	698,931 37	698,931 37	698,931 37	883,886 37	883,886 37	883,886 37	692,197 67	692,197 67	692,197 67
Total	\$21,250,988 24	\$21,250,988 24	\$21,250,988 24	\$20,177,635 35	\$20,177,635 35	\$20,177,635 35	\$16,978,702 46	\$16,978,702 46	\$16,978,702 46
<i>Gas:</i>									
Class A	\$8,980,017 78	\$8,980,017 78	\$8,980,017 78	\$9,215,894 59	\$9,215,894 59	\$9,215,894 59	\$8,871,240 00	\$8,871,240 00	\$8,871,240 00
" B	969,764 70	969,764 70	969,764 70	1,064,763 70	1,064,764 70	1,064,764 70	583,314 70	583,314 70	583,314 70
" C	14,000 00	14,000 00	14,000 00	17,500 00	17,500 00	17,500 00	17,500 00	17,500 00	17,500 00
Total	\$9,963,782 48	\$9,963,782 48	\$9,963,782 48	\$10,298,159 29	\$10,298,159 29	\$10,298,159 29	\$9,472,054 70	\$9,472,054 70	\$9,472,054 70
<i>Water:</i>									
Class A	\$2,669,633 33	\$2,669,633 33	\$2,669,633 33	\$3,131,633 33	\$3,131,633 33	\$3,131,633 33	\$3,856,700 00	\$3,856,700 00	\$3,856,700 00
" B	892,086 66	892,086 66	892,086 66	857,086 66	857,086 66	857,086 66	821,236 66	821,236 66	821,236 66
" C	244,166 67	244,166 67	244,166 67	251,138 67	251,138 67	251,138 67	480,412 00	480,412 00	480,412 00
Total	\$3,805,886 66	\$3,805,886 66	\$3,805,886 66	\$4,239,858 66	\$4,239,858 66	\$4,239,858 66	\$5,158,348 66	\$5,158,348 66	\$5,158,348 66
<i>Telephone:</i>									
Utility as a whole	\$12,707,189 21	\$12,707,189 21	\$12,707,189 21	\$12,553,707 12	\$12,553,707 12	\$12,553,707 12	\$12,678,607 42	\$12,678,607 42	\$12,678,607 42
Condensed form	856,123 43	856,123 43	856,123 43	706,760 56	706,760 56	706,760 56	583,020 64	583,020 64	583,020 64
Total	\$13,563,312 64	\$13,563,312 64	\$13,563,312 64	\$13,260,467 68	\$13,260,467 68	\$13,260,467 68	\$13,261,628 06	\$13,261,628 06	\$13,261,628 06
<i>Heating: Total</i>	\$648,865 00	\$648,865 00	\$648,865 00	\$648,948 56	\$648,948 56	\$648,948 56	\$603,543 75	\$603,543 75	\$603,543 75
<i>Total all utilities</i>	\$49,232,835 02	\$49,232,835 02	\$49,232,835 02	\$48,625,069 54	\$48,625,069 54	\$48,625,069 54	\$45,474,277 63	\$45,474,277 63	\$45,474,277 63

Financial And Operating Statistics

CLASS A. INCOME ACCOUNT

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	Total operating revenues.	Total operating expenses.	Net operating revenues.	Non-operating revenues.
Appleton	Wis. Tr., Lt. & Pr. Co.	\$116,140 90	\$63,233 45	\$52,907 45	\$2,628 33
Ashland	Ashl. Lt., Pr. & St. Ry. Co..	67,551 68	41,127 44	26,424 24	648 23
Beloit	Beloit W. Gas & Elec. Co..	82,565 45	35,231 95	47,333 49	1,106 60
Chippewa Falls	Chip. Val. Ry., Lt. & Pr. Co.	36,375 00	21,794 95	14,580 05	783 46
Eau Claire	Chip. Val. Ry., Lt. & Pr. Co.	137,140 00	43,975 50	93,164 44	4,328 55
Fond du Lac	Eastern Wis. Ry. & Lt. Co..	98,274 60	47,133 55	51,141 05	2,892 31
Green Bay	Green Bay Gas & Elec. Co.	178,905 63	83,894 43	35,011 20	3,578 21
Green Bay	Minahan Bldg. Co.	14,789 84	16,408 97	1,619 13	.....
Green Bay	North'n Hydro El. Pr. Co. ²	44,219 22	20,466 36	23,752 86	.....
Green Bay	Wis. Public Service Co. ³ ..	31,596 05	11,050 91	20,545 11	1,492 69
Janesville	Janesville Electric Co.	93,080 24	61,796 93	31,283 31	5732 70
Kenosha	Kenosha Gas & Elec. Co..	59,075 91	40,632 41	18,443 50	1,406 11
Kenosha	Kenosha Elec. Ry. Co.	30,326 39	22,343 27	7,983 12	553 46
La Crosse	La Crosse Gas & Elec. Co..	189,045 15	127,389 67	61,655 48	1,628 37
La Crosse	La Crosse Water Pr. Co....	19,705 03	32,317 92	12,612 89	6,763 87
Madison	Madison Gas & Elec. Co...	256,556 94	153,235 78	103,321 16	1,516 80
Madison	Southern Wis. Pr. Co.	195,358 91	58,582 92	136,775 99	1,126 98
Manitowoc	Electric Light Co.	51,956 63	33,850 35	18,106 28	1,632 82
Marinette	Men. & Mari. Lt. & Tr. Co..	53,834 25	51,198 01	2,636 24	1,747 56
Milwaukee	Commonwealth Pr. Co....	151,646 46	87,890 33	63,756 13	1,418 59
Milwaukee	P'inkint'n El. Lt. & Pr. Co.	58,353 88	48,487 11	9,866 77	89 00
Milwaukee	The Milw. El. Ry. & Lt. Co.	1,248,980 71	903,496 86	345,483 85	51,286 25
Milwaukee	Mil. Lt., Ht. & Tr. Co.	274,707 43	193,416 00	81,291 43	113,449 37
Milwaukee	Wells Power Co. ⁶	136,862 93	105,363 37	31,499 56	628 62
Oshkosh	Oshkosh Gas Light Co....	143,437 49	75,253 52	68,183 97	2,235 31
St. Croix Falls..	Wis. Improvement Co.	194,629 96	81,155 78	113,474 18	166 89
Sheboygan	Sheboygan Ry. & El. Co..	107,899 72	56,246 59	51,653 13	2,127 93
Superior	Northern Power Co.	143,009 11	136,695 36	6,313 75	.....
Superior	Superior W., Lt. & Pr. Co..	150,054 68	99,060 41	50,994 27	2,233 95
Watertown	Watertown Gas & El. Co..	49,115 17	24,639 13	24,476 04	2,655 64
Wausau	Wausau St. Ry. Co.	95,546 67	49,228 91	46,317 76	8,791 02
	Total	\$4,450,742 03	\$2,826,598 24	\$1,624,143 79	\$215,973 07

¹ Apportioned arbitrarily on the basis of gross operating revenues for gas and electric departments.

² Report covers 6 months ending Dec. 31, 1911.

³ Includes commissions on loans.

Of Public Utilities—B. Electric.

FOR YEAR ENDING JUNE 30, 1912.

Gross income.	DEDUCTIONS FROM GROSS INCOME.				Net income.	Deduct dividends.	Surplus.
	Interest on funded debt and real estate mortgages.	Interest on floating debt.	Miscellaneous deductions.	Total.			
\$55,535 78	\$25,296 00			\$25,296 00	\$30,239 78		\$30,239 78
27,072 52	14,700 00	\$922 89	\$3,100 00	18,722 89	8,349 63	\$1,999 00	6,350 63
46,226 89	12,415 76	6,309 13		18,724 89	27,502 00	4,239 58	23,262 42
15,363 51	3,475 53			3,475 53	11,887 98	3,422 22	8,465 76
97,492 99	41,166 66	171 85		41,338 51	56,154 48	52,500 00	3,654 48
54,033 36	20,342 60	96 00		20,246 60	33,786 76		27,116 76
38,589 41	15,822 06	15,753 42		21,575 48	17,013 93	6,670 00	17,013 93
1,619 13	398 96		148 78	547 74	2,166 87		2,166 87
23,752 86		\$15,150 85		45,150 85	21,397 39		21,397 39
22,037 80	15,712 61			15,712 61	6,325 19		6,325 19
30,550 61	7,500 00	1,617 37		9,117 37	21,433 24	25,000 00	3,566 76
19,849 61	4,950 00	1,701 74		6,651 74	13,197 87	5,369 99	7,827 88
8,536 58	2,000 00	694 84		2,694 84	5,841 74		5,841 74
63,283 85	32,245 27	2,641 25	2,808 00	37,694 52	25,589 33	6,000 00	19,589 33
5,849 02	13,294 45	822 18	2,231 69	16,348 32	22,197 34		22,197 34
104,837 96	21,682 64			21,682 64	83,155 32		83,155 32
137,902 97	100,117 80	4,013 18		104,130 98	33,771 99		33,771 99
19,739 10		2,757 00		2,757 00	16,982 10		16,982 10
4,383 80	1,792 64	751 73		2,544 37	1,839 43	1,000 00	839 43
65,174 72			42,000 00	42,000 00	23,174 72	24,000 00	825 28
9,955 77	5,774 28	44 08		5,818 36	4,137 41		4,137 41
396,772 10	140,302 04	8,172 21		132,129 83	264,642 27	193,500 00	71,142 27
194,740 80	83,917 49	17,586 83		101,504 32	93,236 48	82,500 00	10,736 48
32,128 18		7,920 00	10,420 61	18,340 61	13,787 57	3,200 00	10,587 57
70,419 28	35,566 66			35,566 66	34,852 62		34,852 62
113,641 07	37,500 00	7,806 50		45,306 50	68,334 57	50,000 00	18,334 57
53,781 06	15,544 52		779 27	16,323 79	37,457 27		37,457 27
6,313 75					6,313 75		6,313 75
53,228 22	21,352 32		4,519 68	25,872 00	27,356 22	12,157 00	15,199 22
27,131 68	4,671 87	8,403 74		13,075 61	14,056 07	3,189 98	10,866 09
55,108 78	7,127 93	2,774 01	2,625 00	12,526 94	42,581 84	30,000 00	12,581 84
\$1,840,116 86	\$684,670 09	\$109,574 38	\$68,633 03	\$862,877 50	\$977,239 36	\$504,747 77	\$472,491 59

⁴ Report covers 6 months ending June 30, 1912.
⁵ Deficit resulting from operation of heating utility.
⁶ Includes heating utility and other services.

CLASS B. MUNICIPAL PLANTS. INCOME ACCOUNT

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	Total operating revenues.	Total operating expenses.	Net operating revenues.	Non- operating revenues.
Columbus.....	Mun. Elec. Lt. Plant.....	\$11,325 13	\$8,970 98	\$2,354 15	\$610 13
Ft. Atkinson....	" " " "	22,219 13	19,047 27	3,171 86	566 86
Hartford.....	" " " "	16,904 77	13,433 32	3,471 45	1,235 04
Marshfield.....	" " " "	24,760 99	12,296 19	12,464 80	964 73
New London....	" " " "	13,803 35	7,290 90	6,512 45	14 44
New Richmond.	" " " "	10,040 52	11,116 17	1,075 65	.....
Oconomowoc...	" " " "	25,897 02	25,695 60	201 42	1,192 37
Pt. Washington.	" " " "	12,868 51	7,528 93	5,339 58	148 42
Richland Ctr....	" " " "	15,584 60	11,209 89	4,374 71	680 94
River Falls....	" " " "	11,216 21	6,201 17	5,015 04	1,670 00
Shawano.....	" " " "	11,512 15	8,966 10	2,546 05	596 84
Stoughton.....	" " " "	19,311 27	11,801 65	7,509 62	54 49
Sturgeon Bay...	" " " "	14,399 21	11,456 95	2,942 26	.....
Two Rivers....	" " " "	11,554 74	6,494 69	5,060 05	.....
	Total.....	\$221,397 60	\$161,509 81	\$59,887 79	\$6,514 00

FOR YEAR ENDING JUNE 30, 1912.

Gross income.	DEDUCTIONS FROM GROSS INCOME.				Net income.	Disposition of net income.	Surplus.
	Interest on funded debt and real estate mortgages.	Interest on floating debt.	Miscellaneous deductions.	Total.			
\$1,744 02	\$1,584 04			\$1,584 04	\$159 98		\$159 98
3,738 72	525 00		\$1,500 00	2,025 00	1,713 72		1,713 72
4,706 49	1,350 00			1,350 00	3,356 49		3,356 49
13,429 53	2,875 00			2,875 00	10,554 53	\$2,250 00	8,304 53
6,526 89	40 00			40 00	6,486 89		6,486 89
1,075 65					1,075 65		1,075 65
1,393 79	480 00			480 00	913 79		913 79
5,488 00			830 35	830 35	4,657 65		4,657 65
5,055 65					5,055 65		5,055 65
6,685 04	275 13			275 13	6,409 91		6,409 91
3,142 89	592 00			592 00	2,550 89		2,550 89
7,564 11	1,613 88	\$50 00	3,250 00	4,913 88	2,650 23		2,650 23
2,942 26	702 00			702 00	2,240 26		2,240 26
5,060 05	560 46			560 46	4,499 59		4,499 59
\$66,401 79	\$10,597 51	\$50 00	\$5,580 35	\$16,227 86	\$50,173 93	\$8,659 91	\$41,514 02

REPORT OF THE RAILROAD COMMISSION.

CLASS B. PRIVATE PLANTS. INCOME

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	Total operating revenues.	Total operating expenses.	Net operating revenues.	Non-operating revenues.
Antigo.....	Antigo Elec. Co.....	\$37,545 25	\$27,372 02	\$10,173 23	\$1,650 84
Baraboo.....	Baraboo Gas & El. Co.....	15,723 62	10,337 08	5,386 54	998 33
Beaver Dam....	Beaver Dam Lt. & Pr. Co.....	37,528 95	33,090 96	4,437 97	2,232 68
Berlin.....	Berlin Public Service Co.....	31,266 98	29,234 29	2,032 69	1,470 90
Burlington.....	Burlington El. Lt. & Pr. Co.....	19,870 24	15,902 08	3,968 16	1,511 53
Delavan.....	United Ht. Lt. & Pr. Co.....	13,564 72	12,189 87	1,374 85	497 66
De Pere.....	De Pere El. Lt. & Pr. Co.....	24,488 96	16,000 99	8,487 97	98 64
Edgerton.....	Edgerton El. Lt. Co.....	13,854 34	12,090 90	1,763 44	383 43
Grand Rapids..	Electric & Water Co.....	32,960 46	21,678 90	11,281 56	.....
Hudson.....	Burkhardt Mfg. & El. P. Co.....	20,262 11	15,224 80	5,037 31	240 61
Hurley.....	Ir'nwd & Bes'm'r R. & L.C.....	11,996 52	7,960 65	4,035 87	.....
Ladysmith.....	Ladysmith Ltg. Co.....	10,788 04	12,503 70	1,715 66	.....
Lake Geneva....	Equitable El. Lt. Co.....	28,382 33	29,734 10	1,351 77	.....
Mayville.....	Northwestern Lt. & P. Co.....	42,964 98	30,935 02	12,029 96	175 69
Medford.....	Medford Lt. & Htg. Co.....	7,135 60	6,544 66	580 94	104 35
Mellen.....	Mellen Water & Lt. Co.....	6,689 83	6,231 86	457 97	86 94
Menomonie.....	Chp. Val. Ry. Lt. & P. Co.....	20,359 77	13,283 51	7,076 26	1,340 12
Merrill.....	Merrill Ry. & Lt. Co.....	27,896 93	16,847 15	11,049 78	437 67
Mineral Pt.....	Mineral Pt. Pb. Service C. ²	10,704 84	7,652 71	3,052 13	.....
Monroe.....	Monroe El. Co.....	26,028 45	18,537 98	7,490 47	205 48
New Richmond..	New Richmond Pr. Co.....	13,032 27	12,112 07	920 20	.....
No. Milwaukee.	N. Milwaukee Lt. & P. Co.....	13,787 76	12,002 16	1,785 60	57 14
Oconto.....	Oconto Elec. Co.....	7,283 94	5,777 60	1,506 34	525 09
Oconto.....	Peoples Land and Mfg. Co.....	12,442 37	11,416 25	1,026 12	.....
Platteville.....	Interstate Lt. & Pr. Co.....	192,319 75	176,563 28	15,756 47	849 93
Portage.....	Portage El. Lt. Co.....	22,593 98	20,818 88	8,775 10	923 86
Prairie d'Chien	Prairie City El. Co. ³	11,235 78	8,259 68	2,976 10	138 62
Rhineland.....	Rhineland Ltg. Co.....	23,506 35	21,243 79	2,262 56	.....
Rice Lake.....	Red Cedar Val. El. Co.....	16,314 98	7,398 86	8,916 12	2,011 03
Ripon.....	Ripon Lt. & W. Co.....	14,386 59	10,942 07	3,444 52	160 28
Sparta.....	O. I. Newton's Sons Co.....	21,092 87	12,194 17	8,898 70	231 14
Stevens Pt.....	Stevens Pt. Ltg. Co.....	23,291 11	14,896 07	8,395 04	.....
Stevens Pt.....	Stevens Pt. Pr. Co.....	5,500 00	1,939 77	3,560 23	1 00
Tomah.....	Tomah El. & Tel. Co.....	14,896 44	12,089 88	2,806 56	752 16
Tomahawk.....	Tomahawk, L. T. & I. C. ⁴	10,809 50	8,334 47	2,475 03	1,598 43
Walworth.....	Walworth Ltg. Co.....	9,047 37	8,701 00	346 37	8 38
Washburn.....	Washburn El. Lt. & Pr. Co.....	9,179 70	8,034 73	1,144 97	890 54
Waukesha.....	Waukesha Gas & El. Co.....	38,096 54	27,086 06	11,010 48	890 39
Waupaca.....	Waupaca El. Lt. & Ry. Co.....	13,684 53	7,243 16	6,441 37	406 55
West Bend.....	West Bend Htg. & Lt. Co. ⁵	14,317 80	13,136 35	1,181 45	.....
Whitewater.....	Whitewater El. Lt. Co.....	16,530 33	13,080 72	3,449 61	666 03
	Total.....	\$950,362 88	\$756,624 27	\$193,738 61	\$21,143 16

¹ Report incomplete beyond "gross income".² Report covers 6 months only.³ For the year ending Dec. 31, 1911.

ACCOUNTS FOR YEAR ENDING JUNE 30, 1912.

Gross income.	DEDUCTIONS FROM GROSS INCOME.				Net income.	Dividends.	Surplus.
	Interest on funded debt and real estate mortgages.	Int. on floating debt.	Misc. deductions.	Total.			
\$11,804 07	\$2,472 92	\$159 00	\$720 00	\$3,351 92	\$8,452 15	\$7,928 00	\$524 15
6,384 87					6,384 87		6,384 87
6,670 65	4,047 90	1,104 71	49 83	5,202 44	1,488 21		1,468 21
3,503 59	2,851 12			2,851 12	652 47		652 47
5,479 69	166 46			166 46	5,313 23		5,313 23
1,872 51	780 00			780 00	1,092 51		1,092 51
8,586 61					8,586 61	8,553 00	33 61
2,146 87		613 02		613 02	1,533 85	1,600 00	66 15
11,281 56	827 50		7,689 07	8,516 57	2,764 99	2,039 20	725 79
5,277 92					5,277 92	3,375 00	1,902 92
4,035 87					4,035 87		4,035 87
1,715 66					1,715 66		1,715 66
1,351 77		449 99		449 99	1,801 76		1,801 76
12,205 65			6,102 84	6,102 84	6,102 81	6,102 81	
695 29		203 34		203 34	491 95		491 95
544 91	85 25	168 66		253 91	291 00		291 00
8,416 38	2,000 02			2,000 02	6,416 36		6,416 36
11,507 45	2,000 00	500 00		2,500 00	9,007 45	4,080 00	4,927 45
3,052 13	1,206 95	384 15		1,591 10	1,461 03	914 85	546 18
7,755 95	2,625 00	56 29		2,681 29	5,074 66	4,800 00	274 66
920 20					920 20	500 00	420 20
1,842 74		36 17		36 17	1,806 57		1,806 57
2,031 43		2,114 46		2,114 46	83 03		83 03
1,026 12		615 37		615 37	410 75		410 75
16,606 40	9,000 00	4,853 42		13,853 42	2,752 98	4,525 09	1,772 11
9,698 96					9,698 96		9,698 96
3,114 72		393 42		393 42	2,721 30	1,467 50	1,253 80
2,262 56			3,586 20	3,586 20	1,323 64		1,323 64
10,927 15	1,200 00	600 00	1,548 00	3,348 00	7,579 15		7,579 15
3,604 80	1,145 00	451 62	114 50	1,711 12	1,893 68	2,816 60	922 32
8,667 56	2,670 00	142 79	3,425 56	6,238 35	2,429 21		2,429 21
8,395 04	3,250 00	3,114 40		6,364 40	2,030 64		2,030 64
3,561 23	3,500 00			3,500 00	61 23		61 23
3,558 72					3,558 72	2,593 50	965 22
4,073 46		251 11	749 19	1,000 30	3,073 16	2,133 34	939 82
354 75	357 39			357 39	2 64		2 64
2,035 51		322 22		322 22	1,713 29	1,000 00	713 29
11,900 87	6,900 00	3,459 62		10,359 62	1,541 25		1,541 25
6,847 92	838 50		750 00	1,588 50	5,259 42		5,259 42
1,181 45		92 70		92 70	1,088 75		1,088 75
4,115 64		277 67		277 67	3,837 97	2,399 92	1,438 05
\$214,881 77	\$47,924 01	\$20,364 13	\$24,735 19	\$93,023 33	\$121,858 44	\$56,828 21	\$65,030 23

⁴ Formerly Tomahawk El. Water & Tel. Co. Sold to present holding company on March 1, 1912.

⁵ Report covers 13 months.

Italic figures denote deficits.

CLASS C. MUNICIPAL PLANTS. INCOME

LOCATION.	NAME OF COMPANY.	Total operating revenues.	Total operating expenses.	Net operating revenues.	Non operating revenues.
Algoma.....	Man. Elec. Lt. Plant.....	\$5,577 40	\$6,222 00	<i>\$644 60</i>	
Arcadia.....	" " " ".....	2,966 05	3,141 85	<i>175 80</i>	
Barron.....	" " " ".....	4,478 15	2,342 67	2,135 48	\$115 73
Bayfield.....	" " " ".....	7,043 96	4,350 12	2,693 84	\$1,200 00
Belmont.....	" " " ".....	2,056 82	1,963 09	93 73	308 25
Benton.....	" " " ".....	2,316 41	1,449 26	867 15	
Blair.....	" " " ".....	1,878 67	2,085 86	<i>207 19</i>	
Blanchardville.....	" " " ".....	1,722 93	1,414 73	318 20	
Boscobel.....	" " " ".....	7,087 45	8,627 53	<i>1,540 08</i>	9 10
Bruce.....	" " " ".....	5,801 09	4,692 38	1,108 71	
Cadott.....	" " " ".....	2,014 58	1,446 23	568 35	
Cashton.....	" " " ".....	3,430 70	2,771 11	659 59	45 00
Cassville.....	" " " ".....	2,157 37	1,434 68	722 69	
Cedarburg.....	" " " ".....	10,847 06	11,479 80	<i>632 74</i>	252 54
Crandon.....	" " " ".....	3,252 28	3,162 56	89 72	
Cuba City.....	" " " ".....	2,670 50	2,916 18	<i>245 68</i>	
Cumberland.....	" " " ".....	6,585 75	6,893 11	<i>307 36</i>	
Elkhorn.....	" " " ".....	10,920 13	6,850 22	4,069 91	
Elroy.....	" " " ".....	5,754 05	6,160 90	<i>406 85</i>	
Evansville.....	" " " ".....	11,185 21	6,466 01	4,719 20	80 75
Fennimore.....	" " " ".....	2,614 00	2,451 00	163 00	
Grantsburg.....	" " " ".....	3,338 44	2,979 45	358 99	
Greenwood.....	" " " ".....	2,972 50	1,645 27	1,327 23	
Jefferson.....	" " " ".....	10,237 90	6,373 91	3,858 99	412 59
Kewaunee.....	" " " ".....	5,744 95	3,580 90	2,164 05	
Kilbourn.....	" " " ".....	4,492 05	4,662 13	<i>170 08</i>	
Lake Mills.....	" " " ".....	10,516 82	10,851 75	<i>334 93</i>	1,263 40
Lodi.....	" " " ".....	3,928 58	3,867 26	61 32	
Loyal.....	" " " ".....	2,389 56	1,335 49	1,054 07	
Mazomanie.....	" " " ".....	2,632 62	1,928 97	703 65	
Menasha.....	" " " ".....	5,813 91	3,303 32	2,510 59	
Merrillan.....	" " " ".....	1,798 80	3,657 02	<i>1,858 22</i>	
Monticello.....	" " " ".....	3,086 90	2,603 35	483 55	850 00
Muscoda.....	" " " ".....	2,620 03	6,401 44	<i>3,781 41</i>	
Plymouth.....	" " " "..... ¹	25,196 35	18,593 54	6,602 81	
Princeton.....	" " " ".....	4,483 47	1,726 25	2,757 22	
Randolph.....	" " " ".....	4,325 33	3,982 39	342 94	268 40
Rib Lake.....	" " " ".....	3,438 13	3,965 87	<i>527 74</i>	
Shell Lake.....	" " " ".....	2,457 77	1,950 29	507 48	
South Wayne.....	" " " "..... ²	309 53	788 89	<i>479 36</i>	
Spring Green.....	" " " ".....	5,728 68	5,722 40	6 28	
Thorp.....	" " " ".....	3,949 04	3,439 47	509 57	
Waterloo.....	" " " ".....	4,812 95	8,044 75	<i>3,231 80</i>	387 57
Waupun.....	" " " ".....	16,848 70	13,357 02	3,491 68	
Westby.....	" " " ".....	3,176 07	2,967 07	209 00	
Whitehall.....	" " " ".....	2,280 49	2,374 22	<i>93 73</i>	
Total.....		\$238,950 13	\$208,428 71	\$30,521 42	\$5,193 33

¹ Report covers 1 year and 3 months.

ACCOUNT FOR YEAR ENDING JUNE 30, 1912.

Gross income.	DEDUCTIONS FROM GROSS INCOME.			Total.	Net income.	Interest dividends.	Surplus.
	Interest on funded debt and real estate mortgages.	Interest on floating debt.	Miscellaneous deductions.				
\$644 60	\$700 00		\$500 00	\$1,200 00	\$1,844 60		\$1,844 60
175 80		\$45 40		45 40	221 20	\$153 08	674 28
2,251 21	161 51			161 51	2,089 70		2,089 70
3,893 84					3,893 84		3,893 84
401 98	425 00			425 00	23 02		23 02
867 15					867 15		867 15
207 19					207 19		207 19
317 30					317 30		317 30
1,540 08					1,540 08		1,540 08
1,108 71					1,108 71		1,108 71
568 35					568 35		568 35
704 59	363 40			363 40	341 19		341 19
722 69					722 69		722 69
380 20					350 20		380 20
89 72	740 00	365 20		1,105 20	1,015 48		1,015 48
245 68	213 50			213 50	459 18		459 18
307 36	466 67			466 67	774 03		774 03
4,069 91					4,069 91	1,660 90	2,409 01
406 85					406 85		406 85
4,799 95	441 50			441 50	4,358 45		4,358 45
163 00					163 00		163 00
358 99					358 99		358 99
1,327 23	385 00			385 00	942 23		942 23
4,271 58	840 00	557 50		1,397 50	2,874 08		2,874 08
2,164 05	762 50			762 50	1,401 55		1,401 55
170 08	200 00			200 00	370 08		370 08
928 47	1,610 00	38 33		1,648 33	719 86		719 86
61 32					61 32	61 32	
1,064 07					1,064 07		1,064 07
703 65					703 65		703 65
2,510 59					2,510 59		2,510 59
1,858 22	80 00			80 00	1,938 22		1,938 22
1,333 55	325 00		500 00	825 00	508 55		508 55
3,781 41		500 00		500 00	4,281 41		4,281 41
6,602 81	1,559 99	218 75	1,566 67	3,345 41	3,257 40		3,257 40
2,757 22					2,757 22		2,757 22
611 34	380 00	11 63		391 63	219 71		219 71
527 74	350 00			350 00	877 74		877 74
507 48			3 67	3 67	503 81		503 81
479 36					479 36		479 36
6 28	300 00			300 00	293 72		293 72
509 57					509 57		509 57
2,844 23	00 00			400 00	3,244 23		3,244 23
3,491 68	850 00			850 00	2,641 68		2,641 68
209 00	17 50			17 50	191 50		191 50
93 73					93 73		93 73
\$35,714 75	\$11,571 57	\$1,736 81	\$2,570 34	\$15,878 72	\$19,836 03	\$2,175 30	\$17,660 73

² Report covers 9 months.

CLASS C. PRIVATE PLANTS, INCOME

LOCATION.	NAME OF COMPANY.	Total operating revenues.	Total operating expenses.	Net operating revenues.	Non-operating revenues.
Albany.....	Albany El. L. & Mfg. Co.....	\$2,449 35	\$1,774 95	\$674 40	\$90 80
Alma.....	Alma Elec. Lt. Co.....	4,051 54	3,917 90	133 64	.....
Amery.....	Amery Elec. Co.....	2,989 75	2,864 75	125 00	.....
Amherst.....	B. E. Dwinell & Co.....	2,752 21	1,640 64	1,111 57	196 00
Athens.....	Athens El. Lt. & Pr. Co.....	4,431 61	3,669 17	762 44	221 93
Augusta.....	J. I. Ball El. Lt. & Fuel Co.	4,007 96	3,485 65	522 31	47 74
Baldwin.....	Baldwin El. Lt. & Fuel Co.	3,653 75	2,808 96	844 79	91 75
Bangor.....	Hussa Bros. Lt. & Pr. Co..	4,464 11	4,033 95	430 16	258 55
Belleville.....	Bellv'e Mills & El. Lt. Pl.	1,211 63	979 70	231 93	.....
Bloomer.....	Bloomer Elec. Lt. & Pr. Co.	3,130 65	3,153 03	22 43	.....
Boyd.....	Boyd Lumber & Impr. Co..	2,064 83	2,030 00	34 83	.....
Brillion.....	F. Paustian Mfg. Co.....	6,124 86	4,765 03	1,359 83	.....
Brodhead.....	Brodhead Elec. Co.....	8,428 48	7,228 81	1,199 67	.....
Browtown.....	Browtown Elec. Co.....	954 61	1,597 38	642 77	.....
Campbelsport.....	Campb'sp. El. Lt. & Pr. Co.	4,867 61	4,105 42	762 22	.....
Cazenovia.....	Cazenovia Lt. & Pr. Co.....	808 38	147 21	661 17	.....
Cedar Grove.....	Cedar Grove Tel. Co.....	821 44	572 68	248 76	.....
Cedar Grove.....	Wis. Foundry & Steel Wks.	1,227 64	1,003 62	224 02	.....
Chetek.....	Chetek Lt. & Pr. Co.....	2,576 40	2,635 50	59 10	31 10
Chilton.....	Calumet Service Co.....	5,519 53	6,264 08	745 15	.....
Darlington.....	Darl'n El. Lt. & W. Pr. Co.	7,688 59	6,531 98	1,156 61	321 09
Dodgeville.....	Dodgeville El. Lt. Co.....	6,954 38	5,288 05	1,666 33	.....
Durand.....	Durand Lt. & Pr. Co.....	9,135 51	4,120 34	5,015 17	66 57
Elkhart Lake.....	Mil. & Fox Riv. Val. Ry. Co.	4,995 75	6,265 60	1,269 85	.....
Ellsworth.....	Ellsworth Ht., Lt. & Pr. Co.	7,591 57	4,731 86	2,856 71	.....
Elmwood.....	Inter County Lt. & Pr. Co..	1,405 01	1,404 45	56	862 78
Endeavor.....	Endeavor Lt. & Pr. Co.....	580 00	453 27	126 73	.....
Fountain City.....	Fountain City Lt. & Pr. Co.	5,916 88	4,923 21	993 67	149 25
Frederick.....	Frederick El. Lt. Pl.....	1,831 24	1,744 86	86 38	.....
Galesville.....	Davis Mill Co.....	4,558 73	2,157 84	2,400 89	.....
Gays Mills.....	Gays Mills El. Lt. Pl.....	1,554 48	1,405 65	148 83	99 57
Gillett.....	Great Northern Pail Co. ¹	1,807 70	1,753 09	54 61	.....
Glenwood.....	Glen. Down'g El. L. & P. Co.	5,011 61	4,571 33	440 28	.....
Grafton.....	Grafton Lt., Ht. & Pr. Co..	2,577 18	3,323 61	751 43	304 46
Hayward.....	Hayward El. Lt. & Pr. Co..	9,775 35	3,154 86	6,620 49	.....
Horicon.....	Horicon Lt. & Pr. Co.....	3,838 80	3,396 79	442 01	.....
Iron River.....	Iron River W. Lt. & Pr. Co.	6,751 22	5,669 98	1,081 24	.....
Kewaskum.....	Kewaskum Elec. Lt. Co.....	2,648 93	2,236 00	412 93	.....
La Farge.....	La Farge Elec. Co.....	1,741 79	1,231 07	510 72	.....
Lancaster.....	Lancaster Elec. Lt. Co.....	11,141 10	10,162 29	978 81	687 06
Lomira.....	Lomira Elec. Lt. & Pr. Co..	848 18	1,234 62	386 44	.....
Manawa.....	Little Wolf River Lbr. Co.	2,443 17	1,800 41	642 76	.....
Mauston.....	Mauston Elec. Service Co..	8,822 36	9,443 61	621 25	721 50
Milton.....	Milton W. Lt. & Pr. Co. ²	175 08	553 93	378 85	.....
Milwaukee.....	Molitor & Hummel Co.....	5,262 81	6,158 68	895 87	.....
Milwaukee.....	Railway Exch. Bldg. Co.....	3,726 67	4,404 22	677 55	.....
Mishicot.....	Mishicot El. Lt. & Pr. Co..	682 12	526 00	156 12	.....
Mondovi.....	Mondovi Lt. & Pr. Co.....	3,666 93	1,984 26	1,682 67	67 75
Montello.....	Montello Granite Co.....	3,783 20	8,762 50	4,979 30	.....
Mt. Horeb.....	Mt. Horeb El. Lt. Co.....	3,741 46	3,340 81	400 62	.....
Necedah.....	Necedah Mfg. & Elec. Co..	4,039 68	2,755 24	1,284 44	.....
Neillsville.....	Neillsville Elec. Co.....	5,669 87	5,132 11	537 76	.....
Neshkora.....	Neshkora Lt. & Pr. Co.....	7,029 41	8,805 85	1,776 44	.....
No. Freedom.....	No. Freedom Elec. Lt. Co..	841 22	1,100 84	259 62	.....
Omro.....	Omro Elec. Lt. Co.....	4,379 54	3,902 53	477 01	441 09

¹ Report covers 11 months' operation only.

ACCOUNT FOR YEAR ENDING JUNE 30, 1912.

Gross income.	DEDUCTIONS FROM GROSS INCOME.			Total.	Net income.	Interest dividends.	Surplus.
	Interest on funded debt and real estate mortgages.	Interest on floating debt.	Miscellaneous deductions.				
\$765 20	\$200 00			\$200 00	\$565 20		\$565 20
133 64					133 64		133 64
125 00		\$125 00		125 00			
1,307 57	385 17			385 17	922 40		922 40
984 37	450 00	240 00		690 00	294 37		294 37
570 05					570 05	\$570 05	
943 54			\$87 00	87 00	856 54		856 54
688 71		191 34		191 34	497 37		497 37
231 93					231 93		231 93
22 43					22 43		22 43
34 83					34 83		34 83
1,359 83					1,359 83		1,359 83
1,199 67		420 00		420 00	779 67		779 67
642 77					642 77		642 77
762 22					762 22		762 22
661 17					661 17		661 17
248 76		20 25		20 25	228 51		228 51
224 02		142 40		142 40	81 62		81 62
90 20		175 00		175 00	265 20		265 20
745 15		43 70		43 70	788 85		788 85
1,477 70	10 91	69 00	566 29	646 20	831 50		831 50
1,666 33					1,666 33	1,600 00	66 33
5,081 74					5,081 74	2,800 00	2,281 74
1,269 85		7 50		7 50	1,277 35		1,277 35
2,856 71	1,820 00	41 08		1,861 08	995 63		995 63
863 34		34 95		34 95	828 39		828 39
126 73	90 00	70 00		160 00	33 27		33 27
844 42					844 42		844 42
86 38	48 00	38 38		86 38			
2,400 89		480 00		480 00	1,920 89		1,920 89
248 40	129 71			129 71	118 69		118 69
54 61	220 00			220 00	165 39		165 39
440 28					440 28	450 00	9 72
446 97		126 65		126 65	573 62		573 62
6,620 49					6,620 49		6,620 49
442 01	100 00	299 22		399 22	42 79		42 79
1,081 24	546 00	224 00		770 00	311 24		311 24
412 93					412 93		412 93
510 72					510 72	625 04	114 32
1,665 87					1,665 87		1,665 87
386 44					386 44		386 44
642 76					642 76		642 76
100 25	1,309 17			1,309 17	1,208 92		1,208 92
378 85					378 85		378 85
895 87					895 87		895 87
677 55					677 55		677 55
156 12	165 00			165 00	8 88		8 88
1,750 42		233 38		233 38	1,517 04		1,517 04
4,979 30					4,979 30		4,979 30
400 62	390 00			390 00	10 62		10 62
1,284 44					1,284 44		1,284 44
537 76		370 20		370 20	167 56		167 56
1,776 44	139 50			139 50	1,915 94	780 00	2,695 94
259 62					259 62		259 62
918 10					918 10	750 00	168 10

² Report covers 4 months' operation.

CLASS C. PRIVATE PLANTS. INCOME

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	Total operating revenues.	Total operating expenses.	Net operating revenues.	Non- operating revenues.
Owen.....	John S. Owen Lbr. Co.....	\$4,912 55	\$4,237 95	\$674 60	\$366 48
Pardeeville.....	Pardeeville Elec. Lt. Plant	2,846 98	3,981 11	<i>1,134 13</i>	
Park Falls.....	Park Falls W. Lt. & Pr. Co.	8,053 32	8,912 66	<i>859 34</i>	30 00
Peshtigo.....	Peshtigo Lbr. Co.....	10,361 18	7,904 36	2,456 82	315 81
Phillips.....	Phillips Lt. W. Ht. & Pr. Co	22,707 70	17,742 76	4,964 94	
Plainfield.....	Starks & Skeel.....	3,012 52	2,921 73	90 79	
Random Lake..	Ra'm Lake El. Lt. & Pr. Co.	274 08	364 43	<i>90 35</i>	
Rio.....	Rio Elec. Lt. Plant.....	3,318 62	2,887 24	431 38	36 51
Seymour.....	Seymour El. Lt. Plant.....	3,410 65	3,240 48	170 16	112 65
Sheb. Falls.....	Sheb. Falls Lt. & Pr. Co..	8,358 60	7,268 07	1,090 53	
Soldiers Grove.	Soldiers Grove El. Lt. Co..	2,397 52	1,374 05	1,023 47	
Somerset.....	Apple River Pr. Co.....	21,088 71	6,934 97	14,153 74	
Spring Valley..	Spring Valley Lt. & Pr. Co.	4,193 69	4,437 98	<i>244 29</i>	
Stanley.....	Northwestern Lbr. Co.....	8,839 21	8,804 61	34 60	279 44
Stratford.....	R. Connor Elec. Lt. Plant..	3,457 76	2,724 43	733 33	
Valders.....	Oslo Pr. & Lt. Co.....	1,669 22	2,279 96	<i>610 74</i>	
Viola.....	Viola Lt. & Pr. Co.....	808 64	668 40	140 24	
Viroqua.....	Viroqua Elec. Lt. Co.....	9,185 93	6,882 31	2,303 62	
Waterford.....	Waterford Mfg. & Lt Co....	2,583 00	1,725 00	858 00	
Westfield.....	Westfield Mfg. & El. Lt. Co.	3,590 01	2,522 62	1,067 39	
West Salem....	Neshonoc Lt. & Pr. Co.....	4,051 96	5,254 51	<i>1,202 55</i>	
Weyauwega.....	Weyauwega Elec. Lt. Co. ¹	2,084 13	1,389 08	695 05	
Wild Rose.....	Wild Rose Mfg. Co.....	1,865 46	2,290 17	<i>424 71</i>	
Wilton.....	Wilton Lt. & Pr. Co.....	1,357 79	653 67	704 12	
Winneconne....	Winnec'e Ht. Lt. & Pr. Co..	2,321 88	3,229 01	<i>907 13</i>	1,601 37
Wittenberg.....	Wittenberg Elec. Co.....	6,795 35	5,176 09	1,619 26	47 40
	Total.....	\$362,700 35	\$308,926 51	\$53,773 84	\$7,094 95

¹ Report covers five months beginning Jan. 22, 1912.

ACCOUNT, 1912—Concluded.

Gross income.	DEDUCTIONS FROM GROSS INCOME.			Total.	Net income.	Interest dividends.	Surplus.
	Interest on funded debt and real estate mortgages.	Interest on floating debt.	Miscellaneous deductions.				
\$1,041 08					\$1,041 08		\$1,041 08
1,134 13		\$527 11		527 11	1,661 24		1,661 24
829 34					829 34		829 34
2,772 63		2,108 48		2,108 48	664 15		664 15
4,964 94	\$3,750 00			3,750 00	1,214 94		1,214 94
90 79					90 79		90 79
90 35			\$40 00	40 00	130 35		130 35
467 89	240 00			240 00	227 89		227 89
282 81					282 81		282 81
1,090 53					1,090 53		1,090 53
1,023 47					1,023 47	\$347 40	676 07
14,153 74	10,314 64			10,314 54	3,839 20	3,128 62	710 58
244 29					244 29		244 29
314 04					314 04		314 04
733 33					733 33		733 33
610 74	100 00			100 00	710 74		710 74
140 24					140 24		140 24
2,303 62		534 25		534 25	1,769 37		1,769 37
858 00	250 00			250 00	608 00		608 00
1,067 39					1,067 39		1,067 39
1,202 55					1,202 55		1,202 55
695 05					695 05		695 05
424 71		360 00		360 00	784 71		784 71
704 12					704 12		704 12
694 24		255 08		255 08	439 16	350 19	88 97
1,666 66					1,666 66		1,666 66
\$60,868 79	\$20,658 00	\$7,136 97	\$693 29	\$28,488 26	\$32,380 53	\$11,401 30	\$20,979 23

CLASS A. DETAILED OPERATING REVENUES

LOCATION.	NAME OF COMPANY.	Commercial lighting earnings.
Appleton	Wis. Tr. Lt. & Pr. Co.	\$64,610 48
Ashland	Ashland Lt. Pr. & St. Ry. Co.	37,602 69
Beloit	Beloit W. Gas & El. Co.	46,054 42
Chippewa Falls	Chip. Valley Ry. Lt. & Pr. Co.	22,806 17
Eau Claire	Chip. Valley Ry. Lt. & Pr. Co.	47,978 39
Fond du Lac	Eastern Wis. Ry. & Lt. Co.	65,801 86
Green Bay	Green Bay Gas & El. Co.	60,530 09
Green Bay	Minahan Bldg. Co.	14,182 37
Green Bay	Northern Hydro-El. Pr. Co. ² .....	.....
Green Bay	Wis. Public Service Co. ³ .....	.....
Janesville	Janesville Elec. Co.	49,716 72
Kenosha	Kenosha Gas & El. Co.	41,475 22
Kenosha	Kenosha Elec. Ry. Co.	9,849 40
La Crosse	La Crosse Gas & El. Co.	118,522 96
La Crosse	La Crosse Water Pr. Co.	1,161 46
Madison	Madison Gas & El. Co.	176,969 43
Madison	Southern Wis. Pr. Co. ....	.....
Manitowoc	Electric Light Co.	41,655 89
Marinette	Men. & Mari. Lt. & Tr. Co. ¹	36,688 44
Milwaukee	Commonwealth Pr. Co.	57,746 84
Milwaukee	Plankinton El. Lt. & Pr. Co.	54,498 05
Milwaukee	The Milw. El. Ry. & Lt. Co.	639,494 76
Milwaukee	Milw. Lt. Ht. & Tr. Co.	136,695 54
Milwaukee	Wells Power Co.	61,301 38
Oshkosh	Oshkosh Gas Light Co.	71,409 16
St. Croix Falls	Wisconsin Improvement Co.	2,798 68
Sheboygan	Sheboygan Ry. & El. Co.	73,323 70
Superior	Northern Power Co. ....	.....
Superior	Superior W. Lt. & Pr. Co.	112,469 60
Watertown	Watertown Gas & El. Co.	24,278 48
Wausau	Wausau St. Ry. Co.	47,765 30
	Total	\$2,117,387 48

CLASS B. MUNICIPAL PLANTS, DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	Commercial lighting earnings.
Columbus	Mun. Elec. Lt. Plant	\$9,196 33
Ft. Atkinson	" " " "	16,560 01
Hartford	" " " "	11,594 29
Marshfield	" " " "	17,089 35
New London	" " " "	10,005 56
New Richmond	" " " "	8,890 52
Oconomowoc	" " " "	19,049 25
Pt. Washington	" " " "	9,763 51
Richland Center	" " " "	10,584 60
River Falls	" " " "	8,040 42
Shawano	" " " "	9,082 15
Stoughton	" " " "	11,720 79
Sturgeon Bay	" " " "	9,109 05
Two Rivers	" " " "	9,079 74
	Total	\$159,765 57

¹ Light and power used by company.² Report covers six months ending Dec. 31, 1911.

FOR YEAR ENDING JUNE 30, 1912.

Municipal contract lighting earnings.	Commercial power earnings.	Municipal power earnings.	Sales of electric current to other utilities	Miscellaneous earnings from operation.	Total operating revenues.
\$19,878 81	\$30,536 21			\$1,115 40	\$116,140 90
8,023 77	17,185 96	\$741 90	\$3,660 00	337 36	67,551 68
9,268 89	17,582 92		19,182 42	476 80	82,565 45
5,549 85	8,018 98				36,375 00
8,849 98	46,172 86		34,138 77		137,140 00
13,183 62	17,631 13	1,657 99			98,274 60
15,317 30	42,808 24	250 00			118,905 63
	570 97			36 50	14,789 84
	2,169 06		44,219 22		44,219 22
			29,426 99		31,596 05
14,452 38	18,815 63		10,095 51		93,080 24
	10,961 24			6,639 45	59,075 91
14,883 31	5,036 80			556 83	30,326 39
15,937 91	54,086 06		498 22		189,045 15
531 36	3,296 74		14,705 47	10 00	19,705 03
17,115 33	35,858 48		24,161 26	2,452 44	256,556 94
	1,105 60		194,253 31		195,358 91
7,418 15	2,745 79	120 00		16 80	51,956 63
7,442 61	9,703 20				53,834 25
	93,899 62				151,646 46
	3,791 70			64 13	58,353 88
147,841 94	406,807 39		54,836 62		1,248,980 71
50,216 84	87,795 05				274,707 43
	12,989 35			62,572 20	136,862 93
24,455 96	46,803 72			768 65	143,437 49
494 30	2,230 50	137 00	188,969 48		194,629 96
13,071 98	21,379 04			125 00	107,899 72
	79,131 41		63,877 70		143,009 11
21,088 87	16,496 21				150,054 68
6,810 96	17,956 73	69 00			49,115 17
5,346 22	32,878 72	1,232 31	6,155 25	2,168 87	95,546 67
\$427,180 34	\$1,146,445 31	\$4,208 20	\$378,180 22	\$77,340 48	\$4,450,742 03

REVENUES FOR YEAR ENDING JUNE 30, 1912.

Municipal contract lighting earnings.	Commercial power earnings.	Municipal power earnings.	Sales of electric current to other utilities.	Miscellaneous earnings from operation.	Total operating revenues.
\$1,404 80	\$724 00				\$11,325 13
3,999 96	1,659 16				22,219 13
2,320 00	1,250 53	\$1,500 00		\$239 95	16,904 77
4,400 45	3,256 19	15 00			24,760 99
3,780 00	17 79				13,803 35
1,150 00					10,040 52
5,721 52		1,126 25			25,897 02
3,105 00					12,868 51
5,000 00					15,584 60
2,100 00	1,075 79				11,216 21
2,430 00					11,512 15
4,296 00	1,421 28	1,871 75		1 45	19,311 27
4,282 90	356 25			651 01	14,399 21
2,475 00					11,554 74
\$46,465 63	\$9,760 99	\$4,513 00		\$892 41	\$221,397 60

³ Report covers six months ending June 30, 1912.

CLASS B. PRIVATE PLANTS. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	Commercial lighting earnings.
Antigo.....	Antigo Electric Co.....	\$28,727 60
Baraboo.....	Baraboo Gas & El. Co.....	12,333 22
Beaver Dam.....	Beaver Dam Lt. & Pr. Co.....	22,075 48
Berlin.....	Berlin Public Service Co.....	12,336 28
Burlington.....	Burlington Electric Lt. & Pr. Co.....	12,185 78
Delavan.....	United Ht. Lt. & Pr. Co.....	9,950 88
De Pere.....	De Pere El. Lt. & Pr. Co.....	13,297 80
Edgerton.....	Edgerton El. Lt. Co.....	10,192 14
Grand Rapids.....	Electric & Water Co.....	23,282 36
Hudson.....	Burkhardt Mfg. & El. Pr. Co.....	12,291 08
Hurley.....	Ironwood & Bessemer Ry. & Lt. Co.....	9,683 03
Ladysmith.....	Ladysmith Ltg. Co.....	8,400 54
Lake Geneva.....	Equitable El. Lt. Co.....	21,841 82
Mayville.....	Northwestern Lt. & Pr. Co.....	16,882 31
Medford.....	Medford Lt. & Htg. Co.....	4,896 07
Mellen.....	Mellen Water & Lt. Co.....	5,494 42
Menomonie.....	Chp. Val. Ry. Lt. & Pr. Co.....	13,431 16
Merrill.....	Merrill Ry. & Lt. Co.....	19,283 61
Mineral Pt.....	Mineral Pt. Pub. Service Co. ¹	6,106 08
Monroe.....	Monroe El. Co.....	17,181 42
New Richmond.....	New Richmond Pr. Co.....	6,533 20
No. Milwaukee.....	No. Milwaukee Lt. & Pr. Co.....	5,524 04
Oconto.....	Oconto Elec. Co.....	7,329 50
Oconto.....	Peoples Land & Mfg. Co.....	15,453 80
Platteville.....	Interstate Lt. & Pr. Co.....	14,049 13
Portage.....	Portage El. Lt. Co.....	8,457 45
Prairie du Chien.....	Prairie City El. Co.....	16,877 02
Rhineland.....	Rhineland Ltg. Co.....	12,572 30
Rice Lake.....	Red Cedar Valley El. Co.....	9,212 72
Ripon.....	Ripon Lt. & W. Co.....	15,226 69
Sparta.....	O. I. Newton's Sons Co.....	16,919 61
Stevens Pt.....	Stevens Pt. Ltg. Co.....	11,657 55
Stevens Pt.....	Stevens Pt. Pr. Co.....	9,753 00
Tomah.....	Tomah El. & Tel. Co.....	3,985 17
Tomahawk.....	Tomahawk Lt. Tel. & Imp. Co.....	9,179 70
Walworth.....	Walworth Ltg. Plant.....	16,126 22
Washburn.....	Washburn El. Lt. & Pr. Co.....	10,256 78
Waukesha.....	Waukesha Gas & El. Co.....	10,031 28
Waupaca.....	Waupaca El. Lt. & Ry. Co.....	12,214 49
West Bend.....	West Bend Htg. & Ltg. Co. ²	
Whitewater.....	Whitewater El. Lt. Co.....	
	Total.....	\$491,241 73

¹ Report covers only 6 months.

REVENUES. FOR YEAR ENDING JUNE 30, 1912.

Municipal contract lighting earnings.	Commercial power earnings.	Municipal power earnings.	Sales of electric current to other utilities.	Miscellaneous earnings from operation.	Total operating revenues.
\$5,798 22	\$2,272 36			\$747 07	\$37,545 25
3,372 40	18 00				15,723 62
7,026 35	6,512 62	\$446 29	\$1,498 21		37,528 95
2,816 14	16,114 53				31,266 98
3,823 41	3,861 05				19,870 24
3,465 19	139 65				13,564 72
2,243 00	7,526 81	1,380 00		41 35	24,488 96
1,824 63	1,837 57				13,854 34
4,107 84	2,009 06	3,300 00		261 20	32,960 46
3,252 73	1,166 00	3,450 80		101 50	20,262 11
1,708 91	478 08	126 50			11,996 52
2,387 50					10,788 04
2,682 27	3,858 24				28,382 33
2,006 85	24,074 62			1 20	42,964 98
2,239 53					7,135 60
1,045 41				150 00	6,689 83
4,596 00	2,111 96			220 65	20,359 77
2,544 63	4,216 20	52 50	1,800 00		27,896 93
1,560 00	2,738 76	300 00			10,704 84
4,818 35	4,028 68				26,028 45
	3,017 27		9,925 00	90 00	13,032 27
3,522 04	3,732 52				13,787 76
	1,682 60			77 30	7,283 94
3,057 60	2,053 27				12,442 37
4,340 62	167,893 97		4,631 36		192,319 75
6,191 34	9,353 51				29,593 98
2,778 33					11,235 78
5,104 00	1,309 91	215 42			23,506 35
1,957 20	1,660 48	125 00			16,349 98
4,340 57	833 30				14,386 59
4,458 22	1,407 96				21,092 87
6,371 50					23,291 11
			5,500 06		5,500 00
3,055 50	183 39				14,896 44
1,056 50					10,809 50
1,266 14	3,796 06				9,047 37
					9,179 70
9,137 16	12,833 16				38,096 54
2,473 80	253 26			700 69	13,684 53
2,193 02	1,552 70	540 10		70	14,317 80
3,715 74	600 10				16,530 33
\$128,338 63	\$295,129 68	\$9,936 61	\$23,324 57	\$2,391 66	\$950,362 88

² Report covers 13 months.

CLASS C. MUNICIPAL PLANTS. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	Commercial lighting earnings.
Algoma.....	Municipal Electric Light Plant.....	\$3,915 67
Arcadia.....	" " " "	2,512 97
Barron.....	" " " "	3,257 15
Bayfield.....	" " " "	5,770 83
Belmont.....	" " " "	1,016 82
Benton.....	" " " "	2,316 41
Blair.....	" " " "	1,638 67
Blanchardville.....	" " " "	1,387 93
Boscobel.....	" " " "	3,824 78
Bruce.....	" " " "	2,121 16
Cadott.....	" " " "	1,405 30
Cashton.....	" " " "	1,455 32
Cassville.....	" " " "	2,157 37
Cedarburg.....	" " " "	6,244 83
Crandon.....	" " " "	1,787 28
Cuba City.....	" " " "	2,616 25
Cumberland.....	" " " "	3,730 10
Elkhorn.....	" " " "	7,950 20
Elroy.....	" " " "	5,291 77
Evansville.....	" " " "	8,060 03
Fennimore.....	" " " "	2,614 00
Grantsburg.....	" " " "	2,476 45
Greenwood.....	" " " "	1,772 50
Jefferson.....	" " " "	7,999 72
Kewaunee.....	" " " "	3,584 95
Kilbourn.....	" " " "	2,681 05
Lake Mills.....	" " " "	7,893 86
Lodi.....	" " " "	
Loyal.....	" " " "	1,597 84
Mazomanie.....	" " " "	1,972 62
Menasha.....	" " " "	1,154 62
Merrillan.....	" " " "	1,468 80
Monticello.....	" " " "	2,086 90
Muscoda.....	" " " "	1,495 86
Plymouth.....	" " " "	17,978 78
Princeton.....	" " " "	3,337 67
Randolph.....	" " " "	3,125 33
Rib Lake.....	" " " "	2,118 13
Shell Lake.....	" " " "	1,632 77
South Wayne.....	" " " "	309 53
Spring Green.....	" " " "	3,828 68
Thorp.....	" " " "	2,905 04
Waterloo.....	" " " "	3,869 57
Waupun.....	" " " "	11,093 93
Westby.....	" " " "	2,217 22
Whitehall.....	" " " "	1,896 49
	Total.....	\$161,553 18

¹Report covers 1 year and 3 months.

REVENUES. FOR YEAR ENDING JUNE 30, 1912.

Municipal contract lighting earnings.	Commercial power earnings.	Municipal power earnings.	Sales of electric current to other utilities.	Miscellaneous earnings from operation.	Total operating revenues.
\$1,393 38				\$268 35	\$5,577 40
453 08					2,966 05
1,212 00				29 00	4,478 15
1,250 00				23 13	7,043 96
1,040 00					2,056 82
					2,316 41
240 00					1,878 67
335 00					1,722 93
3,262 67					7,087 45
610 00		\$2,471 41		598 52	5,801 09
609 28					2,014 58
1,032 04		907 17		36 17	3,430 70
3,000 00	\$1,602 23				2,157 37
1,400 00				65 00	10,847 06
					3,252 28
1,560 00				54 25	2,670 50
2,969 93	44 50	1,200 00		51 15	6,585 75
308 28					10,920 13
2,500 00	625 18			154 00	5,754 05
					11,185 21
780 00					2,614 00
1,200 00				81 99	3,338 44
2,047 50	190 68				2,972 50
2,160 00					10,237 90
					5,744 85
1,811 00					4,492 05
1,082 08		1,524 23		16 65	10,516 82
2,852 58	1,076 00				3,928 58
801 72					2,369 56
660 00					2,632 62
4,400 00	259 29				5,813 91
330 00					1,798 80
1,000 00					3,086 90
728 12				396 05	2,620 03
5,708 68				1,508 89	25,196 35
1,145 80					4,483 47
1,200 00					4,325 33
1,320 00					3,438 13
	625 00		\$200 00		2,457 77
					309 53
900 00		100 00		900 00	5,728 68
1,044 00					3,949 04
200 00	743 38				4,812 95
2,760 00	1,581 33			1,413 41	16,848 70
289 10		594 35	15 00	60 40	3,176 07
384 00					2,280 49
\$57,980 24	\$6,747 59	\$6,797 16	\$215 00	\$5,656 96	\$238,950 13

²Report covers 9 months.

CLASS C. PRIVATE PLANTS. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	Commercial lighting earnings.
Albany.....	Albany Elec. Lt. & Mlg. Co.....	\$1,893 75
Alma.....	Alma Elec. Lt. Co.....	2,779 57
Amery.....	Amery Elec. Co.....	2,416 80
Amherst.....	B. E. Dwinell & Co.....	2,165 19
Athens.....	Athens Elec. Lt. & Power Co.....	3,832 03
Augusta.....	J. I. Ball El. Lt. & Fuel Co.....	2,169 94
Baldwin.....	Baldwin El. Lt. & Fuel Co.....	2,389 12
Bangor.....	Hussa Bros. Lt. & Power Co.....	2,517 40
Belleville.....	Belleville Mills & El. Lt. Pl.....	602 06
Bloomer.....	Bloomer Elec. Lt. & Pr. Co.....	2,327 20
Boyd.....	Boyd Lumber & Imp. Co.....	1,239 50
Brillion.....	F. Paustian Mlg. Co.....	3,515 41
Brodhead.....	Brodhead Elec. Co.....	5,876 96
Brownstown.....	Brownstown Elec. Co.....	604 61
Campbellsport.....	Campbellsport El. Lt. & Pr. Co.....	3,930 64
Cazenovia.....	Cazenovia Lt. & Pr. Co.....	808 38
Cedar Grove.....	Cedar Grove Tel. Co.....	.....
Cedar Grove.....	Wis. Foundry & Steel Wks.....	.....
Chetek.....	Chetek Lt. & Pr. Co.....	2,045 23
Chilton.....	Calumet Service Co.....	5,461 89
Darlington.....	Darlington El. Lt. & W. Pr. Co.....	5,357 39
Dodgeville.....	Dodgeville El. Lt. Co.....	4,424 11
Darand.....	Darand Lt. & Pr. Co.....	7,077 71
Elkhart Lake.....	Milwaukee & Fox R. Valley Ry. Co.....	3,485 95
Ellsworth.....	Ellsworth Ht. Lt. & Pr. Co.....	3,620 26
Elmwood.....	Inter County Lt. & Pr. Co.....	758 16
Endeavor.....	Endeavor Lt. & Pr. Co.....	580 00
Fountain City.....	Fountain City Lt. & Pr. Co.....	2,449 68
Frederick.....	Frederick Elec. Lt. Plant.....	1,436 64
Galesville.....	Davis Mill Co.....	3,200 00
Gays Mills.....	Gays Mills Elec. Lt. Plant.....	1,202 48
Gillett.....	Great Northern Pulp Co.....	1,211 00
Glenwood.....	G. Downing El. Lt. & Pr. Co.....	3,498 66
Grafton.....	Grafton Lt. Ht. & Pr. Co.....	1,635 10
Hayward.....	Hayward El. Lt. & Pr. Co.....	8,027 40
Horicon.....	Horicon Lt. & Pr. Co.....	2,443 43
Iron River.....	Iron River W. Lt. & Pr. Co.....	4,707 25
Kewaskum.....	Kewaskum Elec. Lt. Co.....	1,523 95
LaFarge.....	LaFarge Elec. Co.....	1,309 58
Lancaster.....	Lancaster Elec. Lt. Co.....	8,113 03
Lomira.....	Lomira Elec. Lt. & Pr. Co.....	598 18
Manawa.....	Little Wolf River Lbr. Co.....	2,145 82
Mauston.....	Mauston Elec. Service Co.....	6,047 82
Milton.....	Milton W. Lt. & Pr. Co. ²	139 36
Milwaukee.....	Molitor & Hummel Co.....	.....
Milwaukee.....	Railway Exch. Bldg. Co.....	3,726 67
Mishicott.....	Mishicott El. Lt. & Pr. Co.....	682 12
Mondovi.....	Mondovi Lt. & Pr. Co.....	2,738 43
Montello.....	Montello Granite Co.....	2,547 00
Mt. Horeb.....	Mt. Horeb El. Lt. Co.....	3,273 46
Necedah.....	Necedah Mlg. & Elec. Co.....	3,355 68
Neillsville.....	Neillsville Elec. Co.....	3,703 31
Neshkora.....	Neshkora Lt. & Power Co.....	4,803 27
No. Freedom.....	No. Freedom Elec. Lt. Co.....	500 00
Omro.....	Omro Elec. Lt. Co.....	3,152 54

¹Report covers 11 months' operation only.

REVENUES, FOR YEAR ENDING JUNE 30, 1912.

Municipal contract lighting earnings.	Commercial power earnings.	Municipal power earnings.	Sales of electric current to other utilities.	Miscellaneous earnings from operation.	Total operating revenues.
\$555 60					\$2,449 35
744 00				\$527 97	4,051 54
403 00				169 95	2,989 75
427 02				160 00	2,752 21
599 58					4,431 61
1,091 50				746 52	4,007 96
612 63		\$624 00		28 00	3,653 75
1,526 55	\$43 16			377 00	4,464 11
609 57					1,211 63
498 23	305 22				3,130 65
825 33					2,064 83
840 00	349 66		\$1,419 79		6,124 86
1,124 16	1,427 36				8,428 48
350 00					954 61
937 00					4,867 64
					808 38
	809 44			12 00	821 44
877 64	350 00				1,227 64
495 17	13 50			22 50	2,576 40
				57 64	5,519 53
2,331 20					7,688 50
1,830 00				700 27	6,954 38
991 00	1,051 05			15 75	9,135 51
1,500 00	1,559 80				4,985 75
	822 20	229 64	1,349 47		7,591 57
236 60	336 55	83 70			1,405 01
					580 00
921 60	2,545 60				5,916 88
390 69				4 03	1,831 24
460 00				898 73	4,558 73
352 00					1,554 48
596 70					1,807 70
696 00		780 00		36 95	5,011 61
1,747 95	940 58			1 50	2,577 18
					9,775 35
	1,395 37				3,838 80
900 00		32 63	60 96	1,050 38	6,751 22
648 00				476 98	2,648 93
432 21					1,741 79
2,730 96	213 96			83 15	11,141 10
250 00					848 18
297 35					2,443 17
1,927 50	847 04				8,822 36
	35 72				175 08
	5,262 81				5,262 81
					3,726 67
					682 12
911 50	17 00				3,666 93
1,223 20				13 00	3,783 20
468 00					3,741 46
684 00					4,039 68
1,966 56					5,669 87
1,338 64	887 50				7,029 41
341 22					841 22
1,200 00				27 00	4,379 54

²Report covers 4 month's operation.

CLASS C. PRIVATE PLANTS.

LOCATION.	NAME OF COMPANY.	Commercial lighting earnings.
Owen.....	John S. Owen Lbr. Co.....	\$3,807 98
Pardeeville.....	Pardeeville Elec. Lt. Plant.....	2,376 98
Park Falls.....	Park Falls W. Lt. & Pr. Co.....	5,765 82
Peshtigo.....	Peshtigo Lumber Co.....	5,000 08
Phillips.....	Phillips Lt. W., H. & Pr. Co.....	10,644 57
Plainfield.....	Starks & Skeel.....	1,822 48
Random Lake.....	Random Lake Elec. Lt. & Pr. Co.....	267 08
Rio.....	Rio Elec. Lt. Plant.....	2,293 62
Seymour.....	Seymour Elec. Lt. Plant.....	2,315 56
Sheb. Falls.....	Sheb. Falls Lt. & Pr. Co.....	4,768 55
Soldiers Grove.....	Soldiers Grove El. Lt. Co.....	1,809 52
Somerset.....	Apple River Pr. Co.....	752 71
Spring Valley.....	Spring Valley Lt. & Pr. Co.....	2,924 69
Stanley.....	Northwestern Lbr. Co.....	5,572 05
Stratford.....	R. Connor Elec. Lt. Plant.....	2,607 75
Valders.....	Oslo Pr. & Lt. Co.....	1,478 43
Viola.....	Viola Lt. & Pr. Co.....	233 64
Viroqua.....	Viroqua Elec. Lt. Co.....	6,543 90
Waterford.....	Waterford Mfg. & Lt. Co.....	1,614 00
Westfield.....	Westfield Mfg. & El. Lt. Co.....	1,649 82
West Salem.....	Neshonoc Lt. & Power Co.....	2,851 96
Weyauwega.....	Weyauwega Elec. Lt. Co. ¹	1,581 03
Wild Rose.....	Wild Rose Mfg. Co.....	1,408 32
Wilton.....	Wilton Lt. & Pr. Co.....	749 24
Winneconne.....	Winneconne Ht., Lt. & Pr. Co.....	1,649 23
Wittenberg.....	Wittenberg Elec. Co.....	4,969 15
	Total.....	\$227,494 29

¹ The report covers five months beginning Jan. 22, 1912.

DETAILED OPERATING REVENUES, 1912—Concluded.

Municipal contract lighting earnings.	Commercial power earnings.	Municipal power earnings.	Sales of electric current to other utilities.	Miscellaneous earnings from operation.	Total operating revenues.
\$945 12				\$159 45	\$4,912 55
468 00				2 00	2,846 98
2,260 00				27 50	8,053 32
898 71	\$565 40		\$3,458 99	438 00	10,361 18
1,848 00	9,487 50			727 63	22,707 70
1,190 04					3,012 52
7 00					274 08
1,025 00					3,318 62
973 09				122 00	3,410 65
2,769 82				820 23	8,358 60
588 00					2,397 52
	336 00		20,000 00		21,088 71
1,269 00					4,193 69
2,131 68	576 75	\$535 88		22 85	8,839 21
450 00				400 00	3,457 76
	190 79				1,669 22
570 00					808 64
2,642 03					9,185 93
939 00					2,583 00
1,940 19					3,590 01
1,200 00					4,051 96
503 10					2,084 13
457 14					1,865 46
535 00	73 55				1,357 79
635 92				36 73	2,321 88
1,306 55	170 57		346 08	3 00	6,795 35
\$67,442 16	\$30,604 08	\$2,355 85	\$26,635 29	\$8,168 68	\$362,700 35

CLASS A. DETAILED OPERATING EXPENSES
STEAM POWER

LOCATION.	NAME OF COMPANY.	OPERATING EXPENSES				
		Superintendence.	Engine labor.	Electrical labor.	Miscellaneous labor.	Steam generated.
Appleton.....	Wis. Tr. Lt. & Pr. Co.....	\$138 57	\$152 41	\$130 60	\$2 38	\$6,069 57
Ashland.....	Ash. Lt., Pr. & St. Ry. Co.....	314 54	.....	.....	9 30	10,076 24
Beloit.....	Beloit W. Gas & Elec. Co.....	563 23	2,260 01	.....	.....	12,180 38
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.....	1,380 00	1,126 29	822 89	337 96	30,446 33
Green Bay.....	Minahan Bldg. Co.....	1,068 00	1,580 00	241 40	221 65	6,341 47
Green Bay.....	Northern Hydro Elec. Co. ¹	112 50	7 50	.....	7 50	50 15
Janesville.....	Janesville Elec. Co.....	879 68	168 74	168 74	168 74	7,166 18
Kenosha.....	Kenosha Gas & Elec. Co.....	1,010 00	1,733 41	595 32	.....	19,787 95
Kenosha.....	Kenosha Elec. Ry. Co.....	610 00	785 94	1,025 94	217 56	15,846 14
La Crosse.....	La Crosse Gas & Elec. Co.....	2,100 00	3,235 29	2,613 47	50 00	54,001 06
Madison.....	Madison Gas & Elec. Co.....	3,278 53	4,775 01	.....	2,000 99	53,187 53
Manitowoc.....	Electric Lt. Co.....	1,120 00	1,934 25	802 52	111 85	13,309 72
Marinette.....	Men. & Mari. Lt. & Tr. Co.....	14 72	.....	4 01	.....	604 56
Milwaukee.....	Commonwealth Pr. Co.....	1,620 00	4,018 33	.....	.....	43,566 99
Milwaukee.....	Plankinton El. Lt. & Pr. Co.....	236 65	4,213 95	.....	.....	420,612 00
Milwaukee.....	The Milw. El. Ry. & Lt. Co.	7,504 63	29,685 66	16,297 35	823 47	592,936 53
Milwaukee.....	Milw. Lt. Ht. & Tr. Co. ⁵	1,205 00	4,568 61	218 29	.....	47,131 55
Milwaukee.....	Wells Pr. Co.....	1,830 00	2,400 02	1,150 00	73 50	28,449 03
Oshkosh.....	Oshkosh Gas Lt. Co.....	720 00	2,237 97	2,237 57	515 87	33,891 64
Sheboygan.....	Sheboygan Ry. & Elec. Co.....	.....	.....	.....	.....	.....
Watertown.....	Watertown Gas & El. Co. ⁵	.....	.....	.....	.....	.....
Wausau.....	Wausau St. Ry. Co.....	.....	.....	.....	182 71	1,175 75
	Total	\$25,771 06	\$64,888 39	\$26,308 50	\$1,723 48	\$996,839 82

GAS POWER

LOCATION.	NAME OF COMPANY.	OPERATING EXPENSES				
		Superintendence.	Engine labor.	Electrical labor.	Miscellaneous labor.	Power gas produced.
Madison.....	Madison Gas & Elec. Co.....	.....	\$14 04	.....	.....	.....
Manitowoc.....	Elec. Lt. Co.....	.....	.....	.....	.....	.....
Superior.....	Superior W., Lt. & Pr. Co. ⁷	\$600 00	.....	\$2,091 00	\$331 48	\$505 53
	Total	\$600 00	\$14 04	\$2,091 00	\$331 48	\$505 53

¹ Report covers six months ending Dec. 31, 1912. ² Includes rental of substation equipment. ³ Includes item \$270.30 steam purchased. ⁴ Includes steam purchased. ⁵ Included in T. M. E. R. & L. Co. ⁶ Cost of fuel only.

PENSES, FOR YEAR ENDING JUNE 30, 1912.
GENERATION.

OPERATION.			MAINTENANCE.						Total steam power generation.
Lubricants.	Miscellaneous power plant supplies and expenses.	Total operation.	Steam engines and turbines.	Auxiliary power plant equipment.	Generators.	Auxiliary power plant electric equipment.	Power plant buildings, fixtures and grounds.	Total maintenance.	
\$334 13	\$760 07	\$7,587 73	\$75 01	\$233 05	\$4 54	\$47 52	\$14 09	\$374 01	\$7,961 74
.....	433 81	10,833 89	530 54	2 17	.....	56 18	60 75	-649 64	11,483 53
165 56	994 01	16,168 19	184 87	.....	126 72	.....	6 30	317 89	16,486 08
294 83	558 81	34,967 11	342 88	23 51	92 39	34 62	408 03	901 43	35,868 54
212 13	.....	9,664 65	35 99	114 24	17 47	9 48	9 87	217 05	9,881 70
.....	24,040 90	4,218 55	59 76	.....	.....	1 82	.....	61 58	4,280 13
64 66	49 31	8,663 05	489 35	533 07	210 91	255 87	267 66	1,736 86	10,402 91
278 85	374 79	23,785 32	682 57	44 48	10 42	165 65	78 15	981 27	24,766 59
3414 08	240 10	19,139 76	329 69	113 21	53 53	54 67	43 41	594 54	19,734 30
1,184 86	1,418 05	64,602 72	525 90	352 05	185 75	.....	277 82	1,341 52	65,944 25
540 70	790 75	64,573 56	780 80	.....	1,019 49	.....	1,598 16	3,398 45	67,972 01
336 54	1,229 16	18,844 04	822 31	323 98	154 52	5 96	65 20	1,371 97	20,216 01
10 13	88 70	722 12	7 27	.....	5 10	2 99	60 61	76 00	793 12
768 29	1,494 99	51,468 60	174 28	.....	.....	130 48	4 07	308 83	51,777 43
483 89	172 35	25,743 85	960 37	.....	.....	.....	.....	960 37	26,709 22
5,702 65	5,440 66	658,391 95	4,045 62	2,114 14	6,051 65	9,858 80	1,973 54	24,043 75	682,435 70
655 70	2,629 30	56,408 45	66 75	181 77	56 42	370 52	217 18	892 64	57,301 09
159 47	1,927 32	36,019 84	2,571 55	189 64	26	580 06	707 13	4,048 64	40,067 98
718 26	1,422 60	41,744 31	2,131 81	478 25	152 69	294 45	1,316 71	4,376 91	46,121 22
.....
29 54	59 15	1,447 15	.....	120 81	.....	.....	.....	120 81	1,567 96
\$12,355 27	\$24,124 83	\$1,155,002 35	\$14,800 32	\$4,854 37	\$8,141 89	\$11,868 87	\$7,108 71	\$46,774 16	\$1,201,776 51

GENERATION.

OPERATION.			MAINTENANCE.				Total gas power generation.		
Power gas purchased.	Lubricants.	Miscellaneous power plant supplies and expenses.	Total operation.	Gas engines and turbines.	Power plant auxiliary equipment.	Generators.		Auxiliary power plant equip't., buildings, fixtures and grounds.	Total maintenance.
\$58 25	.....	\$4 25	\$86 54	\$11 19	.....	.....	.....	\$11 19	\$97 73
633 47	\$12 74	.....	646 21	15 00	.....	.....	.....	15 00	661 21
*31,694 63	29 22	1,847 23	37,099 09	10220 00	\$15 00	\$275 00	\$50 00	560 00	37,659 09
\$32,386 35	\$41 96	\$1,861 48	\$37,831 84	\$246 19	\$15 00	\$275 00	\$50 00	\$586 19	\$38,418 03

⁷ Electric power generation. ⁸ Steam generated. ⁹ Electric power purchased. ¹⁰ Maintenance of steam engines and turbines.

CLASS A. DETAILED OPERATING
HYDRAULIC POWER

LOCATION.	NAME OF COMPANY.	OPERATION.				
		Super- inten- dence.	Hydrau- lic labor.	Electri- cal labor.	Misc. labor.	Hydrau- lic power pur- chased.
Appleton.....	Wis. Tr. Lt. & Pr. Co.....	\$925 87	\$8 49	\$1,090 69	\$1,406 36	\$19,500 00
Ashland.....	Ashland L. Pr. & St. Ry. Co.....		2,260 90			
Beloit.....	Beloit W. Gas & Elec. Co.....					
Chip. Falls.....	Chip. Val. Ry. L. & Pr. Co.....	173 40	1,983 71	16		3,000 00
Eau Claire.....	Chip. Val. Ry. L. & Pr. Co.....	1,821 29	1,074 35	1,683 01	685 55	
Green Bay.....	Northern Hydro Elec. Co. ¹	112 50	827 50	942 50	354 50	
Green Bay.....	Wisconsin Pub. Service Co. ²	286 67	998 75	1,086 42	738 00	
Janesville.....	Janesville Elec. Co.....	1,759 35	750 14	744 64	326 10	2,850 00
La Crosse.....	Water Power Co.....	420 42	1,209 29	630 01	98 50	
Madison.....	Southern Wis. Pr. Co.....				9,752 63	
Milwaukee.....	The Milw. El. Ry. & Lt. Co.....	271 25	855 00	405 00		
Milwaukee.....	Milw. Lt. Ht. & Tr. Co. ³					
St. Croix Falls.....	Wis. Improvement Co.....	750 00	1,352 06	1,350 00	368 05	45,000 00
Watertown.....	Watertown Gas & El. Co. ⁴	960 00				
Wausau.....	Wausau St. Ry. Co.....	1,833 85	1,391 77	1,902 97	618 87	1,731 00
	Total	\$9,314 60	\$12,711 96	\$9,835 40	\$14,348 56	\$72,081 00

¹ Report covers 6 months, ending Dec. 31, 1912.² Report covers 6 months ending June 30, 1912.

EXPENSES, 1912—Continued.
GENERATION.

			MAINTENANCE.					Total hydraulic power generation.	
Lubri- cants	Misc. power plant supplies and ex- penses.	Total op- eration.	Dams, canals, flumes.	Tur- bines and water- wheels.	Power plant aux. equip.	Gener- ators.	Aux. pr. plant equip., bldgs., fix. & grds.	Total mainte- nance.	Total hydraulic power genera- tion.
.....	\$924 44	\$23,855 85	\$29 60	\$18 12	\$0 88	\$7 82	\$80 21	\$136 63	\$23,992 48
.....	74 63	2,335 53	.....	.....	.....	.....	.....	.....	2,335 53
.....	.....	.....	180 00	226 60	.....	.....	.....	406 60	406 60
\$31 72	193 96	5,382 95	28 62	113 65	.....	149 23	58 68	350 18	5,733 13
108 65	713 51	6,086 36	866 30	23 51	.....	70 89	234 85	1,195 55	7,281 91
73 88	133 87	2,444 75	47 60	9 09	.....	.....	148 24	204 93	2,649 68
1 75	479 48	3,591 07	151 11	19 05	.....	121 34	353 00	644 50	4,235 57
150 34	252 17	6,832 74	2,390 98	517 94	650 03	530 95	1,034 42	5,124 32	11,957 06
23 59	163 19	2,545 00	187 32	13 01	7 70	.....	102 67	310 70	2,855 70
275 02	438 14	10,465 79	233 35	233 25	.....	1,109 21	683 00	2,258 81	12,724 60
.....	39 36	1,570 61	1 07	43 29	7 78	25 92	.....	78 06	1,648 67
126 87	1,223 72	50,170 70	979 31	179 92	70 70	835 14	442 29	2,507 36	52,678 06
.....	42 65	1,002 65	.....	.....	13 72	.....	9 62	23 34	1,025 99
86 91	477 41	8,042 78	1,133 82	162 79	.....	40 93	778 55	2,116 09	10,158 87
\$878 73	\$5,156 53	\$124,326 78	\$6,229 08	\$1,560 22	\$750 81	\$2,891 43	\$3,925 53	\$15,357 07	\$139,683 85

³ Included in T. M. E. R. & L. Co.

⁴ In addition to T. M. E. R. & L. Co. for operation of same plant.

CLASS A. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	Electric current purchased.	Total cost of power.	APPORTIONMENT OF TOTAL COST OF POWER.	
				Amount charged to electric departments.	Amount charged to other departments.
Appleton.....	Wis. Tr. Lt. & Pr. Co.....		\$31,954 22	\$19,782 83	\$12,171 39
Ashland.....	Ashland Lt. Pr. & St. Ry. Co.....		13,819 06	13,819 06	
Beloit.....	Beloit W. Gas. & El. Co.....		16,892 68	16,892 68	
Chippewa Falls..	Chip. Valley Ry. Lt. & Pr.Co.	\$3,516 86	9,249 99	9,249 99	
Eau Claire.....	Chip. Valley Ry. Lt. & Pr.Co.		7,281 91	7,281 91	
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co..		35,868 54	23,196 73	12,671 81
Green Bay.....	Green Bay Gas. & El. Co....	57,613 70	57,613 70	57,613 70	
Green Bay.....	Minahan Bldg. Co.....		9,881 70	9,881 70	
Green Bay.....	Northern Hydro El. Pr.Co ¹ ..		6,929 81	6,929 81	
Green Bay.....	Wis. Public Service Co. ²		4,235 57	2,719 24	1,516 33
Janesville.....	Janesville El. Co.....		22,359 97	22,359 97	
Kenosha.....	Kenosha Gas. & Fl. Co.....		24,766 59	20,552 35	4,214 24
Kenosha.....	Kenosha El. Ry. Co.....	4,214 24	23,948 54	11,789 01	12,159 53
La Crosse.....	La Crosse Gas & El. Co.....	4,787 23	70,731 48	70,731 48	
La Crosse.....	La Crosse Water Pr. Co.....	10,913 05	13,768 75	13,768 75	
Madison.....	Madison Gas & El. Co.....		68,069 74	68,069 74	
Madison.....	Southern Wis. Pr. Co.....		12,724 60	12,724 60	
Manitowoc.....	Electric Light. Co.....		20,877 22	20,877 22	
Marinette.....	Men. & Mari. Lt. & Tr.Co....	26,134 76	26,932 88	26,932 88	
Milwaukee.....	Commonwealth Pr. Co.....		51,777 43	51,777 43	
Milwaukee.....	Plankinton El. Lt. & Pr.Co....		26,709 22	26,709 22	
Milwaukee.....	The Mil. El. Ry. & Lt. Co....	\$178,289 18	\$862,373 55	308,820 33	411,741 09
Milwaukee.....	Milw. Lt. Ht. & Tr.Co. ⁶		(?).....	71,185 50	65,682 35
Milwaukee.....	Wells Power Co.....		57,301 09	57,301 09	
Oshkosh.....	Oshkosh Gas Light Co.....		40,067 98	40,067 98	
St. Croix Falls....	Wisconsin Improvement Co.....		52,678 06	52,678 06	
Sheboygan.....	Sheboygan Ry. & El. Co.....		46,121 22	26,103 52	20,017 70
Superior.....	Northern Power Co.....	115,782 75	115,782 75	115,782 75	
Superior.....	Superior W. Lt. & Pr. Co....	1,017 05	38,676 14	38,676 14	
Watertown.....	Watertown Gas & El. Co. ⁵ ..		1,025 99	\$7,970 27	
Wausau.....	Wausau St. Ry. Co.....		11,726 83	11,726 83	
	Total.....	\$402,268 82	\$1,782,147 21	\$1,241,972 77	\$540,174 44

¹ Report covers 6 months ending Dec. 31, 1911.² Report covers 6 months ending June 30, 1912.³ Includes \$306,820.33 apportioned to T. M. E. R. & L. lighting department; \$411,741.09 to T. M. E. R. & L. all other departments; \$71,185.50 to M. L. H. & T. lighting department; and \$65,682.35 to M. L. H. & T. all other departments; \$6,944.28 to Watertown Gas & El. Co.⁴ Transformation only: includes T. M. E. R. & L. Co. lighting, \$12,069.39; M. L. H. & T. Co., lighting, \$2,807.17; Watertown, \$273.85; and other departments of T. M. E. R. & L. Co. and M. L. H. & T. Co. \$18,827.03.

EXPENSES, 1912—Continued.

TRANSMISSION AND TRANSFORMATION.							STORAGE.			
OPERATION.			MAINTENANCE.				Total transmission and transformation.	Storage battery operation.	Maintenance storage battery equipment, buildings, fixtures and grounds.	Total storage.
Operating labor.	Substation and transformation station supplies and expenses.	Total operation.	Transmission lines.	Substation and transformation station equipment, buildings and grounds	Total maintenance.					
\$454 32		\$454 32	\$79 37		\$79 37	\$533 69				
				\$812 00	812 00	812 00				
25 11	\$3 25	28 36	746 29	25 98	772 27	800 63				
1,933 32	1 35	1,934 67	59 99	127 48	187 47	2,122 14				
148 56	2,398 60	2,547 16	95 61	1 39	97 00	2,644 16				
282 85		282 85	226 27	125 29	351 56	634 41				
1,714 32	487 06	2,201 38	127 55	51 25	178 80	2,380 18				
1,369 66	248 95	1,618 61	1,278 63	57 94	1,336 57	2,955 18	\$53 24	\$925 96	\$979 20	
1,644 70	319 25	1,963 95		54 25	54 25	2,018 20				
840 00	1,237 21	2,077 21	18 78	172 26	191 04	2,268 25				
18,448 76	6,810 50	25,259 26		8,748 23	8,748 23	\$34,007 49	1,144 83	9,951 54	\$11,096 42	
						(4)			(5)	
	5 33	5 33		16 77	16 77	22 10				
	3,165 24	3,165 24		302 17	302 17	3,467 41				
						(7)			(8)	
\$26,861 60	\$14,676 74	\$41,538 34	\$2,632 49	\$10,495 01	\$13,127 50	\$54,665 84	\$1,198 12	\$10,877 50	\$12,075 62	

⁶Storage includes T. M. E. R. & L. Co., lighting, \$3,947.95; M. L. H. & T. Co., lighting, \$915.97; Watertown, \$89.35; and other departments of T. M. E. R. & L. Co. and M. L. H. & T. Co. \$6,143.15.

⁷Included in T. M. E. R. & L. Co.

⁸Included in total cost of power under T. M. E. R. & L. Co.

⁹Includes \$6,944.23 from T. M. E. R. & L. Co. (see note 3).

CLASS A. DETAILED OPERATING

Italic figures denote credits.

DISTR

LOCATION.	NAME OF COMPANY.	OPERA-			
		Labor removing and resetting meters.	Labor inspecting, removing and resetting transformers.	Labor inspecting and testing meters	Miscellaneous distribution system operating labor.
Appleton.....	Wis. Tr. Lt. & Pr. Co.....	\$251 38	\$123 19	\$427 17	\$38 98
Ashland.....	Ashland Lt. Pr. & St. Ry. Co..	90 79	71 10	245 10	25 70
Beloit.....	Beloit W. Gas & Elec. Co.....	114 15			
Chippewa Falls..	Chip. Val. Ry. Lt. & Pr. Co..	455 97	6 64		
Eau Claire.....	Chip. Val. Ry. Lt. & Pr. Co..		349 59	439 60	16 08
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co....	2,118 69	12 50	997 88	188 06
Green Bay.....	Green Bay Gas & Elec. Co.....	1,350 56	113 51	1,097 42	476 35
Green Bay.....	Minahan Bldr. Co.....	2 25		41 45	
Green Bay.....	Northern Hydro El. Pr. Co. ³				
Green Bay.....	Wis. Public Service Co. ⁴				
Janesville.....	Janesville El. Co.....	282 83	291 74	583 48	282 83
Kenosha.....	Kenosha Gas & El. Co.....	261 62	222 57	250 61	163 30
Kenosha.....	Kenosha El. Ry. Co.....	50 42	44 71		
La Crosse.....	La Crosse Gas & El. Co.....	471 28	747 44	1,627 49	132 38
La Crosse.....	La Crosse Water Pr. Co.....				
Madison.....	Madison Gas & El. Co.....	1,188 04	204 49	1,591 38	
Madison.....	Southern Wis. Pr. Co.....				
Maitowoc.....	Electric Light Co.....	54 11		685 71	
Marinette.....	Men. & Mar. Lt. & Tr. Co....	58 04	5 04	484 13	
Milwaukee.....	Commonwealth Pr. Co.....	31 99		407 00	2,301 80
Milwaukee.....	Plankinton El. Lt. & Pr. Co..				⁵ 1,183 44
Milwaukee.....	The Milw. El. Ry. & Lt. Co..	3,038 45	920 02	8,320 97	⁶ 11,246 99
Milwaukee.....	Milw. Lt. Ht. & Tr. Co.....	1,480 93	134 64	2,401 92	75,938 61
Milwaukee.....	Wells Power Co.....	173 65		549 38	1,378 61
Oshkosh.....	Oshkosh Gas Light Co.....	109 06	238 07	402 36	303 43
St. Croix Falls..	Wisconsin Improvement Co..				
Sheboygan.....	Sheboygan Ry. & El. Co.....	139 27	37 38	837 95	173 86
Superior.....	Northern Power Co.....		1 14	453 95	549 35
Superior.....	Superior W. Lt. & Pr. Co....	1,997 88	212 13		931 93
Watertown.....	Watertown Gas & El. Co.....	54 04		332 00	246 13
Wausau.....	Wausau St. Ry. Co.....	49 40	216 38	394 35	480 75
	Total.....	\$13,824 80	\$3,952 28	\$22,571 30	\$25,858 56

¹Superintendence.²Includes \$1,683.00 superintendence.³Report covers 6 months ending Dec. 31, 1911.⁴Report covers 6 months ending June 30, 1912.

EXPENSES, 1912—Continued.

UTION.

TION.		MAINTENANCE.						Total distribution.
Meter department supplies and expenses.	Miscellaneous distribution system supplies and expenses.	Total operation.	Overhead distribution system.	Underground distribution system.	Transformers	Meters.	Total maintenance.	
\$54 15	\$95 48	\$990 35	\$1,076 22		\$11 22	\$119 03	\$1,206 47	\$2,196 82
.....	75	433 44	340 95	.....	52 99	56 16	450 10	883 54
.....	1493 71	607 86	.....	\$271 02	32 75	520 89	824 66	1,432 52
.....	16 83	479 44	99 23	.....	25	13 48	112 96	592 40
27 00	.....	832 27	922 19	.....	17 57	121 28	1,061 04	1,893 31
24 08	6 73	3,347 94	1,297 59	.....	411 81	109 18	1,818 58	5,166 52
213 05	143 31	3,394 20	2,294 85	204 10	18 66	300 61	2,818 22	6,212 42
.....	35 91	79 61	.....	.....	.....	13 81	13 81	93 42
.....
76 45	202 59	1,718 92	1,300 98	.....	346 45	426 48	2,073 91	3,793 83
19 27	325 00	1,242 37	176 75	4 70	54 49	187 15	129 59	1,371 96
1 47	72 73	169 33	461 03	.....	96 59	20 77	578 39	747 72
130 01	58 91	3,167 51	1,751 65	97 44	119 85	649 23	2,617 57	5,785 08
59 55	.....	59 55	132 40	.....	.....	.....	132 40	191 95
1,485 42	.....	4,469 33	6,646 90	236 09	94 93	2,153 04	9,130 96	13,600 29
.....	19 20	19 20	.....	.....	.....	.....	.....	19 20
146 49	.....	886 31	1,189 78	.....	.....	95 22	1,285 00	2,171 31
126 00	196 03	869 24	385 48	.....	36	146 03	531 87	1,401 11
313 58	270 94	3,325 31	39 89	187 66	5 16	426 00	658 71	3,984 02
.....	1,239 95	2,423 39	.....	.....	.....	.....	.....	.....
1,537 00	2,004 86	27,068 29	17,836 80	17,718 94	2,596 54	3,215 62	41,367 90	68,436 19
20 88	55 14	10,032 12	4,458 44	130 04	23 08	451 81	5,063 37	15,095 49
291 12	305 92	2,698 68	2 95	791 89	.....	38 70	833 54	3,532 22
35 53	472 84	1,561 29	2,601 62	.....	66 60	180 90	2,849 12	4,410 41
144 24	324 80	469 04	157 49	.....	.....	72 90	230 39	699 43
224 66	42 65	1,455 77	2,024 88	.....	40 13	653 39	2,718 40	4,174 17
70	36 97	842 09	595 79	181 89	55 56	73 69	906 93	1,749 02
.....	2,164 00	5,305 94	2,780 00	.....	20 00	2,275 00	5,075 00	10,380 94
19 48	185 62	837 27	179 21	3 67	22 77	1 40	207 05	1,044 32
159 59	113 93	1,414 40	2,338 42	.....	15 51	186 64	2,540 57	3,954 97
\$5,109 72	\$8,884 80	\$80,201 46	\$50,797 39	\$19,827 44	\$4,103 27	\$12,508 41	\$87,236 51	\$167,437 97

³Includes labor removing and resetting meters; labor inspecting, removing and resetting transformers; labor inspecting and testing meters.

⁴Includes \$9,231.10 supt. of lighting dept.; \$628.02 maintenance of overhead transmission system; \$408.24 maintenance of underground transmission system.

⁵Includes \$5,859.19 superintendent of lighting department.

CLASS A. DETAILED OPERATING
CON

LOCATION.	NAME OF COMPANY.	COM			
		Trim. and insp. lamps commercial.	Commercial lamp supplies.	Commercial lamp renewals.	Misc. consumption supplies and expenses.
Appleton	Wis. Tr. Lt. & Pr. Co.			\$2,657 66	\$91 12
Ashland	Ashland Lt. Pr. & St. Ry. Co.				
Beloit	Beloit Water, Gas & El. Co.	\$107 78	\$12 95	578 12	
Chippewa Falls..	Chip. Valley Ry. Lt. & Pr. Co.	341 90	35 68	1,234 31	21
Eau Claire	Chip. Valley Ry. Lt. & Pr. Co.	336 00	33 58		
Fond du Lac	Eastern Wis. Ry. & Lt. Co.	997 17	295 64	1,064 89	14 62
Green Bay	Green Bay Gas & El. Co.			28 51	268 27
Green Bay	Minahan Bldg. Co.	54 20	23 52	34 94	
Green Bay	Northern Hydro El. Pr. Co. ² ..				
Green Bay	Wis. Public Service Co. ³ ..				
Janesville	Janesville Elec. Co.			1,671 55	110 50
Kenosha	Kenosha Gas & El. Co.	3 77	35 77	905 20	20 00
Kenosha	Kenosha El. Ry. Co.			237 13	371 30
La Crosse	La Crosse Gas & Elec. Co.	24 09	24 00	3,263 35	60 00
La Crosse	La Crosse Water Pr. Co.				
Madison	Madison Gas & El. Co.	935 18		3,599 25	
Madison	Southern Wis. Pr. Co.				
Manitowoc	Electric Light Co.	262 81		1,416 23	
Marineette	Men. & Mari. Lt. & Pr. Co.			690 55	
Milwaukee	Commonwealth Pr. Co.	286 13	64 95	4,404 54	21 26
Milwaukee	Plankinton El. Lt. & Pr. Co.				
Milwaukee	The Milw. El. Ry. & Lt. Co.	1,787 24	961 21	62,815 92	183 57
Milwaukee	Milw. Lt. Ht. & Tr. Co.	204 92	69 23	7,454 22	3 95
Milwaukee	Wells Power Co.	783 59	220 76	2,389 77	228 63
Oshkosh	Oshkosh Gas Light Co.	329 84	123 57	1,397 52	41 06
St. Croix Falls...	Wisconsin Improvement Co.				
Sheboygan	Sheboygan Ry. & El. Co.	692 60	72	1,051 10	4 31
Superior	Northern Power Co.				
Superior	Superior W. Lt. & Pr. Co.	150 87	30 50		
Watertown.....	Watertown Gas & El. Co.	6 69		1,221 33	15 00
Wausau.....	Wausau St. Ry. Co.	77 02	10 23	116 49	148 58
	Total	\$7,381 80	\$1,942 31	\$98,232 58	\$1,582 38

¹ Includes "Trimming and inspecting lamps—commercial" and "Commercial lamp supplies."² Report covers 6 months ending Dec. 31, 1911.³ Report covers 6 months ending June 30, 1912.

EXPENSES, 1912—Continued.
SUMPTION.

MERCIAL.			MUNICIPAL CONTRACT LIGHTING.						Total consumption.
Customers' premises expenses.	Maint. commercial lamps.	Total commercial consumption.	Trim. & insp. mun. contract lamps.	Mun. contract lamp supplies.	Mun. con. inc. lamp renew's.	Misc. mun. con. ltr. sup. & exp.	Maint. municipal contract lamps.	Total municipal contract lighting.	
\$2,117 45		\$4,866 23	\$1,093 25	\$376 46			\$232 25	\$1,701 96	\$6,568 19
115 55	\$58 85	174 40	174 68	125 87			42 92	343 47	517 87
500 52	20 95	1,220 32	74 06				481 77	555 83	1,776 15
401 91	48	2,014 49	894 27	626 07		\$16 91	41 07	1,578 32	3,592 81
697 74	24 54	1,091 86	336 00	222 82			84 41	643 23	1,735 09
1,245 83	320 62	3,938 78							3,938 78
704 83		1,001 61	955 35	640 86			494 42	2,090 63	3,092 24
29 00	1 98	143 64						143 64	143 64
1,107 50		2,889 55	612 00	310 00			1,235 50	2,157 50	5,047 05
784 65		1,749 39							1,749 39
149 62		758 05	773 06	210 20		200 03	301 26	1,484 55	2,242 60
1,457 09		4,828 53	645 45	218 35	\$181 30		422 18	1,467 28	6,295 81
					82 73	1 38		84 11	84 11
2,411 17		6,945 60	1,128 13	433 81			402 21	1,964 15	8,909 75
211 21		1,890 25	43 93		392 01		645 73	1,081 67	2,971 92
220 87		911 42	259 78	243 81	77	4 00	361 47	869 83	1,781 25
2,991 41	440 84	8,209 13							8,209 13
22,685 88	44,352 93	92,786 75	14,460 40	7,777 06			5,964 98	28,202 44	120,989 19
5,099 69	288 09	13,120 10	1,844 31	623 03	828 25	35 58	31 25	3,362 42	16,482 52
577 66	16 40	4,216 81							4,216 81
950 64	3,018 59	5,861 22	1,104 47	329 53		388 86	275 60	2,098 46	7,959 68
154 67		154 67		20	114 80			115 00	269 67
845 19	1,128 90	3,722 82							3,722 82
1,527 86		1,709 23	1,170 95	395 91	203 80	2 28	845 00	2,617 94	4,327 17
382 09		1,625 11	289 26	151 36			23 90	464 52	2,089 63
866 15		1,218 47							1,218 47
\$48,236 18	\$9,673 18	\$167,048 43	\$25,859 35	\$12,685 34	\$1,803 66	\$649 04	\$11,885 92	\$52,883 31	\$219,931 74

⁴ Includes \$3,615.69 maintenance of electric signs.
⁵ Includes \$6.80 maintenance of electric signs.
⁶ Includes item \$3,000.00 expense of changing from d. c. service.

Italic figures denote credits.

CLASS A. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	COMMER			
		Collection salaries and commissions.	Reading meters and delivering bills.	Collection supplies and expenses.	Uncollectible accounts reserve charges.
Appleton.....	Wis. Tr. Lt. & Pr. Co.....	\$321 34	\$422 22	\$31 52	\$442 39
Ashland.....	Ashland L. P. & St. Ry. Co.		483 27		
Beloit.....	Beloit Water, Gas & E. Co.	574 35			
Chippewa Falls..	Chip. Val. Ry. Lt. & Pr. Co.		206 37	5 04	60 00
Eau Claire.....	Chip. Val. Ry. Lt. & Pr. Co.	252 17	320 65	18 71	360 00
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.	560 31	424 36	156 85	495 08
Green Bay.....	Green Bay Gas & El. Co....	323 41	639 93	110 33	601 48
Green Bay.....	Minahan Bldg. Co.....		66 25		
Green Bay.....	North. Hydro El. Pr. Co. ¹ ..				
Green Bay.....	Wis. Public Service Co. ² ...				
Janesville.....	Janesville Elec. Co.....	554 00	560 71	108 20	
Kenosha.....	Kenosha Gas & El. Co.....	1,056 42	439 71	186 03	443 04
Kenosha.....	Kenosha El. Ry. Co.....	10 00	105 46	55 18	56 77
La Crosse.....	La Crosse Gas & El. Co....	383 24	871 44	20 70	720 00
La Crosse.....	La Crosse Water Pr. Co....			5 25	
Madison.....	Madison Gas & El. Co.....	3,645 42	960 87	864 78	600 00
Madison.....	Southern Wis. Pr. Co.....				
Manitowoc.....	Electric Light Co.....	360 00	170 08	177 43	542 61
Marinette.....	Men. & Mar. Lt. & Tr. Co...	209 93	349 80	22 50	441 01
Milwaukee.....	Commonwealth Pr. Co.....	12 20			582 05
Milwaukee.....	Plankinton El. Lt. & P. Co.				
Milwaukee.....	The Milw. El. Ry. & Lt. Co.	2,621 84	4,137 52	45 21	4,808 16
Milwaukee.....	Milw. Lt. Ht. & Tr. Co....		1,911 58	13 33	1,049 67
Milwaukee.....	Wells Power Co.....	5,369 10	212 82		
Oshkosh.....	Oshkosh Gas Light Co.....		205 20	30 57	120 00
St. Croix Falls...	Wisconsin Improvem't Co.		160 02		
Sheboygan.....	Sheboygan Ry. & El. Co....	1,281 19	444 20		687 68
Superior.....	Northern Power Co.....				
Superior.....	Superior W. Lt. & Pr. Co...	2,053 08	1,054 36	1,124 85	480 00
Watertown.....	Watertown Gas & El. Co....	172 54	212 36	56 65	110 44
Wausau.....	Wausau St. Ry. Co.....	171 60	269 74	294 53	
	Total	\$19,932 17	\$14,628 92	\$3,327 66	\$12,600 38

¹ Report covers 6 months ending Dec. 31, 1911.

EXPENSES, 1912—Continued.

SPECIAL.			GENERAL.				
			OPERATION.				
Promotion business salaries and commissions.	Promotion business supplies and expenses.	Total commercial.	Salaries of general officers.	Salaries of general office clerks.	General office rent.	General office supplies and expenses.	Law expenses general.
\$884 78	\$884 79	\$2,987 04	\$1,940 00	\$2,797 12	\$235 00	\$459 26	\$746 48
15 00		498 27	2,008 55	667 46	203 20	233 15	
.....	181 67	756 00	2,970 92	2,484 47	463 00	660 40	278 87
.....	258 82	530 23	399 96	578 26	216 00	326 64	112 00
764 70	2,879 43	4,595 66	1,500 00	2,532 00	300 00	247 47	938 45
544 04	769 76	2,950 41	2,310 65	1,345 87	106 28	411 15	465 34
1,315 67	505 70	3,496 56	1,490 90	2,314 08	383 94	538 23	442 70
2 00	.....	68 25	.....	918 95	45 00	1 25	466 10
.....	63 70	63 70	2,300 00	540 00	150 00	41 46	392 98
.....	.....	.....	293 69	280 81	103 20	170 01	34 24
1,145 97	740 16	3,109 04	5,040 00	1,785 00	500 04	788 14	.....
1,181 42	.....	3,306 62	1,222 80	679 86	279 50	479 78	590 71
160 00	33 57	420 98	923 40	518 14	410 00	502 83	168 88
26 33	872 43	2,894 14	3,600 00	3,348 71	432 00	1,367 88	297 25
.....	.....	5 25	1,760 94	378 61	66 67	483 13	.....
550 86	2,070 64	8,692 57	7,562 46	1,675 45	1,740 00	478 85	600 00
.....	.....	.....	6,250 00	798 50	240 00	147 54	737 23
.....	208 50	1,458 62	1,200 00	1,333 30	150 00	283 43	4 00
888 50	1,213 89	3,125 63	1,153 04	1,403 16	.....	.....	34 20
1,295 82	.....	1,890 07	2,083 35	1,326 78	520 00	599 79	60 75
.....	.....	.....	3,444 44	386 64	200 00	33 10	.....
38,069 58	38,069 56	87,751 87	3,612 40	5,012 61	.....	12 98	3,571 20
8,486 95	8,487 05	19,948 58	788 48	1,093 52	.....	176 76	784 07
.....	25 00	5,606 92	2,400 00	1,048 86	360 00	234 31	.....
330 00	135 07	820 84	4,399 98	2,825 93	930 00	552 85	2,400 43
.....	.....	160 02	480 00	698 52	148 32	179 79	3,011 97
1,400 38	1,184 04	4,997 49	2,832 19	1,681 36	728 83	2,177 45	678 44
253 88	100 70	354 58	2,400 00	900 00	300 00	.....	.....
1,312 50	2,287 17	8,311 96	3,180 00	649 98	520 00	201 90	2,163 52
734 27	.....	1,286 26	934 97	1,096 10	262 40	278 80	430 44
2,266 64	1,300 63	4,303 14	3,880 00	1,398 05	240 00	750 19	400 00
\$61,629 29	\$62,272 28	\$174,390 70	\$74,363 12	\$44,498 10	\$10,233 38	\$12,792 56	\$19,810 25

² Report covers 6 months ending June 30, 1912.

CLASS A. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	GENERAL—Concluded.			
		OPERATION—continued.			MAIN Maint. general office equip- ment.
		Misc. general expenses	Railroad commis- sion ex- penses.	Total opera- tion.	
Appleton.....	Wis.Tr.Lt.&Pr.Co.....	\$698 21	.....	\$6,876 07	\$17 24
Ashland.....	Ashland Lt.Pr.&St.Ry.Co.....	297 21	.....	3,409 57	.....
Beloit.....	Beloit W.Gas&El.Co.....	895 16	.....	7,752 82	.....
Chippewa Falls...	Chip.Valley Ry.Lt.&Pr.Co.....	62 77	.....	1,695 63	9 75
Eau Claire.....	Chip.Valley Ry.Lt.&Pr.Co.....	2,083 83	.....	7,601 75	5 40
Fond du Lac.....	Eastern Wis.Ry.&Lt.Co.....	1,073 11	\$154 95	5,867 35	56
Green Bay.....	Green Bay Gas&El.Co.....	1,861 24	41 95	7,073 04	29 39
Green Bay.....	Minahan Bldg.Co.....	202 29	.....	1,633 59	.....
Green Bay.....	Northern Hydro El.Pr.Co.....	1,062 74	.....	4,487 18	.....
Green Bay.....	Wis.Public Service Co. ²	513 71	.....	1,395 66	4 99
Janesville.....	Janesville El.Co.....	1,175 33	.....	9,288 51	.....
Kenosha.....	Kenosha Gas&El.Co.....	197 73	3 63	3,454 01	41 07
Kenosha.....	Kenosha El.Ry.Co.....	614 42	192 25	3,329 92	.....
La Crosse.....	La Crosse Gas&El.Co.....	1,344 53	.....	10,390 37	343 18
La Crosse.....	La Crosse Water Pr.Co.....	245 17	.....	2,934 52	.....
Madison.....	Madison Gas&El.Co.....	1,265 83	.....	13,322 59	.....
Madison.....	Southern Wis.Pr.Co.....	1,974 53	.....	10,147 80	.....
Manitowoc.....	Electric Light Co.....	583 63	.....	3,554 36	.....
Marquette.....	Men.&Mari.Lt.&Tr.Co.....	1,325 66	.....	3,916 06	202 59
Milwaukee.....	Commonwealth Pr.Co.....	340 41	.....	4,931 08	.....
Milwaukee.....	Plankinton El.Lt.&Pr.Co.....	142 58	.....	4,206 76	.....
Milwaukee.....	The Milw.El.Ry.&Lt.Co.....	6,175 38	45 31	18,403 92	172 13
Milwaukee.....	Milw.Lt.,Ht.&Tr.Co.....	1,335 80	147 41	4,326 04	26 13
Milwaukee.....	Wells Power Co.....	512 65	.....	4,555 82	.....
Oshkosh.....	Oshkosh Gas Light Co.....	2,493 15	27	13,602 61	65 70
St.Croix Falls....	Wisconsin Improvement Co.....	1,557 11	.....	6,075 71	.....
Sheboygan.....	Sheboygan Ry.&El.Co.....	1,877 21	.....	9,975 48	.....
Superior.....	Northern Power Co.....	10,160 60	.....	13,760 60	.....
Superior.....	Superior W.Lt.&Pr.Co.....	1,805 99	.....	8,521 39	.....
Watertown.....	Watertown Gas&El.Co.....	487 51	.....	3,490 22	.....
Wausau.....	Wausau St.Ry.Co.....	1,057 97	427 80	8,154 01	54 71
	Total.....	\$45,423 46	\$1,013 57	\$208,134 44	\$972 84

¹ Report covers 6 month ending Dec. 31, 1911.² Report covers 6 months ending June 30, 1912.³ Extraordinary expenses.

EXPENSES, 1912.—Continued.

TENANCE.		UNDISTRIBUTED.						
Maint. gen. off-ice bldgs. fix. and grounds.	Total maintenance.	Total general.	Injuries and damages	Insurance.	Stationery and printing	Operation stores department.	Maint. stores dept. equip. bldg. fix. and grds.	Operation of utility grounds equip-ment.
\$30 95	\$48 19	\$6,924 26	\$2,377 77	\$1,769 57	\$433 73	\$215 34	\$8 23	\$523 54
.....	.....	3,409 57	.....	1,149 21	.....	.....	.....	332 86
.....	.....	7,752 82	.....	843 28	.....	.....	.....	.....
2 75	12 50	1,708 13	.....	357 82	153 51	.....	.....	462 87
.....	5 40	7,607 15	44 00	1,851 60	485 93	.....	.....	506 88
72 72	73 28	5,940 63	1,125 92	310 04	135 57	581 63	1 71	431 24
93 77	123 16	7,196 20	803 85	790 10	383 41	438 17	2 96	333 77
.....	.....	1,633 59	.....	133 31	19 00	.....	.....	.....
.....	.....	4,487 18	35 00	306 00	109 10	64 07	.....	764 51
14 48	19 47	1,415 13	450 00	240 00	26 42	101 27	4 72	.....
.....	.....	9,288 51	.....	2,180 00	95 39	.....	.....	552 48
24 88	65 95	3,519 06	886 06	1,181 41	45 45	326 16	6 72	14 13
.....	.....	3,329 92	260 33	393 99	54 07	275 37	.....	.....
.....	343 18	10,733 55	1,605 90	1,200 98	582 67	720 00	.....	81 62
.....	.....	2,934 52	2,665 76	904 24	66 25	.....	16 45	126 55
.....	.....	13,322 59	.....	.....	.....	.....	.....	.....
.....	.....	10,147 80	.....	535 15	.....	.....	.....	1,350 17
.....	.....	3,554 36	30 00	1,024 51	.....	.....	.....	.....
.....	202 59	4,118 65	3,686 29	589 40	329 77	1,031 08	.....	.....
.....	.....	4,931 08	209 33	341 48	.....	257 31	.....	194 52
.....	.....	4,206 76	3228 93	1,020 75	.....	.....	.....	45,000 00
1,435 61	1,607 74	20,011 66	6,244 90	4,713 74	3,214 81	2,447 53	618 62	.....
312 52	338 65	4,664 69	1,373 52	2,526 94	706 65	1,092 84	144 21	684 39
.....	.....	4,555 82	.....	720 00	122 63	1,108 11	.....	281 97
1 80	67 50	13,670 11	20 00	3,161 92	33 52	289 39	98 56	390 11
.....	.....	6,075 71	9 68	269 96	317 74	.....	.....	.....
.....	.....	9,975 48	2,002 70	1,056 75	246 42	347 29	.....	713 52
.....	.....	13,760 60	.....	474 08	17 25	.....	.....	.....
.....	.....	8,521 39	.....	.....	.....	.....	.....	.....
.....	.....	3,490 22	612 88	672 09	125 14	39 46	.....	413 20
.....	54 71	8,208 72	7 00	241 10	332 73	1,398 74	.....	634 91
\$1,989 48	\$2,962 32	\$211,036 76	\$24,679 82	\$30,959 42	\$8,154 21	\$10,916 30	\$902 18	\$13,793 24

⁴ Lease rental.

⁵ Includes \$1,685.69 Relief Pension Ass'n expenses.

CLASS A. DETAILED OPERAT

LOCATION.	NAME OF COMPANY.	UNDISTRIBUTED. (Concluded.)		SUMMARY		
		Maintenance, utility equipment, buildings, fixtures and grounds.	Total undistributed.	Total power.	Total transmission and transformation.	Total storage.
Appleton.....	Wis. Tr. Lt. & Pr. Co.....	\$329 90	\$5,658 08	\$19,782 83	\$533 69	.....
Ashland.....	Ashland L. P. & St. Ry. Co.	45 46	1,527 53	13,819 06	812 00	.....
Beloit.....	Beloit W. Gas & El. Co.....	.....	996 79	16,892 68	.....	.....
Chippewa Falls.	Chip. Val. Ry. Lt. & P. Co.	77 26	1,242 54	9,249 99	.....	.....
Eau Claire.....	Chip. Val. Ry. Lt. & P. Co.	309 51	3,197 92	7,281 91	800 63	.....
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.	65 82	2,651 93	23,196 73	.....	.....
Green Bay.....	Green Bay Gas & El. Co.....	6 05	2,758 31	57,613 70	.....	.....
Green Bay.....	Minahan Bldg. Co.....	.....	152 31	9,881 70	.....	.....
Green Bay.....	Northern Hydro El. P. Co. ¹	1 73	1,280 41	6,929 81	2,122 14	.....
Green Bay.....	Wis. Public Service Co. ²	.....	822 41	2,719 24	2,644 16	.....
Janesville.....	Janesville El. Co.....	156 25	2,984 12	22,359 97	634 41	.....
Kenosha.....	Kenosha Gas & El. Co.....	.....	2,414 93	20,552 35	.....	.....
Kenosha.....	Kenosha El. Ry. Co.....	.....	983 76	11,789 01	.....	.....
La Crosse.....	La Crosse Gas & El. Co.....	215 65	4,406 82	70,731 48	.....	.....
La Crosse.....	La Crosse Water Pr. Co.....	.....	3,779 25	13,768 75	2,380 18	.....
Madison.....	Madison Gas & El. Co.....	.....	.....	68,069 74	.....	\$979 20
Madison.....	Southern Wis. Pr. Co.....	408 29	2,293 61	12,724 60	2,955 18	.....
Manitowoc.....	Electric Light Co.....	.....	1,054 51	20,877 22	.....	.....
Marquette.....	Men. & Mari. Lt. & Tr. Co.	.....	5,636 54	26,932 88	2,018 20	.....
Milwaukee.....	Commonwealth Pr. Co.....	1 67	1,004 31	51,777 43	2,268 25	.....
Milwaukee.....	Plankinton El. L. & P. Co.	4540 00	6,789 68	26,709 22	.....	.....
Milwaukee.....	The Milw. El. Ry. & L. Co.	6356 13	17,595 73	306,820 33	612,099 39	3,947 95
Milwaukee.....	Milw. Lt. Ht. & Tr. Co.....	.....	6,528 55	71,185 50	62,807 17	915 97
Milwaukee.....	Wells Power Co.....	23 07	2,255 78	57,301 09	.....	.....
Oshkosh.....	Oshkosh Gas Light Co.....	224 08	4,217 58	40,067 98	.....	.....
St. Croix Falls..	Wis. Improvement Co.....	.....	597 38	52,678 06	22 10	.....
Sheboygan.....	Sheboygan Ry. & El. Co.....	.....	4,366 68	26,103 52	.....	.....
Superior.....	Northern Power Co.....	.....	491 33	115,732 75	3,467 41	.....
Superior.....	Superior W. Lt. & Pr. Co.....	.....	.....	38,676 14	.....	.....
Watertown.....	Watertown Gas & El. Co.....	326 84	2,189 61	7,970 27	6273 85	89 35
Wausau.....	Wausau St. Ry. Co.....	.....	2,614 48	11,726 83	.....	.....
Total.....		\$3,087 71	\$92,492 88	\$1,241,972 77	\$85,838 76	\$5,932 47

¹ Report covers six months ending Dec. 31, 1911.² Report covers six months ending June 30, 1912.³ Includes item \$333 24 contingencies extraordinary.⁴ Tunnel rent.⁵ Rent of land, buildings and other property.

ING EXPENSES, 1912.—Concluded.

OF OPERATING EXPENSES.

Total distribution.	Total consumption.	Total commercial.	Total general.	Total undistributed.	Total of foregoing.	Depreciation.	Taxes.	Total operating expenses.
\$2,196 82	\$6,568 19	\$2,987 04	\$6,924 26	\$5,658 08	\$44,650 91	\$11,614 11	\$6,968 43	\$63,233 45
883 54	517 87	498 27	3,409 57	1,527 53	21,467 84	17,010 00	2,649 60	41,127 44
1,432 52	1,776 15	756 00	7,752 82	996 79	29,606 96	1,940 00	3,685 00	35,231 96
592 40	3,592 81	530 23	1,708 13	1,242 54	16,916 10	3,300 00	1,578 85	21,794 95
1,893 31	1,735 09	4,595 66	7,607 15	3,197 92	27,111 67	10,500 00	6,363 89	43,975 56
5,166 52	3,938 78	2,950 41	5,940 63	2,651 93	43,845 00	.....	3,288 55	47,133 55
6,212 42	3,092 24	3,496 56	7,196 20	2,758 31	80,369 43	.....	3,525 00	83,894 43
93 42	143 64	68 25	1,633 59	152 31	11,972 91	3,435 06	1,001 00	16,408 97
.....	.....	63 70	4,487 18	1,280 41	14,883 24	.....	5,583 12	20,466 36
.....	.....	.....	1,415 13	822 41	7,600 94	.....	3,450 00	11,050 94
3,793 83	5,047 05	3,109 04	9,288 51	2,984 12	47,216 93	10,500 00	4,080 00	61,796 93
1,371 96	1,749 39	3,306 62	3,519 96	2,414 93	32,915 21	5,907 16	\$1,810 04	40,632 41
747 72	2,242 60	420 98	3,329 92	983 76	19,513 99	1,934 56	894 72	22,343 27
5,785 08	6,295 81	2,894 14	10,733 55	4,406 82	100,846 88	15,000 00	11,542 79	127,389 67
191 95	84 11	5 25	2,934 52	3,779 25	23,144 01	.....	9,173 91	32,317 92
13,600 29	8,909 75	8,692 57	13,322 59	.....	113,574 14	33,728 98	5,932 66	153,235 78
19 20	.....	.....	10,147 80	2,293 61	28,140 39	30,000 00	442 53	58,582 92
2,171 31	2,971 92	1,458 62	3,554 36	1,054 51	32,087 94	.....	1,762 41	33,850 35
1,401 11	1,781 25	3,125 63	4,118 65	5,636 54	45,014 26	4,510 68	1,673 07	51,198 01
3,984 02	8,209 13	1,890 07	4,931 08	1,004 31	74,064 29	11,711 68	2,114 36	87,890 33
2,423 39	.....	.....	4,206 76	6,789 68	40,129 05	7,716 00	642 06	48,487 11
768,436 19	120,989 19	87,751 87	20,011 66	17,595 73	637,652 31	175,293 47	90,551 08	908,496 86
\$15,095 49	16,482 52	19,948 58	4,664 69	6,528 55	137,628 47	35,871 26	19,916 27	193,416 00
3,532 22	4,216 81	5,606 92	4,555 82	2,255 78	77,468 64	17,700 00	10,194 73	105,363 37
4,410 41	7,959 68	820 84	13,670 11	4,217 58	71,146 60	.....	4,106 92	75,253 52
699 43	269 67	160 02	6,075 71	597 38	60,502 37	.....	20,653 41	81,155 78
4,174 17	3,722 82	4,997 49	9,975 48	4,366 68	53,340 16	.....	2,906 43	56,246 59
1,749 02	.....	354 58	13,760 60	491 33	135,605 69	.....	1,089 67	136,695 36
10,880 94	4,327 17	8,311 96	8,521 39	.....	70,217 60	24,000 00	4,842 81	99,060 41
1,044 32	2,089 63	1,286 26	3,490 22	2,189 61	18,433 51	4,731 11	1,474 51	24,639 13
3,954 97	1,218 47	4,303 14	8,208 72	2,614 48	32,026 61	12,000 00	5,202 30	49,228 91
\$167,437 97	\$219,931 74	\$174,390 70	\$211,096 76	\$92,492 88	\$2,149,094 05	\$438,404 07	\$239,100 12	\$2,826,598 24

⁶ Transformation only.

⁷ Includes superintendence of lighting department \$9,231 10, maintenance of O. H. Transm. system \$628 02, and U. G. Transm. system \$408 24.

⁸ Includes supt. of lighting department \$5,859 19.

CLASS A. STEAM GENERATION APPORTIONMENT

LOCATION.	NAME OF COMPANY.	OPERATION.			
		Operat- ing labor.	Fuel for steam.	Water for steam.	Miscel- laneous steam supplies and ex- penses.
Appleton.....	Wis. Tr. Lt. & Pr. Co.....	\$878 01	\$4,911 95	.....	\$154 88
Ashland.....	Ashland L. P. & St. Ry. Co..	1,748 35	7,925 60	\$360 67	.....
Beloit.....	Beloit W. Gas & Elec. Co.....	2,212 41	9,928 01	39 96	.....
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co..	2,327 14	25,677 57	18 52	749 81
Green Bay.....	Minahan Bldg. Co.....	1,110 00	5,167 74	9 00	.....
Green Bay.....	Northern Hydro Elec. Co. ¹ ..	23 00	8 40	.....	18 00
Janesville.....	Janesville Elec. Co.....	1,533 40	8,896 20	.....	.....
Kenosha.....	Kenosha Gas & Elec. Co.....	2,894 17	16,229 11	.....	335 03
Kenosha.....	Kenosha Elec. Ry. Co.....	1,612 87	12,832 37	.....	171 74
La Crosse.....	La Crosse Gas & Elec. Co...	4,232 70	47,963 70	463 00	564 31
Madison.....	Madison Gas & Elec. Co.....	6,314 68	41,702 77	1,163 82	1,603 65
Manitowoc.....	Electric Lt. Co.....	1,623 62	11,361 28	.....	47 01
Marinette.....	Men. & Mari. Lt. & Tr. Co..	206 50	277 36	16 48	2 87
Milwaukee.....	Commonwealth Pr. Co.....	2,798 14	37,310 23	81 67	1,361 08
Milwaukee.....	Plankinton El. Lt. & Pr. Co.	1,252 96	14,271 85	.....	5,087 19
Milwaukee.....	The Milw. El. Ry. & Lt. Co..	62,216 72	544,468 83	11,408 01	6,491 39
Milwaukee.....	Milw. Lt. Ht. & Tr. Co. ²..	.....	.....	.....	.....
Milwaukee.....	Wells Pr. Co.....	6,072 94	35,184 79	771 49	3,018 44
Oshkosh.....	Oshkosh Gas Lt. Co.....	2,396 56	22,919 76	.....	221 31
Sheboygan.....	Sheboygan Ry. & Elec. Co..	3,967 79	27,951 97	.....	199 63
Watertown.....	Watertown Gas & El. Co. ²..	.....	.....	.....	.....
Wausau.....	Wausau St. Ry. Co. ².....	.....	1,175 75	.....	.....
Total		\$105,421 96	\$876,165 24	\$14,332 62	\$20,026 34

¹ Report covers six months ending Dec. 31, 1912.² Included in T. M. E. R. & L. Co.

ACCOUNT, YEAR ENDING JUNE 30, 1912.

Total operation.	MAINTENANCE.				Total cost of steam.	APPORTIONED TO	
	Boilers and boiler auxiliary equipment.	Coal and ash handling equipment.	Boiler plant buildings, fixtures and grounds.	Total maintenance.		Electric utility.	Other utilities.
\$5,944 84	\$110 56	\$0 10	\$14 07	\$124 73	\$6,069 57	\$6,069 57	.....
10,034 62	.....	.....	41 62	41 62	10,076 24	10,076 24	.....
12,180 38	.....	.....	.....	.....	12,180 38	12,180 38	.....
28,773 04	1,669 81	.....	3 48	1,673 29	30,446 33	30,446 33	.....
6,286 74	44 39	10 34	.....	54 73	6,341 47	6,341 47	.....
49 40	75	.....	.....	75	50 15	50 15	.....
10,429 60	26 12	.....	.....	26 12	10,455 72	7,166 18	3,289 54
19,458 31	324 95	.....	4 69	329 64	19,787 95	19,787 95	.....
14,616 98	1,081 73	67 63	79 80	1,229 16	15,846 14	15,846 14	.....
53,223 71	777 35	.....	.....	777 35	54,001 06	54,001 06	.....
50,784 92	2,402 66	.....	.....	2,402 66	53,187 58	53,187 58	.....
13,031 91	277 81	.....	.....	277 81	13,309 72	13,309 72	.....
503 21	57 90	.....	43 45	101 35	604 56	604 56	.....
41,551 12	1,916 82	99 05	.....	2,015 87	43,566 99	43,566 99	.....
20,612 00	.....	.....	.....	.....	20,612 00	20,612 00	.....
624,584 95	28,759 39	2,729 58	1,167 92	32,656 89	657,241 84	592,936 53	64,305 31
45,047 66	1,683 21	369 43	31 25	2,083 89	47,131 55	47,131 55	.....
25,537 63	1,200 06	1,624 09	87 25	2,911 40	28,449 03	28,449 03	.....
32,119 39	1,655 31	.....	116 94	1,772 25	33,891 64	33,891 64	.....
1,175 75	.....	.....	.....	.....	1,175 75	1,175 75	.....
\$1015,946 16	\$41,988 82	\$4,900 22	\$1,590 47	\$48,479 51	\$1064,425 67	\$996,830 82	\$67,594 85

³ Not reported separately; fuel only given in details of steam power generation.

DISTRIBUTION OF THE PAY ROLL.

LOCATION.	NAME OF COMPANY.	Power— steam.	Power— gas.	Power— hydraulic	Steam genera- tion.	Power gas produ- tion.	Trans- mission and trans- formation.	Storage.	Distribu- tion.
Appleton.....	Wis. Tr. Lt. & Pr. Co.....	\$429 88							\$1,754 51
Ashland.....	Ashland Lt. Pr. & St. Ry. Co.....	638 98		\$9,476 85	\$912 25		\$532 23		798 77
Beloit.....	Beloit W. Gas & Elec. Co.....	2,829 40		2,260 90			812 00		944 07
Chipp. Falls.....	Chip. Valley Ry. Lt. & Pr. Co.....			38 32	2,219 37				484 56
Eau Claire.....	Chip. Valley Ry. Lt. & Pr. Co.....			2,259 63					1,067 03
				5,917 63			566 97		
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.....	2,569 26			2,619 91				4,244 11
Green Bay.....	Green Bay Gas & Electric Co.....								4,828 51
Green Bay.....	Minahan Bldg. Co.....	3,111 05			1,110 00				44 50
Green Bay.....	Northern Hydro Electric Pr. Co. ¹			2,334 65	190 50		1,860 83		
Green Bay.....	Wisconsin Public Service Co. ¹			5,523 67					
Janesville.....	Janesville Elec. Co.....	2,298 14		6,030 59	1,694 15		537 85		2,981 98
Kenosha.....	Kenosha Gas & Elec. Co.....	3,467 55			3,032 93				1,533 26
Kenosha.....	Kenosha Elec. Ry. Co.....	2,694 69			1,660 83				393 77
La Crosse.....	La Crosse Gas & Elec. Co.....	8,082 88			4,232 70				4,599 99
La Crosse.....	La Crosse Water Power Co.....			2,472 90			1,745 72		48 01
Madison.....	Madison Gas & Elec. Co.....	10,753 57	\$16 33		6,904 44			\$48 40	9,359 96
Madison.....	Southern Wisconsin Power Co.....			11,079 14			1,895 48		3 70
Manitowoc.....	Electric Light Co.....	4,050 60	17 42		1,623 62				1,495 84
Marinette.....	Menom. & Marinette Lt. & Tr. Co.....	21 70					1,644 70		922 78
Milwaukee.....	Commonwealth Power Co.....	5,671 54			2,819 54		950 28		3,111 72
Milwaukee.....	Plankinton El. Lt. & Pr. Co.....	4,480 61			1,252 96				1,183 44
Milwaukee.....	The Milwaukee Electric Ry. & Lt. Co.....	\$67,521 41		\$1,592 60	\$76,007 23		\$23,248 16	\$876 64	49,752 51
Milwaukee.....	Milwaukee Lt. Ht. & Tr. Co.....	(⁴)		(⁴)	(⁴)		(⁴)	(⁴)	13,615 23
Milwaukee.....	Wells Power Co.....	6,318 23			6,272 03				2,460 04
Oshkosh.....	Oshkosh Gas Light Co.....	5,623 01			2,397 69				2,591 68
St. Croix Falls.....	Wisconsin Improvement Co.....			4,836 20					174 96
Sheboygan.....	Sheboygan Ry. & Elec. Co.....								2,956 54
Superior.....	Northern Power Co.....						2,601 31		1,278 78
Superior.....	Superior W. Lt. & Pr. Co.....		\$3,022 48						3,141 24
Watertown.....	Watertown Gas & Elec. Co.....			961 27				\$1,372 10	529 25
Wausau.....	Wausau St. Ry. Co.....	273 72		6,470 03				4,939 71	2,441 92
Total.....		\$130,836 22	\$3,056 23	\$55,254 38	\$114,950 15		\$36,395 53	\$7,236 85	\$118,742 66

LOCATION.	NAME OF COMPANY.	Consumption, commercial.	Consumption, municipal contract.	Commercial.	General.	Undistributed.	Stock accounts.	Construction and equipment.	Depreciation.	Total.
Appleton	Wis. Tr. Lt. & Pr. Co.....	\$2,056 64	\$1,184 75	\$1,670 27	\$4,822 39	\$515 60	\$15 68	\$2,358 77	\$772 33	\$20,502 15
Ashland	Ashland Lt. Pr. & St. Ry. Co.	174 40	217 60	488 61	2,676 01	.....	.....	.....	.....	8,067 27
Beloit.....	Beloit W. Gas & Elect. Co..	525 20	295 88	2,157 73	5,764 52	.....	360 21	608 38	536 46	16,279 54
Chipp. Falls.....	Chipp. Val. Ry. Lt. & Pr. Co.	653 17	879 25	227 92	981 29	171 39	1,647 83	599 67	.....	7,904 71
Eau Claire.....	Chipp. Val. Ry. Lt. & Pr. Co.	440 47	354 90	980 86	4,047 15	193 11	.....	12,746 26	.....	26,314 38
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co..	2,249 86	.....	1,510 29	3,585 79	547 55	934 12	1,309 69	.....	19,570 58
Green Bay.....	Green Bay Gas & Elect. Co..	507 88	1,336 66	1,825 97	3,814 34	288 57	.....	2,879 33	.....	15,481 26
Green Bay.....	Minahan Bldg. Co.....	83 20	.....	66 25	918 95	.....	.....	135 65	.....	5,469 60
Green Bay.....	Northern Hydro El. Pr. Co. ¹	.....	.....	.....	2,810 00	442 50	.....	.....	.....	7,638 48
Green Bay.....	Wis. P.ub. Service Co. ¹	.....	.....	.....	.....	.....	.....	.....	.....	5,523 67
Janesville.....	Janesville Electric Co.....	1,107 50	1,188 00	2,260 68	6,825 00	.....	.....	.....	.....	24,923 89
Kenosha.....	Kenosha Gas & El. Co.....	175 14	.....	2,324 04	1,917 79	326 16	1,071 18	3,536 14	.....	17,984 19
Kenosha.....	Kenosha Elec. Ry. Co.....	125 00	795 56	275 46	1,441 54	275 37	831 18	2,484 66	.....	10,978 06
La Crosse.....	La Crosse Gas & El. Co.....	494 24	780 00	1,262 54	6,994 55	396 00	.....	1,199 68	.....	28,042 58
La Crosse.....	La Crosse Water Pr. Co.....	.....	.....	.....	2,249 41	16 45	5,027 61	9,153 80	.....	20,713 90
Madison.....	Madison Gas & Elec. Co.....	2,421 12	1,171 40	4,800 20	9,620 72	.....	1,974 10	8,321 08	.....	55,391 32
Madison.....	Southern Wis. Pr. Co.....	.....	.....	.....	7,048 50	240 98	.....	6,324 70	.....	26,592 50
Manitowoc.....	Electric Lt. Co.....	141 93	632 08	530 08	2,533 30	.....	.....	1,533 48	.....	12,558 35
Marinette.....	Menom. & Mar. Lt. & Tr. Co.	97 64	531 24	1,448 23	2,556 20	933 03	.....	480 95	.....	8,636 47
Milwaukee.....	Commonwealth Pr. Co.....	1,043 60	.....	724 57	3,410 13	260 41	.....	2,732 31	.....	20,724 10
Milwaukee.....	Plankinton El. Lt. & Pr. Co.	.....	.....	.....	3,831 08	.....	.....	.....	.....	10,748 09
Milwaukee.....	The Milw. El. Ry. & Lt. Co..	22,563 88	17,604 83	5,946 82	21,127 18	5,572 05	219,446 57 ²	278,048 97	.....	1,100,798 85
Milwaukee.....	Milw. Lt. Ht. & Tr. Co.....	4,659 32	2,079 21	1,809 58	4,427 75	1,465 48	.....	(C)	.....	28,126 57
Milwaukee.....	Wells Power Co.....	1,528 75	.....	212 82	3,448 86	589 89	.....	2,749 24	.....	23,579 84
Oshkosh.....	Oshkosh Gas Light Co.....	2,240 54	1,423 41	535 20	7,394 47	336 85	84 56	407 52	6936 85	23,971 78
St. Croix Falls.....	Wisconsin Improvement Co.	79 98	.....	160 02	195 42	.....	.....	.....	.....	5,446 58
Sheboygan.....	Sheboygan Ry. & Elec. Co..	731 81	964 09	2,633 68	.....	366 49	.....	1,354 83	.....	9,007 44
Superior.....	Northern Power Co.....	.....	.....	253 88	3,300 00	.....	.....	.....	.....	7,433 97
Superior.....	Superior W. Lt. & Pr. Co..	1,600 93	1,170 95	4,795 12	3,829 98	.....	.....	14,635 43	.....	32,196 13
Watertown.....	Watertown Gas & Elec. Co..	360 43	235 02	384 90	2,031 07	280 08	1,351 75	358 14	.....	7,864 01
Wausau.....	Wausau St. Ry. Co.....	962 81	.....	2,717 88	5,278 05	1,190 32	37 43	8,761 63	.....	33,073 50
Total		\$47,605 42	\$32,934 83	\$42,093 60	\$128,881 44	\$14,408 28	\$32,782 22	\$874,120 31	\$2,245 64	\$1,641,543 76

¹ Report covers 6 months.

² Includes combined "Power accounts"; etc of T. M. E. R. & L. and M. L. H. & T.

³ This amount includes \$146,353.51 of "Special accounts" and \$146,388.75 of "Miscellaneous".

⁴ Included with combined "Power accounts"; "Construction and reconstruction"; "Special accounts"; and "Miscellaneous" of T. M. E. R. & L. Co. and M. L. H. & T. Co.—See T. M. E. R. & L. Co.

⁵ Electric power.

⁶ Miscellaneous.

⁷ Reserve accounts.

CLASS B. MUNICIPAL PLANTS. DETAILED OPER-
STEAM POWER

LOCATION.	NAME OF COMPANY.	OPER-		
		Operating labor.	Steam generated.	Power purchased.
Columbus.....	Mun. Elec. Lt. Plant.....	\$1,064 73	\$5,317 59	.....
Ft. Atkinson.....	" " " ".....	1,028 26	8,793 82	.....
Hartford.....	" " " ".....	2,450 50	14,517 27	.....
Marshfield.....	" " " ".....	1,212 24	10,414 09	.....
New London.....	" " " ".....	759 75	4,470 75	.....
Oconomowoc.....	" " " ".....	1,705 00	7,765 43	.....
Pt. Washington.....	" " " ".....	1,232 00	5,327 05	.....
Richland Center.....	" " " ".....	1,602 30	5,075 82	.....
Shawano.....	" " " ".....	1,450 05	15,954 02	.....
Stoughton.....	" " " ".....	398 50	1,943 72	.....
Sturgeon Bay.....	" " " ".....	1,008 00	7,987 12	.....
Two Rivers.....	" " " ".....	600 00	3,623 75	\$312 80
	Total.....	\$14,511 33	\$71,190 43	\$312 80

HYDRAULIC POWER

LOCATION.	NAME OF COMPANY.	OPERATION.			
		Oper- ating labor	Hydraulic power pur- chased.	Misc. power sup- plies & expenses.	Total oper- ation.
River Falls.....	Mun. Elec. Lt. Plant.....	\$1,816 25	.....	\$182 62	\$1,998 87
Stoughton.....	" " " ".....	1,783 38	.....	363 92	2,147 30
	Total.....	\$3,599 63	.....	\$546 54	\$4,146 17

¹Fuel only.

ATING EXPENSES YEAR ENDING JUNE 30, 1912.
GENERATION.

OPERATION.		MAINTENANCE.			Total steam power generation.
Misc. power plant supplies and expenses.	Total operation.	Power plant equipment.	Power plant buildings, fixtures and grounds.	Total maintenance.	
\$667 37	\$7,049 69	\$40 86	\$7 50	\$48 36	\$7,098 05
1,445 29	11,267 37	340 07	43 04	383 11	11,650 48
835 99	7,803 76	294 74	.....	294 74	8,098 50.
160 74	11,787 07	389 06	67 23	456 29	12,243 36.
190 02	5,420 52	279 14	13 20	292 34	5,712 86.
428 16	9,898 59	2,891 26	120 25	3,011 51	12,910 10
69 70	6,628 75	18 30	.....	18 30	6,647 05
560 15	7,238 27	.....	.....	.....	7,238 27
323 59	7,727 66	.....	.....	.....	7,727 66
40 91	2,383 13	8 75	.....	8 75	2,391 88
140 60	9,135 72	160 95	.....	160 95	9,296 67
.....	4,536 55	8 56	4 50	13 06	4,549 61
\$4,862 52	\$90,877 08	\$4,431 69	\$255 72	\$4,687 41	\$95,564 49

GENERATION.

MAINTENANCE,				Total hydraulic power generation,
Hydraulic power works.	Power plant equipment.	Power plant buildings, and grounds.	Total maintenance.	
\$48 75	\$27 14	\$9 21	\$85 10	\$2,083 97
151 61	47 20	11 15	209 96	2,357 26
200 36	\$74 34	20 36	295 06	\$4,441 23.

CLASS B. MUNICIPAL PLANTS. DETAILED

LOCATION.	NAME OF COMPANY.	Electric current purchased.	Total cost of power.
Columbus.....	Municipal Electric Light Plant.....		\$7,098 05
Ft. Atkinson.....	" " " ".....		11,650 48
Hartford.....	" " " ".....		8,098 50
Marshfield.....	" " " ".....		18,294 46
New London.....	" " " ".....		5,712 86
New Richmond...	" " " ".....	\$8,195 00	8,195 00
Oconomowoc.....	" " " ".....	940 80	13,850 90
Port Washington.	" " " ".....		6,647 05
Richland Center.	" " " ".....		7,238 27
River Falls.....	" " " ".....		2,083 97
Shawano.....	" " " ".....		7,727 66
Stoughton.....	" " " ".....		4,749 14
Sturgeon Bay.....	" " " ".....		9,296 67
Two Rivers.....	" " " ".....		4,549 61
	Total.....	\$9,135 80	\$105,112 62

LOCATION.	NAME OF COMPANY.	STORAGE.	DISTRIB		
			OPERATION.		Total operation.
			Distribution system operating labor.	Distribution system supplies and expenses.	
Columbus.....	Mun. Electric Light Plant.....		\$132 65	\$1 17	\$133 82
Ft. Atkinson....	" " " ".....		18 06	183 87	201 93
Hartford.....	" " " ".....		513 98	85 03	599 01
Marshfield.....	" " " ".....		121 73	194 02	315 75
New London.....	" " " ".....		177 33	104 51	281 84
New Richmond.	" " " ".....		963 69	619 71	1,583 40
Oconomowoc....	" " " ".....		403 92	410 64	814 56
Pt. Washington	" " " ".....			316 32	316 32
Richland Cent'r	" " " ".....		1,260 00	1,772 51	3,032 51
River Falls.....	" " " ".....		98 00	220 56	318 56
Shawano.....	" " " ".....		602 05		602 05
Stoughton.....	" " " ".....		488 51	69 25	557 76
Sturgeon Bay...	" " " ".....		117 70	48 80	166 50
Two Rivers.....	" " " ".....				
	Total.....		\$4,897 62	\$4,026 39	\$8,924 01

¹ \$3,948.90 apportioned to water utility

OPERATING EXPENSES, 1912—Continued.

TRANSMISSION AND TRANSFORMATION.

OPERATION.			MAINTENANCE.			Total transmission and transformation.
Operating labor.	Substation and transformation station supplies and expenses.	Total operation.	Transmission lines.	Substation and transformation equipm't buildings, fixtures and grounds.	Total maintenance.	
\$22 50		\$22 50	\$600 61		\$600 61	\$623 11
	\$133 24	133 24				133 24
2 65	80 00	82 65	2 40		2 40	85 05
\$25 15	\$213 24	\$238 39	\$603 01		\$603 01	\$841 40

UTION.

MAINTENANCE.				Total distribution.
Distribution.	Transformers.	Meters.	Total maintenance.	
\$47 13	\$2 00	\$22 43	\$71 56	\$205 38
312 75	101 01	166 06	579 82	781 75
502 95	196 18	1,140 25	1,839 38	2,438 39
68 93	137 45	34 73	241 11	556 86
424 37	28 00	56 47	508 84	790 68
359 53			359 53	1,942 93
2,816 07	268 28	1,123 39	4,207 74	5,022 30
759 58			759 58	316 32
131 75	262 08	363 40	757 23	3,792 09
			"	1,075 79
				602 05
137 75		9 36	147 11	704 87
217 80	131 54	39 30	388 64	555 14
1,010 57			1,010 57	1,010 57
\$6,789 18	\$1,126 54	\$2,955 39	\$10,871 11	\$19,795 12

CLASS B. MUNICIPAL PLANTS. DETAILED
CONSUMP-

LOCATION.	NAME OF COMPANY.	COMMER			
		Trim- ming and inspect- ing lamps comm- er- cial.	Com- mer- cial lamp supplies and re- newals.	Miscellan- ous com- mer- cial consump- tion supplies and ex- penses.	Cus- tomer's premises ex- penses.
Columbus.....	Municipal Elec. Lt. Plant.....				\$264 15
Ft. Atkinson.....	" " " ".....		\$319 47		57 73
Hartford.....	" " " ".....				275 22
Marshfield.....	" " " ".....		38 65		63 80
New London.....	" " " ".....				
New Richmond..	" " " ".....				
Oconomowoc.....	" " " ".....				
Pt. Washington..	" " " ".....		265 24		
Richland Center.	" " " ".....				
River Falls.....	" " " ".....	\$10 00			50 00
Shawano.....	" " " ".....				
Stoughton.....	" " " ".....			\$5 85	40 92
Sturgeon Bay.....	" " " ".....				36 70
Two Rivers.....	" " " ".....	84 00	574 23		
	Total.....	\$94 00	\$1197 59	\$5 85	\$788 52

LOCATION.	NAME OF COMPANY.	COMMERCIAL.		
		Collec- tion ex- penses.	Promotion business expenses,	Total com- mer- cial.
Columbus.....	Municipal Electric Light Plant.....			
Ft. Atkinson.....	" " " ".....	\$460 18	\$32 05	\$492 23
Hartford.....	" " " ".....	444 37	101 85	546 22
Marshfield.....	" " " ".....	488 35		488 35
New London.....	" " " ".....			
New Richmond..	" " " ".....			
Oconomowoc.....	" " " ".....	202 04		202 04
Pt. Washington..	" " " ".....		36 00	36 00
Richland Center.	" " " ".....			
River Falls.....	" " " ".....	207 90		207 90
Shawano.....	" " " ".....	48 00		48 00
Stoughton.....	" " " ".....	413 99	1 76	415 75
Sturgeon Bay.....	" " " ".....	188 40		188 40
Two Rivers.....	" " " ".....	63 00		63 00
	Total.....	\$2,516 23	\$171 66	\$2,687 89

OPERATING EXPENSES, 1912—Continued.

TION.

CIAL.		MUNICIPAL CONTRACT LIGHTING.					Total consumption.
Maintenance commercial lamps.	Total commercial consumption.	Trimming and inspecting municipal contract lamps.	Municipal contract lamp supplies and incandescent lamp renewals.	Miscellaneous municipal contract lighting supplies and expenses.	Maintenance municipal contract lighting.	Total municipal contract lighting.	
	\$264 15	\$2 60			\$1 02	\$3 62	\$267 77
	377 20		\$83 85		25 90	109 75	486 95
	275 22	127 56	360 66			488 22	763 44
	102 45	58 00	23 30		113 38	194 68	297 13
		144 21	32 18	\$3 33	110 18	289 90	289 90
	265 24		288 30	50 02		288 32	553 56
			78 53			78 53	78 53
	60 00	72 00	6 58	19 49	69 50	167 57	227 57
			58 14			58 14	58 14
	46 77	60 03	68 27		49 54	177 84	224 61
	36 70	134 58	83 05			217 63	254 33
	658 23						658 23
	\$2,085 96	\$598 98	\$1,032 86	\$72 84	\$369 52	\$2,074 20	\$4,160 16

GENERAL EXPENSES.

OPERATION.					MAINTENANCE.			Total general expenses.	
General office salaries.	General office supplies and expenses.	Law expenses general.	Miscellaneous general expenses.	Railroad commission expenses.	Total operation.	General office equipment.	General office buildings, fixtures and grounds.		Total maintenance.
\$750 00			\$282 01	\$20 64	\$1,052 65				\$1,052 65
1,946 62	\$693 39		479 49		3,119 50				3,119 50
			497 16		497 16		\$17 00	\$17 00	514 16
1,107 50	204 80		14 44		1,326 74	\$28 76		28 76	1,355 50
	1 13				1 13				1 13
58 75					58 75				58 75
926 42	161 26	46 60		106 85	1,241 13				1,241 13
300 00	29 85	446 09			775 94				775 94
312 00	73 56		131 89		517 45				517 45
1,294 79	100 66		4 00		1,399 45				1,399 45
960 00	50 65		97 14		1,107 79				1,107 79
154 17			59 11		213 28				213 28
\$7,810 25	\$1,315 30	\$492 69	\$1,565 24	\$127 49	\$11,310 97	\$28 76	\$17 00	\$45 76	\$11,356 73

CLASS B. MUNICIPAL PLANTS—DETAILED
UNDIS

LOCATION.	NAME OF COMPANY.	Injuries and damages.	Insurance.
Columbus	Municipal Electric Light Plant.....		\$216 88
Ft. Atkinson.....	" " " ".....		116 36
Hartford.....	" " " ".....		
Marshfield.....	" " " ".....		45 50
New London.....	" " " ".....		
New Richmond.....	" " " ".....	\$125 00	61 25
Oconomowoc.....	" " " ".....		335 00
Pt. Washington.....	" " " ".....		
Richland Center.....	" " " ".....		
River Falls.....	" " " ".....		
Shawano.....	" " " ".....		12 80
Stoughton.....	" " " ".....		475 80
Sturgeon Bay.....	" " " ".....		23 33
Two Rivers.....	" " " ".....		
	Total.....	\$125 00	\$1,286 92

SUMMARY OF OPER

LOCATION.	NAME OF COMPANY.	Total power.	Total transmission.	Total storage.	Total distribution.
Columbus.....	Municipal Elec. Light Plant	\$7,098 05			\$205 38
Ft. Atkinson.....	" " " ".....	11,650 48			781 75
Hartford.....	" " " ".....	8,098 50			2,438 39
Marshfield.....	" " " ".....	8,294 46	\$623 11		556 86
New London.....	" " " ".....	5,712 86			790 68
New Richmond...	" " " ".....	8,195 00	133 24		1,942 93
Oconomowoc.....	" " " ".....	13,850 90			5,022 30
Pt. Washington..	" " " ".....	6,647 05			316 32
Richland Center.	" " " ".....	7,238 27			3,792 09
River Falls.....	" " " ".....	2,083 97			1,075 79
Shawano.....	" " " ".....	7,727 66			602 05
Stoughton.....	" " " ".....	4,749 14	85 05		704 87
Sturgeon Bay.....	" " " ".....	9,296 67			555 14
Two Rivers.....	" " " ".....	4,549 61			1,010 57
	Total.....	\$105,192 62	\$841 40		\$19,795 12

OPERATING EXPENSES, 1912—Concluded.
TRIBUTED.

Printing and stationery.	Operation stores department.	Maintenance stores department buildings, etc.	Operation utility equipment.	Maintenance utility equipment buildings, etc.	Total undistributed.
\$130 25					\$347 13
					116 36
111 10					156 60
				\$0 75	75
23 85			\$300 85		\$186 25
12 00					659 70
	\$20 00	\$45 00			12 00
					65 00
77 20	33 43	66			12 80
				31 29	587 09
					54 62
\$354 40	\$53 43	\$45 66	\$300 85	\$32 04	\$2,198 30

ATING EXPENSES.

Total consumption.	Total commercial.	Total general.	Total undistributed.	Total of fore-going.	Depreciation.	Taxes.	Total operating expenses.
\$267 77		\$1,052 65	\$347 13	\$8,970 98			\$8,970 98
486 95	\$492 23	3,119 50	116 36	16,647 27	2,400 00		19,047 27
		514 16		11,051 05	2,382 27		13,433 32
763 44	546 22	1,355 50	156 60	12,296 19			12,296 19
297 13	488 35	1 13	75	7,290 90			7,290 90
		58 75	186 25	10,516 17	600 00		11,116 17
289 90	202 04	1,241 13	659 70	21,265 97	4,429 63		25,695 60
553 56			12 00	7,528 93			7,528 93
78 53	36 00		65 00	11,209 89			11,209 89
227 57	207 90	775 94		4,371 17	1,830 00		6,201 17
58 14	48 00	517 45	12 80	8,966 10			8,966 10
224 61	415 75	1,399 45	587 09	8,165 96	3,559 68	\$76 01	11,801 65
254 33	188 40	1,107 79	54 62	11,456 95			11,456 95
658 23	63 00	213 28		6,494 69			6,494 69
\$4,160 16	\$2,687 89	\$11,356 73	\$2,198 30	\$146,232 22	\$15,201 58	\$76 01	\$161,509 81

CLASS B. MUNICIPAL PLANTS. STEAM GENERATION APPOR

LOCATION.	NAME OF COMPANY.	OPERATION.		
		Operat- ing labor.	Fuel for steam.	Water for steam.
Columbus.....	Municipal Electric Light Plant.....	\$1,040 33	\$5,951 45	\$96 00
Ft. Atkinson.....	" " " " 1.....	.....	.....	.....
Hartford.....	" " " " 1.....	.....	.....	.....
Marshfield.....	" " " " 1.....	1,260 87	8,710 36	1,192 00
New London.....	" " " " 1.....	.....	.....	.....
Oconomowoc.....	" " " " 1.....	.....	.....	.....
Pt. Washington..	" " " " 1.....	1,236 80	4,007 05	.....
Richland Center	" " " " 1.....	.....	.....	.....
Shawano.....	" " " " 1.....	.....	.....	.....
Stoughton.....	" " " " 1.....	60 68	1,819 23	.....
Sturgeon Bay....	" " " "	1,080 00	10,024 40	.....
Two Rivers.....	" " " "	1,432 50	2,793 54	.....
	Total....	\$6,111 18	\$33,306 03	\$1,288 00

¹No apportionment made.

TIONMENT ACCOUNT, YEAR ENDING JUNE 30, 1912.

Miscellaneous steam supplies and expenses.	MAINTENANCE.				Total cost of steam.	APPORTIONED TO	
	Total operation.	Maintenance boiler plant equipment.	Maintenance boiler plant, building, fixtures & grounds.	Total maintenance.		Electric utility.	Other utilities.
.....	\$7,087 78	.....	.....	.....	\$7,087 78	\$5,317 59	\$1,770 19
\$245 05	11,408 28	\$257 81	.....	\$257 81	11,666 09	10,414 09	1,252 00
63 70	5,307 55	19 50	.....	19 50	5,327 05	5,327 05	.....
10 00	1,889 91	53 81	.....	53 81	1,943 72	1,943 72	.....
149 90	11,104 40	153 74	.....	153 74	11,104 40	7,987 12	3,117 28
	4,375 94	.....	.....	.....	4,529 68	3,623 75	905 93
\$468 65	\$41,173 86	\$484 86	.....	\$484 86	\$41,658 72	\$34,613 32	\$7,045 40

CLASS B. PRIVATE PLANTS. DETAILED OPERATING
STEAM POWER

LOCATION.	NAME OF COMPANY.	OPERA	
		Operating labor.	Steam generated.
Antigo	Antigo Elec. Co.	\$1,418 85	\$8,319 46
Baraboo	Baraboo Gas & El. Co.	800 59	4,768 85
Beaver Dam	Beaver Dam Lt. & Pr. Co.	2,298 04	10,931 74
Berlin	Berlin Public Service Co.	2,179 78	16,026 12
Burlington	Burlington El. Lt. & Pr. Co.	303 06	4,170 79
Delavan	United Ht. Lt. & Pr. Co.	1,118 63	7,308 47
Hurley	Ironwood & Bessemer Ry. & Lt. Co.	1,326 12	14,333 29
Lake Geneva	Equitable El. Lt. Co.	1,259 66	8,632 64
Mayville	Northwestern Lt. & Pr. Co.	2,678 80	.....
Medford	Medford Lt. & Htg. Co.	560 69	4,077 83
Mellen	Mellen Water & Lt. Co.	57 00	1,002 47
Merrill	Merrill Ry. & Lt. Co. ....	.....	523 03
Mineral Pt.	Mineral Pt. Public Service Co. ² ..	430 00	4,453 53
Monroe	Monroe El. Co.	1,459 97	6,801 29
N. Milwaukee	N. Milwaukee Lt. & Pr. Co. ....	.....	.....
Oconto	Oconto Elec. Co.	492 29	5462 24
Prairie du Chien	Prairie City Elec. Co.	884 02	4,440 53
Rice Lake	Red Cedar Valley Elec. Co.	190 43	.....
Ripon	Ripon Lt. & W. Co.	775 00	2,941 60
Sparta	O. I. Newton's Sons Co.	16 70	246 78
Stevens Pt.	Stevens Pt. Ltg. Co.	766 00	100 00
Tomahawk	Tomahawk Lt. Tel. & Imp. Co. ....	.....	.....
Walworth	Walworth Ltg. Plant.	781 75	3,474 05
Waukesha	Waukesha Gas & El. Co.	2,671 70	11,995 80
Waupaca	Waupaca El. Lt. & Ry. Co. ....	.....	989 06
West Bend	West Bend Htg. & Ltg. Co. ⁶	967 04	7,396 49
Whitewater	Whitewater El. Lt. Co.	1,745 47	5,419 14
	Total	\$24,781 59	\$118,815 20

HYDRAULIC POWER

LOCATION.	NAME OF COMPANY.	OPERA	
		Operating labor.	Hydraulic power purchased.
Burlington	Burlington El. Lt. & Pr. Co.	\$950 60	\$1,250 04
De Pere	De Pere El. Lt. & Pr. Co.	1,010 08	.....
Hudson	Burkhardt Mfg. & El. Pr. Co.	2,349 80	.....
Ladysmith	Ladysmith Ltg. Co.	560 00	3,400 00
Lake Geneva	Equitable El. Lt. Co.	807 87	.....
Mellen	Mellen Water & Lt. Co.	601 56	.....
Merrill	Merrill Ry. & Lt. Co.	1,290 68	.....
Rice Lake	Red Cedar Valley El. Co.	1,326 00	.....
Sparta	O. I. Newton's Sons Co.	1,535 84	137 50
Stevens Pt.	Stevens Pt. Pr. Co.	1,207 00	.....
Tomahawk	Tomahawk Lt. Tel. & Imp. Co.	1,283 54	1,021 95
Waupaca	Waupaca El. Lt. & Ry. Co.	1,164 15	.....
West Bend	West Bend Htg. & Ltg. Co. ⁶ .....	.....	.....
	Total	\$14,087 12	\$5,809 49

¹ Fuel only.

² Report covers only 6 months.

³ No detailed expenses reported; steam generation discontinued during year.

EXPENSES—YEAR ENDING JUNE 30, 1912.
GENERATION.

OPERATION.			MAINTENANCE.			Total steam power generation.
Steam purchased.	Miscellaneous power plant supplies and expenses.	Total operation.	Power plant equipment.	Power plant buildings, fixtures, and grounds.	Total maintenance.	
.....	\$731 45	\$10,469 76	\$157 08	\$20 20	\$177 28	\$10,647 04
.....	326 60	5,896 04	355 63	75 34	430 97	6,327 01
.....	420 00	13,649 78	322 21	65 64	387 85	14,037 63
.....	692 57	18,898 47	113 45	16 87	130 32	19,028 79
.....	215 72	4,689 57	288 04	.....	288 04	4,977 61
.....	99 26	8,526 36	297 55	.....	297 55	8,823 91
.....	.....	5,659 41	.....	38 73	38 73	5,698 14
.....	347 91	10,240 21	281 91	69 90	351 81	10,592 02
.....	475 19	22,105 15	358 27	74 35	432 62	22,537 77
\$18,951 16	273 76	4,912 28	242 00	11 51	253 51	5,165 79
.....	53 21	1,112 68	73 93	.....	73 93	1,186 61
.....	.....	523 03	.....	.....	.....	523 03
.....	90 74	4,974 27	.....	.....	.....	4,974 27
.....	449 52	8,710 78	172 89	10 75	183 64	8,894 42
.....	\$2,876 70	\$2,876 70	.....	.....	.....	\$2,876 70
.....	445 29	2,436 90	536 05	.....	536 05	2,972 95
1,437 08	70 48	5,395 03	99 19	37 56	136 75	5,531 78
.....	120 41	310 84	.....	.....	.....	310 84
.....	468 20	4,184 80	159 94	135 30	295 24	4,480 04
.....	.....	263 48	48 29	.....	48 29	311 77
.....	.....	866 00	1,829 20	.....	1,829 20	2,695 20
.....	.....	37 60	.....	.....	.....	37 60
37 60	45 00	4,300 80	138 57	.....	138 57	4,439 37
.....	672 70	15,340 20	693 48	18 71	712 19	16,052 39
.....	17 60	1,006 66	.....	11 14	11 14	1,017 80
.....	294 66	8,658 19	299 13	26 90	326 03	8,984 22
.....	375 14	7,539 75	42 83	160 60	203 43	7,743 18
\$20,425 84	\$9,562 11	\$173,584 74	\$6,509 64	\$773 50	\$7,283 14	\$180,867 88

GENERATION.

OPERATION.		MAINTENANCE.				Total hydraulic power generation.
Miscellaneous power supplies and expenses.	Total operation.	Hydraulic power works.	Power plant equipment.	Power plant buildings, fixtures and grounds.	Total maintenance.	
\$3 55	\$2,204 19	\$11 75	\$35 66	\$49 48	\$96 89	\$2,301 08
210 97	1,221 05	243 08	524 14	163 68	930 90	2,151 95
116 50	2,466 30	133 37	519 25	37 43	690 05	3,156 35
80 00	4,040 00	.....	.....	.....	.....	4,040 00
60 05	867 92	112 03	6 66	.....	119 63	987 55
9 46	611 02	60 65	38 36	30 60	129 61	740 63
28 76	1,319 44	1,030 37	151 32	31 52	1,213 21	2,532 65
147 82	1,473 82	142 87	38 00	2 35	183 22	1,657 04
30 74	1,704 08	74 26	610 61	97 17	782 04	2,486 12
46 07	1,253 07	.....	22 89	2 75	25 64	1,278 71
473 73	2,779 22	418 82	93 23	26 00	538 05	3,317 27
17 60	1,181 75	256 26	183 80	11 15	451 21	1,632 96
.....	.....	25 68	.....	.....	25 68	25 68
\$1,225 25	\$21,121 86	\$2,510 14	\$2,223 86	\$452 13	\$5,186 13	\$26,307 99

⁴ Includes gas power generated.
⁵ Fuel only—use Diesel gas engines.
⁶ Report covers period of 13 months.

CLASS B, PRIVATE PLANTS. DETAILED

LOCATION.	NAME OF COMPANY.	Electric current purchased.	Total cost of power.
Antigo.....	Antigo Electric Co.....		\$10,647 04
Baraboo.....	Baraboo Gas & Electric Co.....		6,327 01
Beaver Dam.....	Beaver Dam Lt. & Pr. Co.....		14,057 63
Berlin.....	Berlin Public Service Co.....		19,028 79
Burlington.....	Burlington Elec. Lt. & Pr. Co.....		7,278 69
Delavan.....	United Ht. Lt. & Pr. Co.....		8,823 91
De Pere.....	De Pere Elec Lt. & Pr. Co.....	\$5,209 04	7,360 99
Edgerton.....	Edgerton Elec. Lt. Co.....	6,927 14	6,927 14
Grand Rapids.....	Electric & Water Co.....	9,481 09	9,481 09
Hudson.....	Burkhardt Mfg. & El. Pr. Co.....		3,156 35
Hurley.....	Ironwood & Bessemer Ry. & Lt. Co.....		5,698 14
Ladysmith.....	Ladysmith Ltg. Co.....		4,040 00
Lake Geneva.....	Equitable Elec. Lt. Co.....		11,579 57
Mayville.....	Northwestern Lt. & Pr. Co.....		22,537 77
Medford.....	Medford Lt. & Htg. Co.....		5,165 79
Mellen.....	Mellen Water & Lt. Co.....		1,927 24
Menomonie.....	Chippewa Valley Ry., Lt. & Pr. Co.....	6,402 80	6,402 80
Merrill.....	Merrill Ry. & Lt. Co.....		3,055 68
Mineral Point.....	Mineral Point Public Service Co ¹		4,974 27
Monroe.....	Monroe Elec. Co.....		8,894 42
New Richmond.....	New Richmond Pr. Co.....	11,707 47	11,707 47
No. Milwaukee.....	North Milwaukee Lt. & Pr. Co.....	3,938 21	6,814 91
Oconto.....	Oconto Electric Co.....		2,972 95
Oconto.....	Peoples Land & Mfg. Co.....	3,418 76	3,418 76
Platteville.....	Interstate Lt. & Pr. Co.....	161,016 90	161,016 90
Portage.....	Portage Elec Lt. Co.....	9,834 00	9,834 00
Prairie du Chien.....	Prairie City Elec. Co.....		5,531 78
Rhineland.....	Rhineland Ltg. Co.....	5,100 00	5,100 00
Rice Lake.....	Red Cedar Valley Elec. Co.....		1,967 88
Ripon.....	Ripon Lt. & Water Co.....		4,480 04
Sparta.....	O. I. Newton's Sons Co.....		2,797 89
Stevens Point.....	Stevens Point Ltg. Co.....	5,500 00	8,195 20
Stevens Point.....	Stevens Point Pr. Co.....		1,278 71
Tomah.....	Tomah Elec. & Tel. Co.....	5,667 21	5,667 21
Tomahawk.....	Tomahawk Lt., Tel. & Imp. Co.....		3,354 87
Walworth.....	Walworth Ltg. Plant.....		4,439 37
Washburn.....	Washburn Elec. Lt. & Pr. Co.....	3,948 00	3,948 00
Waukesha.....	Waukesha Gas & Elec. Co.....		16,052 39
Waupaca.....	Waupaca Elec. Lt. & Ry. Co.....		22,650 76
West Bend.....	West Bend Htg. & Ltg. Co. ²		9,009 90
Whitewater.....	Whitewater Elec. Lt. Co.....		7,743 18
	Total.....	\$238,150 62	\$445,326 49

¹ Report covers only 6 months.² \$604.81 is apportioned to railway utility.

OPERATING EXPENSES, 1912.—Continued.

TRANSMISSION AND TRANSFORMATION.

OPERATION.			MAINTENANCE.			Total trans- mission and trans- formation.
Operating labor.	Substation and transformation station, supplies and expenses.	Total operation.	Transmission lines.	Substation and transformation station, equipment buildings, fixtures, grounds.	Total maintenance.	
			\$22 79		\$22 79	\$22 79
	\$727 99	\$727 99	132 07	\$20 70 8 50	20 70 140 57	748 69 140 57
\$297 36		297 36	505 20		505 20	802 56
	60 00	60 00	175 85		175 85	235 85
999 68	1,280 03	2,279 71	604 62	74 33	678 95	2,958 66
3,000 00		3,000 00				3,000 00
	1,272 39	1,272 39		461 25	461 25	1,733 64
	540 00	540 00				540 00
			129 11		129 11	129 11
236 20	150 00	386 20		59 00 10 48	59 00 10 48	445 20 10 48
\$4,533 24	\$4,030 41	\$8,563 65	\$1,569 64	\$634 26	\$2,203 90	\$10,767 55

³ Covers 13 months.

CLASS B. PRIVATE PLANTS. DETAILED

LOCATION.	NAME OF COMPANY.	STORAGE.	OPER
			Distribu- tion system operating labor.
Antigo	Antigo Electric Co.		\$1,052 07
Baraboo	Baraboo Gas & Electric Co.		41 76
Beaver Dam	Beaver Dam Light & Power Co.		1,017 32
Berlin	Berlin Public Service Co.		210 64
Burlington	Burlington Electric Light & Power Co.		24 00
Delavan	United Heat, Light & Power Co.		
De Pere	De Pere Electric Light & Power Co.		180 93
Edgerton	Edgerton Electric Light Co.		436 25
Grand Rapids	Electric & Water Co.		835 19
Hudson	Burkhardt Milling & Electric Power Co.		223 06
Hurley	Ironwood & Bessemer Railway & Light Co.		96 85
Ladysmith	Ladysmith Lighting Co.		800 00
Lake Geneva	Equitable Electric Light Co.		1,966 21
Mayville	Northwestern Light & Power Co.		257 72
Medford	Medford Light & Heating Co.		186 75
Mellen	Mellen Water & Light Co.		139 34
Menomonie	Chippewa Valley Railway, Light & Pr. Co.		223 98
Merrill	Merrill Railway & Light Co.	\$338 55	12 60
Mineral Point	Mineral Point Public Service Co. ¹		
Monroe	Monroe Electric Co.		134 35
New Richmond	New Richmond Power Co.		
North Milwaukee	North Milwaukee Light & Power Co.		254 38
Oconto	Oconto Electric Co.		373 80
Oconto	Peoples Land & Manufacturing Co.		475 00
Platteville	Interstate Light & Power Co.		934 76
Portage	Portage Electric Light Co.		230 00
Prairie du Chien	Prairie City Electric Co.		196 98
Rhineland	Rhineland Lighting Co.		1,314 76
Rice Lake	Red Cedar Valley Electric Co.		640 87
Ripon	Ripon Light & Water Co.		87 74
Sparta	O. I. Newton's Sons Co.		126 38
Stevens Point	Stevens Point Lighting Co.		1,080 00
Stevens Point	Stevens Point Power Co.		
Tomah	Tomah Electric & Tel. Co.		10 78
Tomahawk	Tomahawk Light, Tel. & Improvement Co.	26 12	186 30
Walworth	Walworth Lighting Plant.		25 00
Washburn	Washburn Electric Light & Power Co.		472 50
Waukesha	Waukesha Gas & Electric Co.		763 93
Waupaca	Waupaca Electric Light & Railway Co.		445 45
West Bend	West Bend Heating & Lighting Co. ³		300 00
Whitewater	Whitewater Electric Light Co.		708 07
	Total	\$364 67	\$16,465 72

¹ Report covers only 6 months.² Includes maintenance of transformers and meters.

OPERATING EXPENSES, 1912—Continued.

DISTRIBUTION.						
OPERATION.	MAINTENANCE.					
	Distribution system supplies and expenses.	Total operation.	Distribution.	Transformers.	Meters.	Total maintenance.	Total distribution.
\$31 95	\$1,084 02	\$27 98	\$15 34	\$520 03	\$563 35	\$1,647 37
2 10	43 86	124 21		1 23	125 44	169 30
81 36	1,098 68	401 00	73 82	145 46	620 28	1,718 96
.....	210 64	77 75	252 93	377 28	707 96	918 60
24 96	48 96	121 36	.....	255 35	376 71	425 67
461 30	461 30	123 15		80 46	203 61	664 91
.....	180 93	401 84	1 63	233 42	636 89	817 82
14 60	450 85	24 00		90 05	114 05	564 90
203 05	1,038 24	.....	.....	89 30	89 30	1,127 54
6 82	229 88	408 59	.....	5 16	413 75	643 63
41 01	137 86	.....	.....	177 16	177 16	315 02
1,410 00	2,210 00	400 00	25 00	100 00	525 00	2,735 00
137 77	2,103 98	717 73	26 14	649 89	1,393 76	3,497 74
.....	257 72	.....	169 98	252 01	421 99	679 71
123 85	310 60	41 02	.....	18 25	59 27	369 87
139 38	278 72	188 04	31 01	13 05	232 10	510 82
58 56	282 54	88 06	3 97	15 46	107 49	390 03
104 66	117 26	671 30	.....	831 92	1,503 22	1,620 48
.....	.....	11 61	.....	66 55	78 16	78 16
24 61	158 96	222 51	15 16	17 37	255 04	414 00
.....
57 79	312 17	92 69	10 90	15 30	118 89	431 06
22 48	396 28	240 07	.....	.....	240 07	636 35
104 77	579 77	.....	.....	27 21	27 21	606 98
423 63	1,358 39	62 67	931 66	68 60	1,062 93	2,421 32
.....	230 00	2490 00	.....	.....	490 00	720 00
.....	196 98	120 52	.....	10 41	130 93	327 91
249 57	1,564 33	1,105 46	106 54	237 57	1,449 57	3,013 90
365 76	1,006 63	532 18	.....	149 75	681 93	1,688 56
7 35	95 09	178 84	25 81	193 03	397 68	492 77
124 12	250 50	169 79	.....	471 17	640 96	891 46
.....	1,080 00	.....	.....	30	30	1,080 30
123 76	134 54	143 86	49 70	12 90	206 46	341 00
343 65	529 95	144 28	45 49	38 73	228 50	758 45
.....	25 00	236 00	14 00	76 97	326 97	351 97
10 38	482 88	126 60	63 00	213 50	403 10	885 98
97 40	861 33	591 05	49 80	40 02	680 87	1,542 20
3 43	448 88	98 72	78 60	90 95	268 27	717 15
6 69	306 69	119 50	.....	4 55	124 05	430 74
35 18	743 25	408 47	.....	.....	408 47	1,151 72
\$4,841 94	\$21,307 66	\$8,910 85	\$1,990 48	\$5,590 36	\$16,491 69	\$37,799 35

³ Covers 13 months.

CLASS B. PRIVATE PLANTS. DETAILED

CON-

LOCATION.	NAME OF COMPANY.	COMMER.			
		Trim- ming and in- spect- ing lamps. commer- cial.	Com- mercial lamp supplies and re- newals.	Miscel- laneous commer- cial con- sumption supplies and ex- penses.	Custom- er's premi- ses ex- penses.
Antigo.....	Antigo Electric Co.....	\$35 56	\$0 48		\$84 12
Baraboo.....	Baraboo Gas & El. Co.....	17 67	169 30	\$1 65	153 69
Beaver Dam.....	Beaver Dam Lt. & Pr. Co.....		452 83		
Berlin.....	Berlin Public Service Co.....	11 05			293 43
Burlington.....	Burlington El. Lt. & Pr. Co.....	251 08	833 25	21 98	229 78
Delavan.....	United Ht. Lt. & Pr. Co.....				
De Pere.....	De Pere El. Lt. & Pr. Co.....	13 62	80 47		316 30
Edgerton.....	Edgerton El. Lt. Co.....	42 00			300 55
Grand Rapids.....	Electric & Water Co.....				
Hudson.....	Burkhardt Mfg. & El. Pr. Co.....				
Hurley.....	Ironwood & Bessemer Ry. & Lt. Co.	128 00	124 96		124 14
Ladysmith.....	Ladysmith Ltg. Co.....		2,735 00		
Lake Geneva.....	Equitable El. Lt. Co.....			79	44 96
Mayville.....	Northwestern Lt. & Pr. Co.....	248 94	101 13	87 45	
Medford.....	Medford Lt. & Htg. Co.....				86 28
Mellen.....	Mellen Water & Lt. Co.....				9 80
Menomonie.....	Chip. Valley Ry. Lt. & Pr. Co.....				79 42
Merrill.....	Merrill Ry. & Lt. Co.....		2 90	140 49	824 21
Mineral Point.....	Mineral Point Pub. Service Co. ¹				
Monroe.....	Monroe El. Co.....	5 48			236 60
New Richmond.....	New Richmond Pr. Co.....				
North Milwaukee.....	N. Milwaukee Lt. & Pr. Co.....		460 69	66 84	139 80
Oconto.....	Oconto Elec. Co.....	23 23	223 38		
Oconto.....	Peoples Land & Mfg. Co.....		423 00		
Platteville.....	Interstate Lt. & Pr. Co.....		120 89	102 79	
Portage.....	Portage El. Lt. Co.....		178 60		
Prairie du Chien.....	Prairie City El. Co.....		214 05	19 35	
Rhineland.....	Rhineland Ltg. Co.....				686 95
Rice Lake.....	Red Cedar Valley El. Co.....				
Ripon.....	Ripon Lt. & W. Co.....				
Sparta.....	O. I. Newton's Sons Co.....		450 00		104 55
Stevens Point.....	Stevens Point Ltg. Co.....				
Stevens Point.....	Stevens Point Pr. Co.....				
Tomah.....	Tomah El. & Tel. Co.....		429 42	49 82	204 60
Tomahawk.....	Tomahawk Lt. Tel. & Imp. Co.....		118 70	10 12	66 10
Walworth.....	Walworth Ltg. Plant.....				169 92
Washburn.....	Washburn El. Lt. & Pr. Co.....				295 25
Waukesha.....	Waukesha Gas & El. Co.....	15	158 44		495 76
Waupaca.....	Waupaca El. Lt. & Ry. Co.....				
West Bend.....	West Bend Htg. & Ltg. Co. ²		215 99	23 64	
Whitewater.....	Whitewater El. Lt. Co.....		161 43		124 25
	Total.....	\$776 78	\$7,654 91	\$524 92	\$5,070 46

¹Covers only 6 months.

OPERATING EXPENSES, 1912—Continued.
SUMPTION.

CITY.		MUNICIPAL CONTRACT LIGHTING.					Total municipal contract lighting.	Total consumption.
Maintenance commercial lamps.	Total commercial consumption.	Trimming and inspecting municipal contract lamps.	Municipal contract lamp suppl. and incandescent lamp renewals.	Miscellaneous municipal contract lighting supplies and expenses.	Maintenance municipal contract lamps.			
.....	\$120 16	\$194 75	\$229 03	\$0 91	\$55 68	\$480 37	\$600 53	
\$0 96	343 27	53 47	60 40	78 69	7 92	200 48	543 75	
.....	452 83	329 55	238 50	.....	342 23	910 28	1,563 11
.....	304 48	82 86	.....	82 85	95 12	260 83	565 31
36 67	1,372 76	.....	260 57	.....	.....	260 57	1,633 33
.....	.....	65 00	32 00	110 00	71 33	278 33	278 33
3 73	414 12	16 81	92 80	.....	24 80	134 41	548 53
.....	342 55	224 00	.....	.....	121 32	345 32	687 87
.....	.....	660 00	144 73	3 00	33 53	841 26	841 26
.....	.....	79 18	.....	95 46	.....	174 64	174 64
.....	377 10	.....	.....	.....	.....	.....	377 10
.....	2,735 00	200 00	470 00	.....	60 00	730 00	3,465 00
.....	45 75	.....	.....	.....	.....	.....	45 75
4 50	442 02	287 29	94 36	53 90	8 25	443 80	885 82	
.....	86 28	92 72	63 36	.....	97 84	253 92	340 20
.....	9 80	11 48	10 57	69	43 99	66 73	76 53	
.....	79 42	116 30	92 73	.....	25 78	234 81	314 23
.....	967 60	.....	.....	.....	294 31	294 31	1,261 91
.....	81	55 12	.....	.....	.....	55 12	55 12
.....	242 89	51 21	19 06	1 42	92 58	164 27	407 16	
.....	667 33	176 98	120 47	.....	47 92	345 37	1,012 70
19 20	265 81	.....	.....	.....	.....	.....	265 81
.....	423 00	175 00	140 00	75 00	.....	390 00	813 00
.....	223 68	30 67	117 31	.....	7 90	155 88	379 56
.....	178 60	150 00	112 00	48 40	.....	310 40	489 00
.....	233 40	130 00	.....	.....	88 39	218 39	451 79
.....	686 95	416 61	151 70	.....	498 74	1,067 05	1,754 00
.....	.....	338 14	.....	.....	.....	338 14	338 14
.....	.....	3 72	.....	186 50	2 78	193 00	193 00
.....	554 55	87 40	.....	.....	148 45	235 85	790 40
.....	.....	63 85	.....	8 97	.....	72 82	72 82
.....	683 84	138 32	138 06	.....	126 48	402 86	1,086 70
.....	194 92	106 36	305 73	1 31	48 75	462 09	657 01	
.....	5 87	41 32	34 87	.....	73 06	149 25	325 04
.....	295 25	.....	.....	.....	.....	295 25	295 25
18 65	673 00	112 30	187 54	68 67	277 76	646 27	1,319 27	
.....	.....	382 87	34 27	82 04	129 31	628 49	628 49
.....	239 63	150 21	112 79	22 78	.....	285 78	525 41
.....	285 68	188 18	185 55	.....	27 37	401 10	686 78
\$90 39	\$14,117 46	\$4,809 62	\$3,850 39	\$920 59	\$2,851 59	\$12,432 19	\$26,549 65	

²Covers 13 months.

CLASS B. PRIVATE PLANTS. DETAILED

LOCATION.	NAME OF COMPANY.	COMMERCIAL.		
		Collection expenses.	Promotion business expenses.	Total commercial.
Antigo	Antigo Electric Co.....	\$961 59	\$652 39	\$1,613 98
Baraboo.....	Baraboo Gas & Electric Co.....	256 30	500 69	756 99
Beaver Dam.....	Beaver Dam Light & Power Co.....	1,330 33	469 82	1,800 15
Berlin.....	Berlin Public Service Co.....	133 47	689 80	823 27
Burlington.....	Burlington Electric Light & Pr. Co.....	462 15	.....	462 15
Delavan.....	United Heat Light & Power Co.....	130 79	.....	130 79
De Pere.....	De Pere Electric Light & Pr. Co.....	926 44	250 75	1,177 19
Edgerton.....	Edgerton Electric Light Co.....	433 88	744 45	1,178 33
Grand Rapids.....	Electric & Water Co.....	240 00	45 50	285 50
Hudson.....	Burkhardt Mfg. & El. Power Co.....	224 12	21 35	245 47
Hurley.....	Ironwood & Bessemer Ry. & Lt. Co..	28 66	.....	28 66
Ladysmith.....	Ladysmith Lighting Co.....	396 00	100 00	496 00
Lake Geneva.....	Equitable Electric Light Co.....	137 09	444 53	581 62
Mayville.....	Northwestern Light & Power Co.....	53 89	.....	53 89
Medford.....	Medford Light & Heating Co.....	275 43	.....	275 43
Mellen.....	Mellen Water & Light Co.....	97 24	1 00	98 24
Menomonie.....	Chip Val. Ry. Lt. & Power Co.....	231 57	347 59	579 16
Merrill.....	Merrill Ry. & Lt. Co.....	900 67	367 90	1,268 57
Mineral Point.....	Mineral Point Pub. Service Co. ¹.....	.....	.....	.....
Monroe.....	Monroe Electric Co.....	167 16	160 83	327 99
New Richmond.....	New Richmond Power Co.....	.....	.....	.....
No. Milwaukee.....	No. Milwaukee Lt. & Pr. Co.....	333 99	135 67	469 66
Oconto.....	Oconto Electric Co.....	1,068 86	296 46	1,365 32
Oconto.....	Peoples Land & Mfg. Co.....	125 00	40 00	165 00
Platteville.....	Interstate Lt. & Power Co.....	902 34	1,030 79	1,933 13
Portage.....	Portage El. Lt. Co.....	69 96	.....	69 96
Prairie du Chien.....	Prairie City El. Co.....	112 35	.....	112 35
Rhineland.....	Rhineland Ltg. Co.....	316 67	.....	316 67
Rice Lake.....	Red Cedar Valley El. Co.....	.....	.....	.....
Ripon.....	Ripon Light & Water Co.....	172 52	591 00	763 52
Sparta.....	O. I. Newton's Sons Co.....	169 70	102 00	271 70
Stevens Pt.....	Stevens Point Ltg. Co.....	283 20	233 46	516 66
Stevens Pt.....	Stevens Point Power Co.....	.....	.....	.....
Tomah.....	Tomah Elec. & Tel. Co.....	152 14	.....	152 14
Tomahawk.....	Tomahawk Lt. Tel. & Imp. Co.....	173 30	16 50	189 80
Walworth.....	Walworth Ltg. Plant.....	158 95	10 00	168 95
Washburn.....	Washburn Electric Light & Pr. Co.....	238 00	64 40	302 40
Waukesha.....	Waukesha Gas & Electric Co.....	647 52	861 90	1,509 42
Waupaca.....	Waupaca El. Lt. & Ry. Co.....	391 22	51 00	442 22
West Bend.....	West Bend Htg. & Ltg. Co. ²	218 75	121 50	340 25
Whitewater.....	Whitewater Electric Lt. Co.....	162 10	.....	162 10
Total.....		\$13,083 35	\$8,351 28	\$21,434 63

¹ Covers only 6 months.

OPERATING EXPENSES, 1912—Continued.

GENERAL EXPENSES.									
OPERATION.					MAINTENANCE.				Total general expenses.
General office salaries.	General office supplies and expenses.	Law expenses—general.	Miscellaneous general expenses.	Railroad commission expenses.	Total operation.	General office equipment.	General office building fixtures and grounds.	Total maintenance.	
\$4,562 50	\$327 77	\$214 50	\$148 54		\$5,253 31		\$2 75	\$2 75	\$5,256 06
844 96	503 81		375 02		1,723 79				1,723 79
2,100 00	377 75	200 00	601 40		3,279 15				3,279 15
1,822 31	450 55	126 89	487 34		2,887 09	\$35 96		35 96	2,923 05
2,038 30	98 52		178 00		2,314 82				2,314 82
1,497 22	38 50	50 00		\$43 20	1,628 92		230 40	230 40	1,859 32
1,453 55	59 71	368 74	255 98	16	2,138 14	2 55	23 04	25 59	2,163 73
623 41	327 56		200 39		1,151 36				1,151 36
3,064 92	135 98	53 00	209 94		3,463 84	25		25	3,464 09
4,280 63	167 35	10 00	52 68		4,510 66	5 10	1 15	6 25	4,516 91
512 00	198 33	66 66	225 89		1,002 88				1,002 88
1,500 00	53 50				1,553 50				1,553 50
2,850 00	149 83		812 26	855 11	4,667 20		32 11	32 11	4,699 31
1,100 00	202 20			159 21	1,461 41		4 50	4 50	1,465 91
	9 27				9 27				9 27
1,352 95	84 44		7 42	8 25	1,453 06	12 49	4 93	17 42	1,470 48
1,860 00	474 92	210 00	88 32		2,633 24				2,633 24
1,809 00	271 83	118 25	524 83	78 84	2,793 75	59 61		59 61	2,853 36
1,296 00	874 92				2,170 92				2,170 92
4,246 30	595 31		648 87	50	5,490 98	30 91	9 08	39 99	5,530 97
130 00					130 00				130 00
1,049 48	190 65	32 56	54 99		1,327 68				1,327 68
	86 05	5 00		1 25	92 30				92 30
2,100 00	204 85	216 29		250 63	2,771 77	180 00		180 00	2,951 77
3,330 16	178 67	180 00	959 48		4,648 31				4,648 31
1,860 00	217 50				2,077 50				2,077 50
	21 49		11 44	9 84	42 77				42 77
3,421 72	243 87			175 70	3,841 29				3,841 29
702 59	79 33	688 31	16 25		1,486 48				1,486 48
1,224 06	97 19		116 85	5 13	1,443 23	11 67	6 64	18 31	1,461 54
2,708 60	52 35	85 45	621 63		3,468 03	12 35	119 38	131 73	3,599 76
2,035 50	697 53		50 64		2,783 67				2,783 67
			104 50		104 50				104 50
600 00	1,076 76	6 00		45 65	1,818 41				1,818 41
645 68	168 97	1 12	19 00	3 60	838 37				838 37
325 00	2 25		1 00		328 25				328 25
1,053 00	216 86	50 15	130 89		1,450 90				1,450 90
1,071 26	528 03	125 02	1,297 58		3,021 89	7 57	7 42	14 99	3,036 88
1,924 75			592 88	155 37	2,673 00		80	80	2,673 80
750 60	8 91		72 91		832 42				832 42
720 00	90 02		86 87		896 89				896 89
\$64,547 45	\$9,563 33	\$2,807 94	\$8,953 79	\$1,792 44	\$87,664 95	\$358 46	\$442 20	\$800 66	\$88,465 61

² Covers 13 months.

CLASS B. PRIVATE PLANTS. DETAILED

UNDIS

LOCATION.	NAME OF COMPANY.	Injuries and damages.	Insurance.
Antigo.....	Antigo Electric Co.....		\$797 30
Baraboo.....	Baraboo Gas & Electric Co.....		207 27
Beaver Dam.....	Beaver Dam Light & Power Co.....		527 58
Berlin.....	Berlin Public Service Co.....		262 34
Burlington.....	Burlington El. Light & Power Co.....		247 60
Delavan.....	United Heat Light & Power Co.....	\$7 50	203 86
DePere.....	DePere Electric Light & Power Co.....		315 30
Edgerton.....	Edgerton Electric Light Co.....		171 00
Grand Rapids.....	Electric & Water Co.....		452 80
Hudson.....	Burkhardt Mfg. & Electric Pr. Co.....		333 78
Hurley.....	Ironwood & Bessemer Ry. & Lt. Co.....		182 40
Ladysmith.....	Ladysmith Lighting Co.....		
Lake Geneva.....	Equitable Electric Light Co.....	1,350 00	474 60
Mayville.....	Northwestern Light & Power Co.....	11 65	314 15
Medford.....	Medford Light & Htg. Co.....		94 00
Mellen.....	Mellen Water & Light Co.....		50 65
Menomonie.....	Chippewa Valley Ry. Light & Power Co.....		33 15
Merrill.....	Merrill Ry. & Light Co.....		332 85
Mineral Point.....	Mineral Point Public Service Co. ¹		172 04
Monroe.....	Monroe Electric Co.....		95 00
New Richmond.....	New Richmond Power Co.....		
No. Milwaukee.....	N. Milwaukee Light & Power Co.....	65 12	88 27
Oconto.....	Oconto Electric Co.....		238 89
Oconto.....	Peoples Land & Mfg. Co.....		203 95
Platteville.....	Interstate Light & Power Co.....		1,016 10
Portage.....	Portage Electric Light Co.....		407 24
Prairie du Chien.....	Prairie City Electric Co.....	75 00	313 64
Rhineland.....	Rhineland Lighting Co.....	2,211 20	12 00
Rice Lake.....	Red Cedar Valley Electric Co.....		420 00
Ripon.....	Ripon Light & Water Co.....		268 55
Sparta.....	O. I. Newton's Sons Co.....		67 99
Stevens Point.....	Stevens Point Lighting Co.....		565 97
Stevens Point.....	Stevens Point Power Co.....		6 25
Tomah.....	Tomah Electric & Tel. Co.....	68 39	
Tomahawk.....	Tomahawk Light Tel. & Imp. Co.....		336 91
Walworth.....	Walworth Lighting Plant.....	2,293 09	16 00
Washburn.....	Washburn Electric Lt. & Power Co.....		
Waukesha.....	Waukesha Gas & Electric Co.....		742 74
Waupaca.....	Waupaca Electric Light & Ry. Co.....		293 28
West Bend.....	West Bend Heating & Lighting Co. ²		172 50
Whitewater.....	Whitewater Electric Light Co.....		
	Total.....	\$6,081 95	\$10,437 95

¹ Covers only 6 months.

OPERATING EXPENSES, 1912—Continued.

TRIBUTED.

Stationery and printing.	Operation stores department.	Maintenance stores department equipment buildings, etc.	Operation utility equipment.	Maintenance utility equipment buildings, etc.	Total undistributed.
\$169 65	\$41 96		\$197 70		\$1,206 61
					207 27
					527 58
55 00	123 40	\$133 29	146 55	\$19 35	739 93
78 88			109 96	24 35	460 77
19 75			27 21		258 32
133 44	45 88	17 22	7 85	15 00	534 69
48 30					219 30
105 26			144 99	73 80	776 85
60 97					394 75
					182 40
			230 78	1,262 97	3,318 35
					325 80
		99 00			193 00
	21 60	9 75	477 54	57 38	616 92
	26 44	40 50			100 09
124 29	29 90	20 00			507 04
					172 04
8 00					103 00
138 80	31 97				324 16
					228 89
21 82					225 77
425 59	43 00		589 30	19 70	2,093 69
					407 24
32 55				6 00	427 19
85 30			567 43	141 72	3,017 68
91 51					511 51
31 23			28 72	5 80	334 30
76 48	4 00	16 50	213 24	39 75	417 96
			157 44	92 73	816 14
					6 25
	185 17	183 64			68 39
					708 72
23 93					2,333 02
					742 74
74 97					368 25
43 80					216 30
			133 40	17 05	150 45
\$1,849 50	\$553 32	\$522 90	\$3,032 14	\$1,775 60	\$24,253 36

² Covers 13 months.

CLASS B. PRIVATE PLANTS. DETAILED
SUMMARY OF

LOCATION.	NAME OF COMPANY.	Total power.	Total transmission.	Total storage.
Antigo.....	Antigo Elec. Co.....	\$10,647 04		
Baraboo.....	Baraboo Gas & Elec. Co.....	6,327 01		
Beaver Dam.....	Beaver Dam Lt. & Pr. Co.....	14,037 63		
Berlin.....	Berlin Public Service Co.....	19,028 79	\$22 79	
Burlington.....	Burlington El. Lt. & Pr. Co.....	7,278 69		
Delavan.....	United Ht. Lt. & Pr. Co.....	8,823 91		
Depere.....	De Pere El. Lt. & Pr. Co.....	7,360 99		
Edgerton.....	Edgerton El. Lt. Co.....	6,927 14		
Grand Rapids.....	Electric & Water Co.....	9,481 09	748 69	
Hudson.....	Burkhardt Mfg. & El. Pr. Co.....	3,156 35	140 57	
Hurley.....	Ironwood & Bessemer Ry. & Lt. Co.	5,698 14		
Ladysmith.....	Ladysmith Ltg. Co.....	4,040 00		
Lake Geneva.....	Equitable El. Lt. Co.....	11,579 57		
Mayville.....	Northwestern Lt. & Pr. Co.....	22,528 77	802 56	
Medford.....	Medford Lt. & Htg. Co.....	5,165 79		
Mellen.....	Mellen Water & Lt. Co.....	1,927 24		
Menomonie.....	Chipp. Valley Ry. Lt. & Pr. Co.....	6,402 80		
Merrill.....	Merrill Ry. & Lt. Co.....	3,055 68		\$338 55
Mineral Point.....	Mineral Pt. Pub. Service Co. ²	4,974 27		
Monroe.....	Monroe El. Co.....	8,894 42		
New Richmond.....	New Richmond Pr. Co.....	11,707 47		
No. Milwaukee.....	N. Milwaukee Lt. & Pr. Co.....	6,814 91		
Oconto.....	Oconto Elec. Co.....	2,972 95		
Oconto.....	Peoples Land & Mfg. Co.....	3,418 76	235 85	
Piatteville.....	Interstate Lt. & Pr. Co.....	161,016 90	2,958 66	
Portage.....	Portage El. Lt. Co.....	9,834 00	3,000 00	
Prairie du Chien.....	Prairie City El. Co.....	5,531 78		
Rhineland.....	Rhineland Ltg. Co.....	5,100 00	1,733 64	
Rice Lake.....	Red Cedar Valley El. Co.....	1,967 88		
Ripon.....	Ripon Lt. & W. Co.....	4,480 04		
Sparta.....	O. I. Newton's Sons Co.....	2,797 89		
Stevens Point.....	Stevens Pt. Ltg. Co.....	8,195 20	540 00	
Stevens Point.....	Stevens Pt. Pr. Co.....	1,278 71		
Tomah.....	Tomah El. & Tel. Co.....	5,667 21		
Tomahawk.....	Tomahawk Lt. Tel. & Imp. Co.....	3,354 87	129 11	26 12
Walworth.....	Walworth Ltg. Plant.....	4,439 37		
Washburn.....	Washburn El. Lt. & Pr. Co.....	3,948 00	445 20	
Waukesha.....	Waukesha Gas & El. Co.....	16,052 39	10 48	
Waupaca.....	Waupaca El. Lt. & Ry. Co.....	2,045 95		
West Bend.....	West Bend Htg. & Ltg. Co. ³	9,009 90		
Whitewater.....	Whitewater El. Lt. Co.....	7,743 18		
	Total.....	\$444,721 68	\$10,767 55	\$364 67

¹Includes \$600.00 contingencies (extraordinary).²Covers only 6 months.³Includes \$32.56 contingencies (extraordinary).

OPERATING EXPENSES, 1912—Concluded.

OPERATING EXPENSES.

Total distribution.	Total consumption.	Total commercial	Total general.	Total undistributed.	Total of foregoing.	Depreciation.	Taxes.	Total operating expenses.
\$1,647 37	\$600 53	\$1,613 98	\$5,256 06	\$1,206 61	\$20,971 59	\$4,500 00	\$1,900 48	\$27,372 02
169 30	543 75	756 99	1,723 79	207 27	9,728 11		608 97	10,337 08
1,718 96	1,363 11	1,800 15	3,279 15	527 58	22,726 58	9,322 63	1,041 77	33,090 98
918 60	565 31	823 27	2,923 05	739 93	25,021 74	3,791 71	420 84	29,234 29
425 67	1,633 33	462 15	2,314 82	460 77	12,575 43	3,000 00	323 65	15,904 03
664 91	278 33	130 79	1,859 32	258 32	12,015 58		174 29	12,189 87
817 82	548 53	1,177 19	2,163 73	534 69	12,602 95	12,400 00	998 04	16,000 99
564 60	687 87	1,178 33	1,151 36	219 30	10,728 90	1,080 00	282 00	12,090 90
1,127 54	841 26	285 50	3,464 09	776 85	16,725 02	4,320 51	633 37	21,678 90
643 63	174 64	245 47	4,516 91	394 75	9,272 32	5,232 48	720 00	15,224 80
315 02	377 10	28 66	1,002 88	182 40	7,604 20		356 45	7,960 65
2,735 00	3,465 00	496 00	1,553 50		12,289 50		214 20	12,503 70
3,497 74	45 75	581 62	4,699 31	3,318 35	23,722 34	5,428 30	583 46	29,734 10
679 71	885 82	53 89	1,465 91	325 80	26,751 46	4,003 56	180 00	30,935 02
369 87	340 20	275 43	9 27	193 00	6,353 56		191 10	6,544 66
510 82	76 53	98 24	1,470 48	616 92	4,700 23	1,200 00	331 63	6,231 86
390 63	314 23	579 16	2,633 24	100 09	10,419 55	2,296 34	567 62	13,283 51
1,620 48	1,261 91	1,268 57	2,853 36	507 04	10,905 59	5,000 00	941 56	16,847 15
78 16	55 12		2,170 92	172 04	7,450 51		202 20	7,652 71
414 00	407 16	327 99	5,530 97	103 00	15,677 54	2,400 00	460 44	18,537 98
			130 00		11,837 47	240 00	34 60	12,112 07
431 06	1,012 70	469 66	1,327 68	324 16	10,380 17	3,983 90	638 09	12,002 16
636 35	265 81	1,365 32	92 30	238 89	5,571 62		205 98	5,777 60
606 98	813 00	165 00	2,951 77	225 77	8,417 13	4,731 35	267 77	11,416 25
2,421 32	379 56	1,933 13	4,648 31	2,093 69	175,451 57		1,111 71	176,563 28
720 00	489 00	69 96	2,077 50	407 24	16,597 70	3,874 20	346 98	20,818 88
327 91	451 79	112 35	42 77	427 19	6,893 79	1,166 70	199 19	8,259 68
3,013 90	1,754 00	316 67	3,841 29	3,017 68	18,777 18	1,785 00	681 61	21,243 79
1,688 56	338 14		1,486 48	511 51	5,992 57		1,406 29	7,398 86
492 77	193 00	763 52	1,461 54	334 30	7,725 17	2,717 40	499 50	10,942 07
891 46	790 40	271 70	3,599 76	417 96	8,769 17	2,993 00	432 00	12,194 17
1,080 30	72 82	516 66	2,783 67	816 14	14,004 79		891 28	14,896 07
			104 50	6 25	1,389 46		550 31	1,939 77
341 00	1,086 70	152 14	1,818 41	68 39	9,133 85	2,757 80	198 23	12,089 88
758 45	657 01	189 80	838 37	708 72	6,662 45	1,529 68	142 34	8,334 47
351 97	325 04	168 95	328 25	2,333 02	7,946 60	665 08	89 32	8,701 00
885 98	295 25	302 40	1,450 90		7,327 73		707 00	8,034 73
1,542 20	1,319 27	1,509 42	3,036 88	742 74	24,213 38	1,939 08	933 60	27,086 06
717 15	628 49	442 22	2,673 80	368 25	6,875 86		367 30	7,243 16
430 74	525 41	340 25	832 42	216 30	11,855 02	1,670 33	111 00	13,136 35
1,151 72	686 78	162 10	896 89	150 45	10,791 12	1,793 65	495 95	13,080 72
\$37,799 35	\$26,549 65	\$21,434 63	\$88,465 61	\$24,253 36	\$654,356 50	\$80,822 70	\$21,445 07	\$756,624 27

*Includes \$231.35 contingencies (extraordinary).
 *Covers 13 months.

CLASS B. PRIVATE PLANTS—STEAM GENERATION APPOR

LOCATION.	NAME OF COMPANY.	OPERATION.		
		Operat- ing labor.	Fuel for steam.	Water for steam.
Antigo.....	Antigo Elec. Co.....	\$1,235 80	\$6,185 61	\$15 00
Baraboo.....	Baraboo Gas & El. Co.....	753 50	5,075 15	2 25
Beaver Dam.....	Beaver Dam Lt. & Pr. Co.....	1,187 49	8,886 72	.....
Berlin.....	Berlin Public Service Co.....	2,890 44	19,628 43	.....
Burlington.....	Burlington El. Lt. & Pr. Co.....	462 48	3,584 25	12 31
Delavan.....	United Ht. Lt. & Pr. Co.....	625 04	6,184 21	202 53
Hurley.....	Ironw'd & Bessemer Ry. & Lt. Co. ¹	.....	.....	.....
Lake Geneva.....	Equitable El. Lt. Co.....	967 97	7,207 86	105 80
Mayville.....	Northwestern Lt. & Pr. Co.....	.....	.....	.....
Medford.....	Medford Lt. & Htg. Co.....	625 62	3,182 22	78 30
Mellen.....	Mellen Water & Lt. Co.....	100 87	820 32	.....
Merrill.....	Merrill Ry. & Lt. Co.....	43 77	447 15	.....
Mineral Pt.....	Mineral Pt. Publ. Service Co. ²	925 50	5,258 16	.....
Monroe.....	Monroe El. Co.....	1,073 03	4,872 71	149 02
N. Milwaukee.....	N. Milwaukee Lt. & Pr. Co.....	.....	.....	.....
Oconto.....	Oconto Elec. Co. ²	.....	.....	.....
Prairie du Chien.....	Prairie City Elec. Co.....	960 19	3,356 98	.....
Rice Lake.....	Red Cedar Valley Elec. Co.....	.....	.....	.....
Ripon.....	Ripon Lt. & W. Co.....	565 40	5,100 68	.....
Sparta.....	O. I. Newton's Sons Co.....	9 50	218 47	.....
Stevens Pt.....	Stevens Pt. Ltg. Co. ¹	.....	.....	.....
Walworth.....	Walworth Ltg. Plant.....	736 55	2,737 50	.....
Waukesha.....	Waukesha Gas & El. Co.....	2,347 18	13,493 50	.....
Waupaca.....	Waupaca El. Lt. & Ry. Co.....	272 50	669 89	11 74
West Bend.....	West Bend Htg. & Ltg. Co. ³	1,053 56	6,934 56	.....
Whitewater.....	Whitewater El. Lt. Co.....	1,561 88	3,484 12	80 25
Total.....		\$18,317 77	\$107,338 49	\$657 20

¹ No apportionment made.² Covers only 6 months.

MENTIONMENT ACCOUNT, YEAR ENDING JUNE 30, 1912.

Misc. steam supplies and expenses.	Total operation.	MAINTENANCE.			Total cost of steam.	APPORTIONED TO	
		Maint. boiler plant equipment.	Maint. boiler plant bldgs., fixtures and grounds.	Total maintenance.		Electric utility.	Other utilities.
\$319 35	\$7,765 26	\$536 77	\$17 43	\$554 20	\$8,319 46	\$8,319 46	.....
23 95	5,854 85	114 00	.....	114 00	5,968 85	4,768 85	\$1,200 00
118 13	10,192 34	739 40	.....	739 40	10,931 74	10,931 74	.....
29 00	22,457 87	398 25	.....	398 25	22,856 12	16,026 12	6,830 00
76 38	4,135 42	35 02	35	35 37	4,170 79	4,170 79	.....
106 77	7,118 55	.....	189 92	189 92	7,308 47	7,308 47	.....
121 71	8,403 34	158 65	70 65	229 30	8,632 64	8,632 64	.....
175 44	4,061 58	.....	16 25	16 25	4,077 83	4,077 83	.....
.....	921 19	62 04	19 24	81 28	1,002 47	1,002 47	.....
19 61	510 53	12 50	.....	12 50	523 03	523 03	.....
448 11	6,631 77	26 58	21 95	48 53	6,680 30	4,453 53	2,226 77
58 18	6,152 94	563 17	85 18	648 35	6,801 29	6,801 29	.....
.....
80 68	4,397 85	42 68	.....	42 68	4,440 53	4,440 53	.....
80 68	5,746 76	123 24	13 20	136 44	5,883 20	2,941 60	2,941 60
18 81	246 78	.....	.....	.....	246 78	246 78	.....
.....	3,474 05	.....	.....	.....	3,474 05	3,474 05	.....
385 53	16,226 21	219 09	.....	219 09	16,445 30	11,995 80	4,449 50
23 87	978 00	3 75	7 31	11 06	989 06	763 34	225 72
58 40	8,056 52	158 40	3 40	161 80	8,218 32	7,396 49	821 83
123 89	5,250 14	169 00	.....	169 00	5,419 14	5,419 14	.....
\$2,268 49	\$128,581 95	\$3,362 54	\$444 88	\$3,807 42	\$132,389 37	\$113,693 95	\$18,695 42

³ Covers 13 months.

CLASS C. MUNICIPAL PLANTS. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	Power generation.	Distribu- tion.	Consump- tion.
Algoma.....	Municipal Electric Light Plant..	\$3,702 20	\$18 19	\$89 33
Arcadia.....	" " " " " "	2,240 72	154 52	99 13
Barron.....	" " " " " "	1,013 04	289 38	76 27
Bayfield.....	" " " " " "	4,203 32	80 96	.....
Belmont.....	" " " " " "	1,477 32	75 00	334 77
Benton.....	" " " " " " 1	.....	.....	.....
Blair.....	" " " " " " 1	2,053 48	.....	.....
Blanchardville..	" " " " " " 1	1,295 95	69 53	24 80
Boscobel.....	" " " " " " 1	.....	.....	.....
Bruce.....	" " " " " " 1	.....	.....	.....
Cadott.....	" " " " " " 1	1,204 00	207 23	35 00
Cashton.....	" " " " " " 1	1,222 98	394 84	.....
Cassville.....	" " " " " " 1	.....	.....	.....
Cedarburg.....	" " " " " " 1	7,885 91	1,031 29	44 45
Crandon.....	" " " " " " 1	2,868 96	.....	43 60
Cuba City.....	" " " " " " 1	2,408 55	192 48	315 15
Cumberland.....	" " " " " " 1	4,315 33	2,313 78	.....
Elkhorn.....	" " " " " " 1	4,499 23	897 28	623 43
Elroy.....	" " " " " " 1	.....	.....	.....
Evansville.....	" " " " " " 1	4,179 48	879 18	1,048 66
Fennimore.....	" " " " " " 1	.....	.....	.....
Grantsburg.....	" " " " " " 1	.....	.....	.....
Greenwood.....	" " " " " " 1	1,518 04	221 33	42 82
Jefferson.....	" " " " " " 1	3,193 10	823 44	161 44
Kewaunee.....	" " " " " " 1	.....	.....	.....
Kilbourn.....	" " " " " " 1	3,304 11	226 88	248 82
Lake Mills.....	" " " " " " 1	7,258 98	447 11	491 00
Lodi.....	" " " " " " 1	2,843 24	859 13	.....
Loyal.....	" " " " " " 1	.....	.....	.....
Mazomanie.....	" " " " " " 1	1,332 23	106 64	490 10
Menasha.....	" " " " " " 1	2,375 89	294 65	451 08
Merrillan.....	" " " " " " 1	3,087 60	566 52	2 90
Monticello.....	" " " " " " 1	2,457 92	46 89	15 25
Muscoda.....	" " " " " " 1	4,251 01	841 58	75 16
Plymouth.....	" " " " " " 2	13,714 42	1,310 18	1,580 23
Princeton.....	" " " " " " 1	706 25	.....	.....
Randolph.....	" " " " " " 1	3,982 39	.....	.....
Rib Lake.....	" " " " " " 1	.....	.....	.....
Shell Lake.....	" " " " " " 1	1,598 76	289 19	.....
South Wayne.....	" " " " " " 3	756 89	32 00	.....
Spring Green.....	" " " " " " 1	4,295 89	175 00	1,024 54
Thorp.....	" " " " " " 1	2,805 13	358 82	43 85
Waterloo.....	" " " " " " 1	6,022 28	317 32	85 57
Waupun.....	" " " " " " 1	9,735 78	1,139 88	.....
Westby.....	" " " " " " 1	2,246 53	180 79	115 00
Whitehall.....	" " " " " " 1	1,987 11	79,93	72 70
Total.....		\$123,894 09	\$15,420 94	\$7,584 85

¹ No distribution of expenses reported.

² Report covers 1 year and 3 months.

EXPENSES. YEAR ENDING JUNE 30, 1911.

Commer- cial.	General.	Undistri- buted.	Total of foregoing.	Deprecia- tion.	Taxes.	Total operating expenses.
	\$1,156 01		\$4,965 73	\$1,256 27		\$6,222 00
\$20 75	437 85	\$188 88	3,141 85			3,141 85
	440 86		1,819 55	523 12		2,342 67
	65 84		4,350 12			4,350 12
	76 00		1,963 09			1,963 09
	32 38		2,085 86			2,085 86
	24 45		1,414 73			1,414 73
			1,446 23			1,446 23
	328 29		1,946 11	825 00		2,771 11
	654 36		9,616 01	1,863 79		11,479 80
	250 00		3,162 56			3,162 56
			2,916 18			2,916 18
	264 00		6,893 11			6,893 11
424 07	361 35	44 86	6,850 22			6,850 22
15 72	231 03	111 94	6,466 01			6,466 01
			1,645 27			1,645 27
15 08	48 00		4,499 47	1,879 44		6,378 91
	321 49					
			3,912 13	750 00		4,662 13
132 52			9,101 75	1,750 00		10,851 75
287 63	587 99	29 04	3,867 26			3,867 26
	164 89					
			1,928 97			1,928 97
38 28	30 00	113 42	3,303 32			3,303 32
			3,657 02			3,657 02
68 60	14 69		2,603 35			2,603 35
42 50			5,210 25	1,191 19		6,401 44
69 07	362 07	235 20	17,271 17	1,322 37		18,593 54
	1,020 00		1,726 25			1,726 25
			3,982 39			3,982 39
	62 34		1,950 29			1,950 29
			788 89			788 89
50 00	110 00	6 90	5,662 40	60 00		5,722 40
189 39		42 28	3,439 47			3,439 47
70 00	150 00	74 75	7,169 92	874 83		8,044 75
	2,431 36		13,357 02			13,357 02
	5 00		2,547 32	419 75		2,967 07
59 44	72 69	102 35	2,374 22			2,374 22
\$1,483 05	\$9,702 94	\$949 62	\$159,035 49	\$12,715 76		\$171,751 25

* Report covers 9 months.

CLASS C. PRIVATE PLANTS. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	Power generation.	Distribution.	Consumption.
Albany.....	Albany Elec. Light & Mfg. Co...	\$600 95	\$115 00	\$394 00
Alma.....	Alma Electric Light Co.....	3,079 10	3 79	527 97
Amery.....	Amery Electric Co.....	1,725 05		8 04
Amherst.....	B. E. Dwinell & Co.....	524 40	168 75	59 50
Athens.....	Athens Electric Light & Pr. Co.....	2,230 66	166 00	243 96
Augusta.....	J. I. Ball Electric Lt. & Fuel Co.	2,610 14	225 85	37 25
Baldwin.....	Baldwin Electric Lt. & Fuel Co.	1,642 02	32 58	25 26
Bangor.....	Hussa Bros. Light & Power Co.	3,152 49	92 41	57 09
Belleville.....	Belleville Mills & El. Lt. Plant.	370 00		110 00
Bloomer.....	Bloomer Elec. Light & Pr. Co.....	1,601 84	212 09	120 73
Boyd.....	Boyd Lumber & Impr. Co. ³			
Brillion.....	F. Paustian Milling Co.....	2,609 12	241 65	1,484 92
Brodhead.....	Brodhead Electric Co.....	4,373 90	330 16	1,129 20
Brownstown.....	Brownstown Electric Co.....	959 38	135 00	200 00
Campbellsport.....	Campbellsport Elec. Lt. & Pr. Co	1,408 30	150 00	56 60
Cazenovia.....	Cazenovia Light & Power Co....	51 34	49 85	
Cedar Grove.....	Cedar Grove Telephone Co.....	487 41	430 00	
Cedar Grove.....	Wisconsin Foundry & Steel Wks.	800 61	102 26	
Chetek.....	Chetek Light & Power Co.....	1,395 86	5118 76	50 08
Chilton.....	Calumet Service Co.....	5,245 18	881 24	60 60
Darlington.....	Darlington Elec. Lt. & W. Pr. Co.	3,746 63	253 34	544 56
Dodgeville.....	Dodgeville Electric Light Co....	2,848 60	824 43	634 02
Durand.....	Durand Light & Power Co.....	1,820 68	41 52	101 6 8
Elkhart Lake.....	Milw. & Fox Riv. Valley Ry. Co.	5,810 07	25 44	159 20
Ellsworth.....	Ellsworth Heat, Light & Pr. Co.	805 13		
Elmwood.....	Inter County Light & Power Co.	551 34	910 55	
Endeavor.....	Endeavor Light & Power Co.....	379 27	24 00	50 00
Fountain City.....	Fountain City Light & Pr. Co....	3,161 20	53 70	234 82
Frederick.....	Frederick Electric Light Plant..	1,313 37	784 75	
Gatesville.....	Davis Mill Co.....	790 11	390 00	
Gays Mills.....	Gays Mills Electric Light Plant.	410 00	866 26	4 80
Gillett.....	Great Northern Pail Co. ⁹	550 00		31 60
Greenwood.....	Glenw'd Downing El. L. & P Co.	3,080 62	242 80	906 21
Grafton.....	Grafton Light, Heat & Pr. Co....	1,496 76		9 08
Hayward.....	Hayward Elec. Light & Pr. Co. ³			
Horicon.....	Horicon Light & Power Co.....	1,468 21	11465 18	43 00
Iron River.....	Iron River W. Light & Pr. Co....	3,139 86	67 40	906 32
Kewaskum.....	Kewaskum Electric Light Co....	1,195 00	325 00	156 00
La Farge.....	La Farge Electric Co.....	1,080 00	58 86	16 66
Lancaster.....	Lancaster Electric Light Co....	7,319 52		532 45
Lomira.....	Lomira Elec. Light & Pr. Co. ³			
Manawa.....	Little Wolf River Lumber Co....	1,309 41	100 00	16 00
Mauston.....	Mauston Elec. Service Co.....	2,961 24	1,771 85	575 27
Milton.....	Milton Water, Lt. & Pr. Co. ¹²	349 86	1 18	5 65
Milwaukee.....	Molitor & Hummel Co.....	5,541 60		
Milwaukee.....	Railway Exch. Bldg. Co.....	3,990 76	55 00	238 46
Mishicott.....	Mishicott El. Lt. & Pr. Co. ³			
Mondovi.....	Mondovi Lt. & Power Co.....	1,241 95	111 14	32 27
Montello.....	Montello Granite Co.....	2,334 46	3,660 88	877 16
Mt. Horeb.....	Mt. Horeb El. Lt. Co.....	2,729 49	51 00	9 60
Necedah.....	Necedah Mfg. & Elec. Co.....	2,179 95	60 00	15 00
Neillsville.....	Neillsville Elec. Co.....	3,853 86	471 22	259 59
Neshkora.....	Neshkoro Light & Power Co. ³			
North Freedom.....	No. Freedom Electric Lt. Co....	845 76	53 59	131 49
Omro.....	Omro Elec. Lt. Co.....	2,388 60	186 44	100 13

¹ Includes \$37 65 transmission and transformation.² Includes \$18 96 transmission and transformation.³ No distribution of expenses made.⁴ Includes \$6.00 transmission and transformation.⁵ Includes \$32 45 transmission and transformation.⁶ Includes \$6.05 transmission and transformation.⁷ Includes \$14.00 transmission and transformation.

STATISTICS—ELECTRIC UTILITIES.

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EXPENSES, YEAR ENDING JUNE 30, 1912.

Commer- cial.	General.	Undistrib- uted.	Total of foregoing.	Deprecia- tion.	Taxes.	Total operating expenses.
\$130 00	\$375 00		\$1,614 95	\$100 00	\$60 00	\$1,774 95
	191 95	\$34 00	3,836 81		81 09	3,917 90
	525 75		2,258 84	500 21	105 70	2,864 75
	730 60		1,483 25		157 39	1,640 64
	322 23	31 61	2,994 46	552 72	121 99	3,669 17
	365 16		3,238 40	61 81	185 44	3,485 65
	517 71	18 57	2,236 14	480 00	92 82	2,808 96
106 64	197 83		3,606 46	260 94	166 55	4,033 95
	470 00		950 00		29 70	979 70
	1,183 52		3,018 18		134 90	3,153 08
	180 00	99 34	4,615 03		150 00	4,765 03
	1,243 85	25 00	7,102 11		126 70	7,228 81
	15 00		1,309 38	288 00		1,597 38
	22 50		1,637 40	2,437 92	30 10	4,105 42
	4 70		105 89		41 32	147 21
8 27	18 00		543 68	29 00		572 68
22 75	78 00		1,003 62			1,003 62
	992 40		2,557 10		78 40	2,635 50
	77 66		6,264 68			6,264 68
482 66	1,179 90	150 00	6,357 09		174 89	6,531 98
	800 00		5,107 05		181 00	5,288 05
	1,517 83	260 47	3,772 18		348 16	4,120 34
	109 54		6,104 25		161 35	6,265 60
	1,339 65	2,334 06	4,478 84		256 02	4,734 86
12 00	719 40		1,293 29	110 00	1 16	1,404 45
			453 27			453 27
96 99	1,308 00	18 50	4,873 21		50 00	4,923 21
	15 01		1,413 13	300 00	31 73	1,744 86
	798 93		1,979 04		178 80	2,157 84
	170 80		1,260 86	108 09	36 70	1,405 65
	771 49		1,353 09	400 00		1,753 09
	295 75		4,525 38		45 95	4,571 33
169 85	570 14		2,245 83	828 52	1,254 26	3,328 61
	385 82	36 10	2,398 31	734 91	263 57	3,396 79
	1,120 83		5,234 41		435 57	5,669 98
	560 00		2,236 00			2,236 00
	16 25	59 30	1,231 07			1,231 07
1,200 00	514 09	401 66	9,967 72		194 57	10,162 29
	300 00		1,725 41	75 00		1,800 41
	1,222 92	305 18	6,836 46	1,650 63	956 52	9,443 61
1 18	196 56		553 93			553 93
	475 90		6,017 50		141 18	6,158 68
	120 00		4,404 22			4,404 22
300 00	158 95		1,844 31		139 95	1,984 26
	1,237 00	87 00	8,196 50	485 00	81 00	8,762 50
	500 00		3,290 09		50 75	3,340 84
	275 00	57 35	2,587 30		167 94	2,755 24
36 00	348 96	15 00	4,984 63		147 48	5,132 11
	85 00		1,065 84		35 00	1,100 84
	575 70	109 41	3,360 28	423 47	118 78	3,902 53

⁸ Includes \$48.66 transmission and transformation.

⁹ Report covers 11 months operation only.

¹⁰ Includes \$196 88 contingencies extraordinary.

¹¹ Includes \$242.96 transmission and transformation.

¹² Report covers 4 months' operation only.

CLASS C. PRIVATE PLANTS. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	Power generation.	Distribution.	Consumption.
Owen.....	John S. Owen Lumber Co.....	\$1,251 01	\$1,118 67	\$234 77
Pardeeville.....	Pardeeville Elec. Lt. Plant.....	1,542 84	1,232 72	321 88
Park Falls.....	Park Falls W. Lt. & Power Co....	4,900 91	816 65	457 08
Peshigo.....	Peshigo Lumber Co.....	3,499 72	170 00	129 33
Phillips.....	Phillips Lt. W. Ht. & Power Co.	14,872 42	181 96	35 00
Plainfield.....	Starks & Skeel ³.....	.....	.....	.....
Random Lake.....	Random Lake Elec. Lt. & Pr. Co.	344 18	15 75	.....
Rio.....	Rio Electric Light Plant.....	1,383 68	349 30	55 96
Seymour.....	Seymour Electric Light Plant...	1,582 97	251 60	84 62
Sheboygan Falls.....	Sheboygan Falls Light & Pr. Co.	2,704 54	1,070 05	1,788 68
Soldiers Grove.....	Soldiers Grove Elec. Lt. Co. ³...	.....	.....	.....
Somerset.....	Apple River Power Co. ³.....	.....	.....	.....
Spring Valley.....	Spring Valley Lt. & Pr. Co.....	4,112 77	.....	.....
Stanley.....	Northwestern Lumber Co.....	4,308 00	497 19	897 99
Stratford.....	R. Connor Electric Lt. Plant ³...	.....	.....	.....
Valders.....	Oslo Power & Light Co.....	730 36	900 00	.....
Viola.....	Viola Light & Power Co.....	420 00	.....	12 00
Viroqua.....	Viroqua Elec. Light. Co.....	3,438 25	600 00	200 00
Waterford.....	Waterford Mfg. & Lt. Co.....	1,300 00	.....	250 00
Westfield.....	Westfield Mfg. & Elec. Light Co.	1,920 00	86 00	74 10
West Salem.....	Neshonoc Light & Pr. Co.....	641 60	1,326 89	51 00
Weyauwega.....	Weyauwega Elec. Light Co. ¹	877 92	.....	96 22
Wild Rose.....	Wild Rose Mfg. Co.....	1,503 55	2220 34	29 28
Wilton.....	Wilton Lt. & Pr. Co.....	200 00	318 00	21 45
Winneconne.....	Winneconne Ht. Lt. & Pr. Co....	912 18	427 86	1,383 84
Wittenberg.....	Wittenberg Elec. Co.....	1,183 45	936 77	97 32
	Total.....	\$159,195 91	\$23,530 07	\$17,376 74

¹ Report covers 5 months beginning Jan. 22, 1912.² Includes \$106.00 transmission and transformation.

EXPENSES, 1912—Concluded.

Commer- cial.	General.	Undis- tributed.	Total of foregoing.	Deprecia- tion.	Taxes.	Total operating expenses.
	\$558 50		\$3,162 95	\$1,000 00	\$75 00	\$4,237 95
	88 14	\$681 25	3,866 83		114 28	3,981 11
	1,663 02		7,837 66	821 05	253 95	8,912 66
	916 53	600 30	5,315 88	2,108 48	480 00	7,904 36
	666 67	1,986 71	17,742 76			17,742 76
	4 50		364 43			364 43
	1,042 00		2,830 94		56 30	2,887 24
	1,041 90		2,960 49	213 92	66 08	3,240 49
	1,320 00		6,883 27	326 66	58 14	7,268 07
	141 00		4,253 77		184 21	4,437 98
\$227 25	1,627 65	9 80	7,567 88	1,191 28	45 45	8,804 61
	600 00	35 00	2,265 36		14 60	2,279 96
		67 00	499 00		169 40	668 40
300 00	160 33	190 30	4,888 88	1,677 68	315 75	6,882 31
	50 00		1,600 00	80 00	45 00	1,725 00
			2,080 10	330 00	112 52	2,522 62
	802 00	167 04	2,988 53	1,839 24	426 74	5,254 51
	321 30		1,295 44	93 64		1,389 08
	97 00		1,850 17	360 00	80 00	2,290 17
	70 00		609 45		44 22	653 67
	335 23		3,059 11		169 90	3,229 01
	1,453 67	133 33	3,809 54	1,171 05	195 50	5,176 09
\$3,093 59	\$38,119 72	\$7,943 28	\$249,259 31	\$21,039 22	\$8,921 47	\$279,220 00

³ No distribution of expenses reported.

CLASS A. BALANCE
AS*Italic figures denote credits.*

LOCATION.	NAME OF COMPANY.	PROPERTY AND PLANT.		Treasury securities.	Stocks, bonds and other investments.	Reserve, sinking and special fund assets.
		Cost beginning of year.	Construction current year.			
Appleton.....	Wis. Tr. Lt. & P. Co.	\$916,885 72	\$14,395 50	\$102,204 00	\$1,190 00	\$30,600 00
Ashland.....	A. L. P. & St. R. Co.	452,615 62	11,566 35	16,000 00	260 77	.....
Beloit.....	B. W. Gas & El. Co.	595,946 35	31,299 74	.....	3,300 00	.....
Chipp. Falls...	C. V. R. L. & P. Co.	100,465 84	12,660 64	.....	.....	.....
Eau Claire....	C. V. R. L. & P. Co.	1,713,496 46	.....	.....	.....	4,409 80
Fond du Lac..	E. Wis. Ry. & L. Co.	531,662 80	21,389 12	29,348 00	68,237 87	.....
Green Bay....	G. B. Gas & El. Co.	767,912 60	11,663 14	188,968 00	2,044 88	.....
Green Bay....	Minahan Bldg. Co.	56,293 62	1,162 12	.....	.....	.....
Green Bay....	Nor. Hy. E. Pr. Co. ¹	2,260,489 97	16,574 07	5,000,000 00	.....	.....
Green Bay....	Wis. Pub. Serv. Co.	1,255,088 89	.....	.....	84,060 30	.....
Janesville....	Janesville El. Co.	531,707 40	7,981 40	.....	.....	.....
Kenosha.....	Keno'a G. & E. Co.	266,229 56	19,022 67	.....	.....	16,173 94
Kenosha.....	Ker osha E. Ry. Co.	127,039 06	14,425 78	.....	.....	.....
La Crosse....	La Cr. G. & E. Co.	1,072,116 82	13,443 36	.....	270 00	.....
La Crosse....	La Crosse W. P. Co.	6,308,395 52	25,245 54	1,505,500 00	620,330 20	1 63.
Madison.....	Mad. Gas & El. Co.	820,937 84	48,932 29	.....	.....	.....
Madison.....	South. Wis. Pr. Co.	3,538,356 41	45,534 91	21,000 00	.....	.....
Manitowoc....	Electric Light Co.	161,127 19	8,943 46	.....	.....	.....
Marinette....	M. & M. L. & T. Co.	139,411 25	7,321 74	.....	.....	.....
Milwaukee....	Commonw. Pr. Co.	182,749 38	33,476 20	.....	.....	.....
Milwaukee....	Plan. E. L. & P. Co.	160,003 10	777 53	.....	.....	.....
Milwaukee....	T. M. E. R. & L. Co.	5,707,002 34	616,628 60	.....	25,020 00	210,000 00
Milwaukee....	Mil. Lt. H. & T. Co.	1,415,205 93	57,623 33	.....	2,100,641 25	7,500 00
Milwaukee....	Wells Power Co.	255,332 57	12,380 68	.....	.....	.....
Oshkosh.....	Oshk. Gas Lt. Co.	1,296,947 37	10,163 61	.....	.....	.....
St. Croix Falls	Wis. Improv. Co.	1,364,510 84	212,663 15	.....	400 00	.....
Sheboygan....	Sheb. Ry. & El. Co.	460,679 30	9,069 66	.....	.....	20,825 28
Superior.....	North. Power Co.	.....	.....	.....	.....	.....
Superior.....	Sup. W. Lt. & P. Co.	920,900 60	15,374 31	94,000 00	6,657 94	13,803 84
Watertown....	Wat. Gas. & El. Co.	367,673 36	5,251 12	50,000 00	.....	.....
Wausau.....	Wausau St. Ry. Co.	368,276 81	124,814 61	.....	69,178 71	.....
	Total... ..	\$34,115,460 62	\$1,382,897 91	\$7,007,020 00	\$2,981,591 92	\$303,314 49

¹ Balance sheet as of Dec. 31, 1911.

SHEET, JUNE 30, 1912.
SETS.

CURRENT ASSETS.					Prepaid accounts.	Open accounts.	Deficit.	Total.
Cash.	Notes and bills receivable.	Accounts receivable.	Materials and supplies.	Miscellaneous current assets.				
\$69 09		\$10,395 92	\$12,382 44		\$416 74			\$1,088,539 41
366 30	\$3,593 97	31,310 16	5,645 72		1,207 92			522,566 81
34,342 62	1,718 00	9,054 45	8,233 05		355 23	\$6,889 35		691,138 79
3,438 77		27,943 90	5,213 03		1,106 27			150,828 45
1,911 88		44,735 23	9,210 02		539 76			1,774,303 15
8,190 11	13,113 13	14,032 96	7,552 47	\$230 07	1,090 60			694,907 23
2,143 60		33,529 26	9,802 60			1,088 38	\$6,042 88	1,023,195 34
157 73		4,387 93	532 84				8,571 53	71,105 79
449 97		54,986 93	224 84		205 74	90,339 24	56,394 38	7,479,665 14
3,118 07	17,850 00	13,652 07	1,605 59		448 74	1,202 82		1,377,026 48
1,665 14	50 00	8,304 98	2,340 19	826 67	334 98	1,352 29		554,563 05
979 11	4,467 18	7,788 73	5,493 75		140 05	235 30		320,530 29
181 25		5,717 39		944 81	155 26	35 06		148,498 61
55,270 34		7,819 26	7,861 51		5,418 13	31,551 14		1,166,863 84
5 00	101,244 83	17,265 89	7,430 76	2,652 48	63 32	105,084 34	181,140 44	8,874,359 95
87,145 78		24,014 63	15,795 67		107 92			996,934 13
68,166 70		10,978 05	10,866 91					3,694,902 98
2,215 70		6,957 95	4,174 32		340 55			183,759 17
1,734 70	306 22	5,424 36	2,802 17		834 34			157,884 78
227 38		29,530 90	11,631 36	200 00	265 70			258,080 92
11,168 26		27,203 95	359 93		733 38			200,246 15
26,075 62	71,585 65	651,468 63	129,544 70		2,022 57	70,997 85		7,510,345 96
		20,437 50			455 29		75,061 90	3,676,925 20
5,236 61		9,894 54	6,315 10		542 73			289,702 23
8,189 41	10,253 16	14,761 23	11,774 99	333 34	2,159 82	379 81		1,354,962 74
1,330 27		37,620 49			3,662 30			1,620,187 05
63 21	386 14	15,270 41	4,485 27		1,482 42	877 93		513,139 62
9,876 35		23,478 71			206 59		3,876 02	37,437 67
18,826 62	1,891 14	25,254 24	8,379 55		5,323 17	1,731 42		1,112,142 83
299 93		7,742 15	8,486 91					439,453 47
3,110 55	5,000 00	31,674 38	19,070 08					621,125 14
355,956 07	\$231,459 42	\$1,232,697 20	\$317,215 77	\$5,187 37	\$29,669 52	\$311,764 93	\$331,087 15	\$48,605,322 37

CLASS A. BALANCE SHEET.
LIABIL-*Italic figures denote credits.*

LOCATION.	NAME OF COMPANY.	CAPITAL LIABILITIES.		
		Capital stock preferred.	Capital stock common.	Funded debt.
Appleton	Wis. Tr. Lt. & Power Co.	\$340,000 00	\$504,900 00	.....
Ashland	Ashland Lt. Pr. & St. Ry. Co.	122,000 00	.....	\$310,000 00
Beloit	Beloit W. Gas & Elec. Co.	165,000 00	165,000 00	297,000 00
Chippewa Falls.	Chipp. Val. Ry. Lt. & Pr. Co. ....	.....	48,888 89	71,111 11
Eau Claire	Chipp. Val. Ry. Lt. & Pr. Co.	150,000 00	600,000 00	850,000 00
Fond du Lac	Eastern Wis. Ry. & Lt. Co. ....	.....	166,750 00	463,064 75
Green Bay	Green Bay Gas & Elec. Co.	89,700 00	358,800 00	413,218 00
Green Bay	Minahan Building Co. ....	.....	26,175 00	.....
Green Bay	Northern Hydro El. Pr. Co. ¹ ..	.....	1,000,000 00	5,000,000 00
Green Bay	Wis. Pub. Service Co.	180,000 00	300,000 00	675,000 00
Janesville	Janesville El. Co. ....	.....	100,000 00	.....
Kenosha	Kenosha Gas & Elec. Co.	35,000 00	70,000 00	105,000 00
Kenosha	Kenosha El. Ry. Co. ....	.....	25,500 00	85,000 00
La Crosse	La Crosse Gas & Elec. Co.	120,000 00	270,000 00	630,000 00
La Crosse	La Crosse Water Power Co.	1,500,000 00	3,500,000 00	3,108,000 00
Madison	Madison Gas & Elec. Co.	207,840 00	385,323 00	.....
Madison	Southern Wis. Pr. Co. ....	.....	1,500,000 00	2,060,000 00
Manitowoc	Electric Light Co.	75,000 00	.....	.....
Marinette	Men. & Mari. Lt. & Tr. Co. ....	.....	75,600 00	35,805 00
Milwaukee	Commonwealth Pr. Co. ....	.....	120,000 00	.....
Milwaukee	Plankinton El. Lt. & Pr. Co. ....	.....	28,875 00	.....
Milwaukee	The Milw. El. Ry. & Lt. Co.	900,000 00	1,800,000 00	3,245,600 00
Milwaukee	Milw. Lt. Ht. & Tr. Co. ....	.....	1,500,000 00	1,678,350 00
Milwaukee	Wells Power Co. ....	.....	64,000 00	.....
Oshkosh	Oshkosh Gas Light Co. ....	.....	550,000 00	700,000 00
St. Croix Falls..	Wisconsin Improvement Co.	500,000 00	.....	750,000 00
Sheboygan	Sheboygan Ry. & El. Co. ....	.....	258 00	310,890 00
Superior	Northern Power Co. ....	.....	25,000 00	.....
Superior	Superior W. Lt. & Pr. Co.	150,000 00	150,000 00	576,000 00
Watertown	Watertown Gas & Elec. Co. ....	.....	100,000 00	140,000 00
Wausau	Wausau St. Ry. Co.	266,700 00	262,500 00	.....
	Total	\$4,801,240 00	\$13,697,569 89	\$21,504,038 86

¹ Balance sheet as of Dec. 31, 1911.

JUNE 30, 1912—Continued.
ITIES.

Mortgage liabilities.	RESERVE SINKING AND SPECIAL FUND LIABILITIES.			CURRENT LIABILITIES.		
	Depreciation reserve fund.	Sinking fund.	Special fund.	Notes and bills payable.	Accounts payable.	Matured interest on funded debt unpaid.
.....	\$36,217 47		\$30,172 78		\$3,076 23	
.....	23,010 00	\$3,100 00		\$6,840 27	7,450 21	
.....	1,938 81		374 82		4,789 83	
.....	2,660 84				12,642 96	
.....	40,500 00		6,817 52		112,077 31	
.....			5,099 13		4,325 46	
.....			1,680 73	114,517 00	36,998 36	
.....	3,435 06			41,495 73		
.....				1,340,911 12	21,489 91	
.....			633 81		17,759 52	
\$150,000 00	22,600 00			28,300 00	3,640 04	
.....			9,584 04	45,220 15	7,291 60	
.....	1,934 56			3,753 81	832 82	\$12,750 00
.....	7,084 17	18,486 00	1,661 07	7,080 00	1,267 77	
.....				118,847 49	11,982 08	115,819 66
.....	124,419 33				9,142 53	5,779 90
.....	30,000 00			47,000 00	35 20	
.....				12,612 89	971 78	
.....	17,714 80		3,850 00		19,361 22	
.....	43,373 96					
115,500 00	43,563 79				3,470 34	2,887 50
.....	586,861 41		285,168 52	40,000 00	218,184 27	32,713 00
.....	113,388 21		11,669 80		272,248 58	1,586 25
.....	62,430 07		21 80	153,000 00	3,289 52	
.....			1,437 02		5,170 82	
.....				114,430 37	186,136 25	
.....		156 71		28,699 80	13,094 64	
.....	119,843 45	14,577 12	380 80		11,921 03	
.....	3,016 06		1,466 76	151,050 00	7,658 77	
.....					3,837 21	131 25
.....	27,939 77	2,625 00			2,500 00	
\$265,500 00	\$1,305,899 64	\$38,944 83	\$360,018 60	\$2,253,758 63	\$1,002,646 26	\$171,667 56

CLASS A. BALANCE
LIABILITIES—

LOCATION.	NAME OF COMPANY.	CURRENT LIABILITIES— concluded.		AC
		Deposits.	Miscellaneous current liabilities.	Taxes accrued.
Appleton.....	Wisconsin Tr., Lt. & Pr. Co..	\$216 59		\$5,031 54.
Ashland.....	AshPd Lt., Pr. & St. Ry. Co.	717 70		1,419 12
Beloit.....	Beloit W. Gas & Electric Co.	609 56		6,754 45
Chippewa Falls	Chipp. Val. Ry. Lt. & Pr. Co..			
Eau Claire.....	Chipp. Val. Ry. Lt. & Pr. Co..			2,477 94
Fond du Lac....	Eastern Wis. Ry. & Light Co.	900 85	\$43 52	1,766 23
Green Bay.....	Green Bay Gas & Elec. Co..		328 43	2,062 17
Green Bay.....	Minahan Building Co.....			
Green Bay.....	Northern Hydro El. Pr. Co..			
Green Bay.....	Wis. Public Service Co.....			3,101 75
Janesville.....	Janesville Electric Co.....	138 90		2,362 89
Kenosha.....	Kenosha Gas & Electric Co..	1,137 00	11 96	919 05
Kenosha.....	Kenosha Electric Ry. Co.....			354 76
La Crosse.....	La Crosse Gas & Electric Co.	422 98	2,531 74	
La Crosse.....	La Crosse Water Power Co..			4,955 52
Madison.....	Madison Gas & Electric Co..	2,311 75	1,972 63	2,956 71
Madison.....	Southern Wis. Power Co.....			
Manitowoc.....	Electric Light Co.....			
Marinette.....	Men. & Mari. Light & Tr. Co.		8,375 90	716 93
Milwaukee.....	Commonwealth Power Co..	5 00	2,088 50	862 62
Milwaukee.....	Plankinton El. Lt. & Pr. Co..	5 00		363 83
Milwaukee.....	The Milw. Elec. Ry. & Lt. Co.	7,970 42	1,862 59	77,476 81
Milwaukee.....	Milw. Lt. Ht. & Tr. Co.....			7,574 68
Milwaukee.....	Wells Power Co.....	3 00		1,439 38
Oshkosh.....	Oshkosh Gas Light Co.....	1,098 32		2,639 80
St. Croix Falls..	Wisconsin Improvement Co.			9,987 21
Sheboygan.....	Sheboygan Ry. & Elec. Co..			1,548 00
Superior.....	Northern Power Co.....			516 64
Superior.....	Superior W. Light & Pr. Co..	2,875 00		
Watertown.....	Watertown Gas & Elec. Co..	217 58	3,000 00	327 15
Wausau.....	Wausau Street Railway Co..			2,849 60
	Total.....	\$18,629 65	\$20,215 27	\$140,464 78

SHEET, JUNE 30, 1912.—Concluded.
Concluded.

CRUED LIABILITIES.				Open accounts.	Surplus.	Total liabilities.
Unmatured interest on funded debt accrued.	Unmatured interest, notes and bills pay- able ac- crued.	Dividends accrued.	Miscel- laneous liabilities accrued.			
\$1,538 50			\$3,952 50		\$163,433 80	\$1,088,559 41
	\$188 16	\$1,999 00			45,842 35	522,566 81
					49,671 32	691,138 79
		875 00			15,524 65	150,828 45
					11,555 38	1,774,303 15
4,593 47					48,363 82	694,907 23
2,870 35	3,020 30					1,023,195 34
						71,105 79
3,764 11				\$113,500 00		7,479,065 14
1,486 88				1,651 44	197,393 08	1,377,026 48
1,875 00				456 72	245,189 50	554,563 05
375 00		766 66	159 25	1,287 97	43,777 61	320,530 29
2,125 00			89 54	729 51	15,428 61	148,498 61
11,968 01		35,749 96		6,782 31	53,829 83	1,166,863 84
2,425 52	895 42			511,434 26		8,874,359 95
			5,265 99		251,922 29	996,934 13
25,487 50					79,380 28	3,694,902 98
					61,759 17	183,759 17
750 43	285 74		5 00		1,196 31	157,884 78
					72,389 62	258,080 92
	192 50				5,388 19	200,246 15
29,583 33		36,000 00	143 96	6,913 44	241,868 21	7,510,345 96
10,118 12					81,989 56	3,676,925 20
686 48		1,600 02	1,032 79		2,199 17	289,702 23
5,866 67				662 69	88,087 42	1,354,962 74
3,125 00	762 87				55,745 35	1,620,187 05
1,912 44			936 73		155,643 30	513,159 42
						37,437 67
4,072 32					86,735 37	1,112,142 83
375 00					42,064 58	439,453 47
					56,010 77	621,125 14
\$114,999 13	\$5,344 99	\$76,990 64	\$11,585 76	\$643,418 34	\$2,172,389 54	\$48,605,322 37

CLASS B. MUNICIPAL PLANTS
As

LOCATION.	NAME OF COMPANY.	PROPERTY AND PLANT.		Treas- ury se- curities.	Stocks, bonds and in- vest- ments.	Reserve, sinking and special funds.
		Cost begin- ning of year.	Con- struc- tion cur- rent year.			
Columbus.....	Mun. Elec. Lt. Plant	\$17,482 48	\$20,411 61	.....	.....	.....
Ft. Atkinson...	" " " "	47,781 34	7,936 44	.....	.....	.....
Hartford.....	" " " "	37,576 82	2,127 68	.....	.....	.....
Marshfield.....	" " " "	67,132 94	3,672 10	.....	.....	.....
New London.....	" " " "	30,556 69	863 88	.....	.....	.....
New Richmond.	" " " "	20,000 00	.....	.....	.....	\$600 00
Oconomowoc...	" " " "	72,794 54	1,032 66	.....	.....	.....
Pt. Washington...	" " " " 1	127,863 54	3,993 51	.....	.....	.....
Richland Ctr....	" " " " 1	34,000 00	721 00	.....	.....	.....
River Falls.....	" " " "	35,184 17	1,005 97	.....	.....	5,910 00
Shawano.....	" " " "	23,696 64	6,444 07	.....	.....	.....
Stoughton.....	" " " "	87,213 83	.....	.....	.....	9,145 43
Sturgeon Bay...	" " " "	44,684 98	.....	.....	.....	.....
Two Rivers.....	" " " "	23,159 22	1,634 97	.....	.....	.....
	Total.....	\$669,127 19	\$49,843 89	.....	.....	\$15,655 43

¹Report incomplete.CLASS B. PRIVATE PLANTS
LIA

LOCATION.	NAME OF COMPANY.	Funded debt.	Mortgage liabilities.
Columbus.....	Municipal Electric Light Plant.....	\$27,000 00	.....
Ft. Atkinson.....	" " " ".....	13,500 00	.....
Hartford.....	" " " ".....	27,000 00	.....
Marshfield.....	" " " ".....	48,333 33	.....
New London.....	" " " ".....	1,000 00	.....
New Richmond.	" " " ".....	.....	.....
Oconomowoc...	" " " ".....	10,000 00	.....
Pt. Washington...	" " " " 1.....	.....	.....
Richland Center.....	" " " " 1.....	12,000 00	.....
River Falls.....	" " " ".....	7,125 00	.....
Shawano.....	" " " ".....	23,600 00	.....
Stoughton.....	" " " ".....	40,950 00	.....
Sturgeon Bay.....	" " " ".....	14,040 00	.....
Two Rivers.....	" " " ".....	.....	\$11,625 00
	Total.....	\$224,548 33	\$11,625 00

¹Report incomplete.²Includes \$50.00 "Misc. current liabilities."

BALANCE SHEET, JUNE 30, 1912.
SETS.

CURRENT ASSETS.					Pre-paid accounts.	Open accounts.	Deficit.	Total assets.
Cash.	Notes and bills receivable.	Accounts receivable.	Materials and supplies.	Miscellaneous current assets.				
\$475 25		\$3,216 00	\$1,387 71		\$157 85			\$43,130 90
365 24	\$2,000 00	4,699 15	1,416 00					64,198 17
6,974 33		187 24	1,388 83		96 70			48,351 60
365 36		2,834 51	7,610 37			\$7,210 15		88,825 43
1 56		1,524 02	2,172 31					35,118 46
6,203 71	1,502 38		1,785 15		150 00		\$6,031 61	20,600 00
								89,500 05
		725 06	449 63					131,857 05
								34,721 00
								43,274 83
4,682 55			176 06		124 80			35,124 12
2,360 74		1,714 74	1,075 02		301 05	45 65		101,856 46
	7,053 04		1,661 40					53,399 42
	710 00		622 89					31,076 91
\$26,378 57	\$11,265 42	\$14,900 72	\$19,745 37		\$830 40	\$7,255 80	\$6,031 61	\$821,034 40

BALANCE SHEET, JUNE 30, 1912.—Concluded.
LIABILITIES.

RESERVE LIABILITIES.			CURRENT LIABILITIES.		Unmatured interest on funded debt accrued.	Surplus.	Total liabilities.
Depreciation reserve.	Sinking fund reserve.	Special reserves.	Notes and bills payable.	Accounts payable.			
\$19,822 41	\$4,600 04	\$5,416 79		\$5,500 81		\$10,630 09	\$43,130 90
3,057 11				2,775 55		18,083 38	64,198 17
						18,294 49	48,351 60
			\$10,000 00	718 53		40,492 10	88,825 43
						23,399 93	35,118 46
600 00				599 98		19,400 02	20,600 00
4,429 63					\$166 65	74,903 77	89,500 05
						131,857 05	131,857 05
						22,721 00	34,721 00
						36,149 83	43,274 83
9,145 43			7,741 10	378 74	649 63	11,524 12	35,124 12
			1,191 83			42,991 56	101,856 46
						38,167 59	53,399 42
						19,451 91	31,076 91
\$37,054 58	\$4,600 04	\$5,416 79	\$18,932 93	\$9,973 61	\$816 28	\$508,066 84	\$821,034 40

³Includes \$174.75 "Misc. accrued liabilities."

CLASS B. PRIVATE PLANTS
As-*Italic figures denote credits.*

LOCATION.	NAME OF COMPANY.	PROPERTY AND PLANT.		Treasury securities.	Stocks, bonds and investments.
		Cost beginning of year.	Construction current year.		
Antigo.....	Antigo Electric Co.....	\$149,491 29	\$5,839 31		\$818 80
Baraboo.....	Baraboo Gas & El. Co.....	99,000 00	25,062 18		
Beaver Dam.....	Beaver Dam Lt. & Pr. Co.....	146,002 11	17,450 11	\$7,000 00	10,000 00
Berlin.....	Berlin Public Service Co.....	103,742 75	4,283 15	3,000 00	
Burlington.....	Burlington El. Lt. & Pr. Co.....	57,803 94	3,961 76		
Delavan.....	United Ht. Lt. & Pr. Co.....	33,298 73	6,915 43		
De Pere.....	De Pere El. Lt. & Pr. Co.....	73,080 82	9,554 92		10,656 82
Edgerton.....	Edgerton El. Lt. Co.....	27,921 02	3,924 42		
Grand Rapids.....	Electric & Water Co.....	41,275 23	1,051 01		150 00
Hudson.....	Burkhardt Mfg. & El. Pr. Co.....	74,749 67	511 74		
Hurley.....	Ir'nwo'd&Bes'mer Ry.&L.Co. ²	224,520 00			1,043,555 00
Ladysmith.....	Ladysmith Ltg. Co.....	32,594 00	1,410 00		
Lake Geneva.....	Equitable El. Lt. Co.....	45,556 51	8,726 49	5,925 00	
Mayville.....	Northwestern Lt. & Pr. Co.....	5,000 00			
Medford.....	Medford Lt. & Htg. Co.....	25,727 04	189 62		
Mellen.....	Mellen Water & Lt. Co.....	36,815 32	2,514 88	23,200 00	
Menomonie.....	Chip. Valley Ry. Lt. & Pr. Co.....	33,950 92	2,898 33		
Merrill.....	Merrill Ry. & Lt. Co.....	100,000 00	1,341 06		
Mineral Point.....	Mineral Pt. Pub. Service Co.....	51,475 01	4,010 43		
Monroe.....	Monroe El. Co.....	71,826 36	2,645 26	3,400 00	
New Richmond.....	New Richmond Pr. Co.....	2,332 24			200 00
North Milwaukee.....	N. Milwaukee Lt. & Pr. Co.....	26,087 09	7,842 02		
Oconto.....	Oconto Elec. Co.....	50,691 67	³ 10,846 05	100 00	
Oconto.....	Peoples Land & Mfg. Co.....	70,280 91	1,102 29	13,700 00	
Platteville.....	Interstate Lt. & Pr. Co.....	239,833 53	52,489 48		
Portage.....	Portage El. Lt. Co.....	48,428 28	9,575 01		
Prairie du Chien.....	Prairie City El. Co. ⁴	21,163 23	2,572 55		
Rhineland.....	Rhineland Ltg. Co.....	110,485 20	3,429 67		
Rice Lake.....	Red Cedar Valley El. Co.....	152,532 05	3,104 98		
Ripon.....	Ripon Lt. & W. Co.....	63,492 19	3,296 36	229 00	
Sparta.....	O. I. Newton's Sons Co.....	129,794 04	1,221 06		7,000 00
Stevens Point.....	Stevens Pt. Ltg. Co.....	140,091 78	4,071 92		
Stevens Point.....	Stevens Pt. Pr. Co.....	179,389 52	63 27		
Tomah.....	Tomah El. & Tel. Co.....	35,730 50	2,734 05		5,200 00
Tomahawk.....	Tomahawk Lt. Tel. & Imp. Co. ⁵	19,230 53	141 06		
Walworth.....	Walworth Ltg. Plant.....	13,301 62	784 92		
Washburn.....	Washburn El. Lt. & Pr. Co.....	24,593 48	358 15		
Waukesha.....	Waukesha Gas & El. Co.....	202,271 63	31,661 73	160,000 00	
Waupaca.....	Waupaca El. Lt. & Ry. Co.....	35,091 22	350 56		
West Bend.....	West Bend Htg. & Ltg. Co.....	23,922 02	11,053 82		
Whitewater.....	Whitewater El. Lt. Co.....	60,241 08	1,094 37		
	Total.....	\$3,083,314 53	\$203,364 56	\$216,554 00	\$1,077,580 62

¹Deduction made from plant account for depreciation.²Balance sheet for both railway and lighting.³Includes \$11,197 50 worth of property sold during year.

BALANCE SHEET, JUNE 30, 1912.
SETS.

Reserve, sinking and special funds.	CURRENT ASSETS.					Prepaid ac- counts.	Open accounts.	Deficit.	Total assets.
	Cash.	Notes and bills re- ceivable.	Accounts re- ceivable.	Mat- erials and supplies.	Misc. current assets.				
\$3,549 47	\$630 64	\$234 00	\$4,679 83	\$3,335 48		\$330 85	\$4,150 00		\$173,059 67
	1,695 07			1,318 01		380 48	2,510 79		129,966 53
2,372 31	54 41		3,404 81	2,469 83			1,865 72		165,877 06
	1,320 05		4,316 66	12,712 76	\$133 00	406 22			129,914 59
	2,580 35		2,656 55	3,389 91					70,392 51
			1,145 17	2,169 05					43,528 88
3,439 58	2,355 08		3,273 41	4,554 06					106,914 69
	41 97		1,931 18	2,802 62					36,621 21
	3,903 57		4,322 96	2,776 66					53,479 43
	6,272 34		7,742 61	1,615 07		94 06			90,985 49
24,000 00	986 65		228,245 01				216,605 36		1,737,912 02
	388 06		3,842 59	800 00					39,034 65
	13 59		4,306 66	15 32		13 95			64,557 52
	166 62		1,496 42			122 47			6,785 51
	424 42		481 10	365 00					27,187 18
	5 99		3,005 59	145 00		106 09			65,792 87
	798 02		2,512 62	938 70	43 16	5 10	17,249 98		58,396 83
	2,208 79		10,938 67	1,782 24					116,270 76
	3,074 58		4,194 03						62,754 05
	1,355 54		2,215 72	3,183 84					84,626 72
	197 38		1,355 57						4,085 19
1,238 80	406 41		1,355 32	535 35		70 34			37,535 33
	438 50		1,512 25	1,705 40		26 00		\$7,086 62	50,714 39
	433 30	275 10	3,217 42	929 00					89,938 02
4,536.92	6,021 62		21,787 63	11,783 64		232 44	30,408 43		367,093 69
	121 54		12,430 79	5,547 28					76,102 90
	140 76		1,696 17	1,623 06					27,055 01
		2,634 78	4,820 72	5,657 49		37 78		2,869 73	127,441 35
2,061 00	280 89	43 99	1,563 76	5,785 23		273 61	282 09		166,176 50
			2,845 55	3,070 38			157 39		75,476 75
1,492 62	92 23		2,156 48	258 16	3,041 88				145,056 47
	71 36		3,212 18	50 00		247 57	917 17	12,900 05	161,562 03
			2,067 63	1,165 33	329 68	20 38			179,826 25
	174 37		1,822 36	1,347 22	97 56				47,620 86
	79 88	38 84	237 05						22,813 10
			1,725 05	460 91					14,441 81
2,433 87	2,181 73	5,999 90		11,035 70		723 80	8,138 42		27,137 59
	2,185 05	6,500 00	35 51	850 00		577 30			424,446 78
	217 77	131 65	1,705 82		3,920 12				45,589 64
	294 89		1,683 68	2,156 85					40,951 20
									65,470 87
\$45,124 57	\$41,986 21	\$15,858 26	\$361,942 53	\$98,334 55	\$7,565 40	\$3,926 42	\$282,285 35	\$22,856 40	\$5,460,693 40

*For the year ending Dec. 30, 1911.

*Formerly Tomahawk El. W. & Tel. Co. Sold to present Co. on March 1, 1912.

CLASS B. PRIVATE PLANTS.—BALANCE
LIABIL

LOCATION.	NAME OF COMPANY.	CAPITAL LIABILITIES.		
		Capital stock preferred.	Capital stock common.	Funded debt.
Antigo	Antigo Elec. Co.	\$100,000 00		\$50,000 00
Baraboo	Baraboo Gas & El. Co.		\$50,000 00	49,000 00
Beaver Dam	Beaver Dam Lt. & Pr. Co.		50,000 00	86,500 00
Berlin	Berlin Public Service Co.		55,000 00	52,000 00
Burlington	Burlington El. Lt. & Pr. Co.		50,000 00	
Delavan	United Ht. Lt. & Pr. Co.		12,000 00	13,000 00
De Pere	De Pere El. Lt. & Pr. Co.	75,000 00		
Edgerton	Edgerton El. Lt. Co.		16,000 00	
Grand Rapids	Electric & Water Co.		17,080 00	6,000 00
Hudson	Burkhardt Mfg. & El. Pr. Co.		50,000 00	
Hurley	Iron'w'd & Bes'mer R. & L. Co. ¹	124,500 00	500 000 00	909,000 00
Ladysmith	Ladysmith Ltg. Co.		15,000 00	8,500 00
Lake Geneva	Equitable El. Lt. Co.		9,000 00	
Mayville	Northwestern Lt. & Pr. Co.		5,000 00	
Medford	Medford Lt. & Htg. Co.		20,000 00	
Mellen	Mellen Water & Lt. Co.	7,000 00	28,000 00	15,750 00
Menomonie	Chip. Val. Ry. Lt. & Pr. Co.			
Merrill	Merrill Ry. & Lt. Co.		47,000 00	40,000 00
Mineral Pt.	Mineral Pt. Pub. Service Co.	5,120 00	13,840 00	33,600 00
Monroe	Monroe El. Co.		27,500 00	46,500 00
New Richmond ..	New Richmond Pr. Co.		2,500 00	
No. Milwaukee ..	N. Milwaukee Lt. & Pr. Co.		25,000 00	
Oconto	Oconto Elec. Co.		5,000 00	
Oconto	Peoples Land & Mfg. Co.		50,000 00	
Platteville	Interstate Lt. & Pr. Co.		100 000 00	150 000 00
Portage	Portage El. Lt. Co.		15,000 00	
Prairie du Chien.	Prairie City El. Co. ²		14,675 00	
Rhineland	Rhineland Ltg. Co.			
Rice Lake	Red Cedar Valley El. Co.		120,000 00	
Ripon	Ripon Lt. & W. Co.		22,288 64	23,129 00
Sparta	O. I. Newton's Sons Co.	50,000 00		44,000 00
Stevens Pt.	Stevens Pt. Ltg. Co.		52,000 00	65,000 00
Stevens Pt.	Stevens Pt. Pr. Co.		100,000 00	70,000 00
Tomah	Tomah El. & Tel. Co.		34,300 00	
Tomahawk	Tomahawk L. Tel. & Imp. Co. ³		21,333 34	
Walworth	Walworth Ltg. Plant.			
Washburn	Washburn El. Lt. & Pr. Co.		20,000 00	
Waukesha	Waukesha Gas & El. Co.		42,000 00	290,500 00
Waupaca	Waupaca El. Lt. & Ry. Co.		17,100 00	17,400 00
West Bend	West Bend Htg. & Ltg. Co.		25,000 00	
Whitewater	Whitewater El. Lt. Co.		60,000 00	
	Total	\$361,620 00	\$1,691,626 98	\$1,969,879 00

¹ Balance sheet for both railway and lighting.² For the year ending Dec. 31, 1911.

SHEET, JUNE 30, 1912.—Continued.
ITIES.

Mortgage liabilities.	RESERVE, SINKING AND SPECIAL FUND LIABILITIES.			CURRENT LIABILITIES.		
	Depreciation reserve fund.	Sinking fund.	Special fund.	Notes and bills payable.	Accounts payable.	Matured interest on funded debt unpaid.
		\$3,349 00		\$3,500 00	\$1,548 90	
					8,950 77	
	\$6,705 43			19,570 92	6,225 93	
	5,679 18			13,162 50	2,267 47	
				3,750 00		
				16,379 50		
	5,619 58		\$1,809 21		391 35	
	2,700 00			10,000 00	740 50	
	4,320 51					
	5,232 48				122 32	
				146,552 74	43,823 70	
	17,630 46				10,900 00	
					1,477 11	
				3,000 00		
	1,937 38			2,525 00	1,134 93	
\$40,000 00	11,208 51				591 96	
	10,000 00		700 00	10 000 00		
6,366 56	3,919 87			1,500 00	2,146 97	
					1,392 64	
	485 56				25	
			295 62	1,000 00	8,397 37	
	2,500 00			5,365 99	45,714 39	
			902 34		632 96	
					3,155 65	
	10,064 43				7,927 14	
	1,166 70			5,000 00		
	5,664 99		12,551 70	2,200 00	106,694 66	
20,000 00	7,200 00			12,100 00	2,442 00	
	9,159 33			11,245 78		
	9,271 57	2,833 33		1,700 00		
				19,443 28	25,118 75	
	11,259 06		195 00		8,056 45	
	266 64				3 76	
	1,679 16			5,500 00	2,563 89	
	2,968 85		460 23	2,000 00		
				84,281 81	2,079 39	
	1,670 33			8,477 16	1,460 83	
	1,475 65			3,000 00	3 45	
\$66,366 56	\$139,785 67	\$6,182 33	\$16,914 10	\$391,254 68	\$295,965 49	

* Formerly Tomahawk El. W. & Tel. Co. Sold to present Co. on March 1, 1912

CLASS B. PRIVATE PLANTS
LIABIL.

LOCATION.	NAME OF COMPANY.	CURRENT LIABILITIES. (Concl).	
		Deposits.	Misc. current liabilities.
Antigo.....	Antigo Elec. Co.....		
Baraboo.....	Baraboo Gas & El. Co.....		
Beaver Dam.....	Beaver Dam Lt. & Pr. Co.....		
Berlin.....	Berlin Public Service Co.....		
Burlington.....	Burlington El. Lt. & Pr. Co.....		
Delavan.....	United Ht. Lt. & Pr. Co.....		
De Pere.....	De Pere El. Lt. & Pr. Co.....		
Edgerton.....	Edgerton El. Lt. Co.....		
Grand Rapids.....	Electric & Water Co.....		
Hudson.....	Burkhardt Mfg. & El. Pr. Co.....		
Hurley.....	Ironwood & Bessemer Ry. & Lt. Co.....		\$5,300 00
Ladysmith.....	Ladysmith Ltg. Co.....		9,187 50
Lake Geneva.....	Equitable El. Lt. Co.....		
Mayville.....	Northwestern Lt. & Pr. Co.....		
Medford.....	Medford Lt. & Htg. Co.....		
Mellen.....	Mellen Water & Lt. Co.....		
Menomonie.....	Chp. Valley Ry. Lt. & Pr. Co.....		
Merrill.....	Merrill Ry. & Lt. Co.....		
Mineral Pt.....	Mineral Pt. Pub. Service Co.....		861 37
Monroe.....	Monroe El. Lt. Co.....		45 00
New Richmond.....	New Richmond Pr. Co.....		
No. Milwaukee.....	N. Milwaukee Lt. & Pr. Co.....	\$70 00	
Oconto.....	Oconto Elec. Co.....		
Oconto.....	Peoples Land & Mfg. Co.....		11,815 00
Platteville.....	Interstate Lt. & Pr. Co.....		
Portage.....	Portage El. Lt. Co.....		
Prairie du Chien.....	Prairie City El. Co. ²	825 31	1,467 50
Rhinelanders.....	Rhinelanders Ltg. Co.....		
Rice Lake.....	Red Cedar Valley El. Co.....		\$3,631 26
Ripon.....	Ripon Lt. & W. Co.....		
Sparta.....	O. I. Newton's Sons Co.....		
Stevens Pt.....	Stevens Pt. Ltg. Co.....		
Stevens Pt.....	Stevens Pt. Pr. Co.....		
Tomah.....	Tomah El. & Tel. Co.....		
Tomahawk.....	Tomahawk Lt. Tel. & Imp. Co.....		119 96
Walworth.....	Walworth Ltg. Plant.....		
Washburn.....	Washburn El. Lt. & Pr. Co.....		
Waukesha.....	Waukesha Gas & El. Co.....	85 00	66 85
Waupaca.....	Waupaca El. Lt. & Ry. Co.....		
West Bend.....	West Bend Htg. & Ltg. Co.....		
Whitewater.....	Whitewater El. Lt. Co.....		
	Total.....	\$980 31	\$22,494 44

¹ Dividends unpaid.² For the year ending Dec. 31, 1911.

BALANCE SHEET, JUNE 30, 1912.—Concluded.
 UTILITIES.—Concluded.

ACCRUED LIABILITIES,					Open accounts.	Surplus.	Total liabilities.
Taxes accrued.	Unma- tured in- terest on funded debt accrued.	Unma- tured int. on notes and bills payable accrued.	Divi- dends accrued.	Misc. liabil- ities accrued.			
\$865 84					\$13,795 93		\$173,059 67
22 88	\$540 14	\$552 05				\$22,015 76	129,966 53
		126 72				2,565 14	165,977 06
						652 47	129,914 59
					650 10	10,313 23	70,392 51
						2,148 88	43,528 38
113 94		28 84		\$142 22	1,154 75	22,939 80	106,914 69
					283 25	6,612 46	36,621 21
				368 01		26,078 92	53,479 43
						35,262 68	90,985 49
						8,735 58	1,737,912 02
34 02						6,347 15	39,034 65
100 00		13 34		308 40		26,993 04	64,557 52
130 06	153 61			1,800 00		6,785 51	27,187 18
180 00						2,273 84	
						9,161 89	65,792 87
						6,416 36	58,396 83
						8,570 76	116,270 76
212 10						819 15	62,754 05
						3,557 11	84,626 72
260 56						1,099 38	4,085 19
					139 31	2,372 47	37,535 33
						29,624 07	50,714 39
375 18	3,750 00				101,310 60	7,599 92	89,938 02
							367,093 69
						43,111 33	76,102 90
330 0						3,920 50	27,055 01
600 00		203 24					127,441 35
		135 48					166,176 50
				225 00	2,155 91	7,127 61	75,476 75
432 00	440 00					36,379 57	145,056 47
345 00	291 67						161,562 03
123 71						1,133 13	179,826 25
						1,743 09	47,620 86
						1,089 40	22,813 10
						4,698 76	14,441 81
353 50		13 40				4,770 69	27,127 59
480 00				497 51		1,027 14	424,446 78
						11,089 64	45,589 64
						4,342 88	40,951 20
						991 77	65,470 87
\$4,958 79	\$5,175 42	\$1,073 07		\$3,341 14	\$119,489 85	\$363,585.57	\$5,460,693 40

³ Contains \$2,974.98 dividends unpaid.

CLASS C. MUNICIPAL PLANTS
As

LOCATION.	NAME OF COMPANY.	PROPERTY AND PLANT.		Reserve, sinking and special fund assets.
		Cost beginning of year.	Construction and equipment current year.	
Algoma	Mun. Elec. Lt. Plant.	\$25,155 30	\$231 38	\$1,000 00
Arcadia	" " " "	19,234 12	6,576 81	
Barron	" " " "	7,975 00	1,023 12	4,116 00
Bayfield	" " " "	22,533 12	5,980 89	
Belmont	" " " "	11,000 00		
Benton	" " " "	5,000 00		
Blair	" " " "	5,577 09	107 25	
Blanchardville	" " " "	9,462 54	2,968 35	
Boscobel	" " " "	16,000 00		
Bruce	" " " "	1		
Cadott	" " " "	3,273 56	82 23	
Cashton	" " " "	16,556 37		1,025 00
Cassville	" " " "	10,700 00	1,600 00	
Cedarburg	" " " "	36,366 85	169 47	
Crandon	" " " "	19,600 09	2,000 58	
Cuba City	" " " "	1		
Cumberland	" " " "	22,495 12	610 07	
Elkhorn	" " " "	15,593 38		
Elroy	" " " "	1		
Evansville	" " " "	23,233 00		
Fennimore	" " " "	1		
Grantsburg	" " " "	11,674 57		4,232 39
Greenwood	" " " "	16,900 00		
Jefferson	" " " "	41,765 38	7,196 97	
Kewaunee	" " " "	21,754 58	711 94	
Kilbourn	" " " "	15,000 00	90 00	
Lake Mills	" " " "	40,000 00	1,875 61	
Lodi	" " " "	11,000 90		
Loyal	" " " "	600 37		
Mazomanie	" " " "	3,200 00	8,449 00	
Menasha	" " " "	1		
Merrillan	" " " "	2,900 00		
Monticello	" " " "	12,000 00		
Muscoda	" " " "	21,106 83	4,218 04	
Plymouth	" " " "	43,819 25	22,795 37	
Princeton	" " " "	11,944 00		
Randolph	" " " "	12,131 55	3,067 07	
Rib Lake	" " " "	7,000 00		4,000 00
Shell Lake	" " " "	1		
South Wayne	" " " "	1,500 00	204 30	
Spring Green	" " " "	6,000 00		
Thorp	" " " "	20,000 00	31 20	
Waterloo	" " " "	17,496 63	3,802 38	
Waupun	" " " "	45,768 03	6,229 15	
Westby	" " " "	8,280 00	115 00	
Whitehall	" " " "	4,451 21	679 04	
Total		\$646,047 94	\$80,815 22	\$14,373 39

¹ No balance sheet available.

BALANCE SHEET, JUNE 30, 1912.
SETS.

CURRENT ASSETS.					Prepaid ac- counts.	Open ac- counts.	Deficit.	Total assets.
Cash.	Notes and bills receiv- able.	Ac- counts receiv- able.	Materi- als and supplies.	Miscel- laneous.				
\$275 57		\$1,108 93	\$2,503 70	\$7,109 59	\$1,317 48	\$400 00	\$6,275 73	\$45,377 68
		186 26	3,128 11					29,125 30
1,484 87			303 29					14,902 28
627 46		314 30	1,073 19		191 19			30,720 15
2,365 07			308 83		93 75			13,767 65
								5,000 00
			259 82					5,944 16
		385 14	300 00					13,116 03
585 01		214 15	800 00					17,599 16
			161 29					3,517 08
		36 44	397 98	41 19				18,056 98
		220 00	390 00	60 00				12,970 00
93 69		1,143 28	1,501 21		408 00		198 91	39,881 41
		940 44	1,460 33		185 00			24,186 44
								23,105 19
3,195 32		3,578 18	1,542 51					23,909 39
2,110 92	\$2,146 73	3,198 51	2,037 27		20 00			32,746 43
		97 74	299 06					16,303 76
		778 21	2,886 29		208 40	777 78	455 09	16,900 00
456 98		1,161 33	1,477 19		6 00			54,525 10
1,062 63								26,173 67
								15,090 00
		762 81	2,656 75					45,295 17
								11,000 00
	53 33		367 12					1,020 82
								11,649 00
								2,900 00
1,125 44		10 00	1,410 00		21 75			14,567 19
			196 22					25,521 09
		1,921 91	890 27	1,000 00	207 21			70,634 01
		919 87	725 75					13,589 62
35 08			721 18	2,023 38		8 61		17,986 87
						2,763 40		13,763 40
								1,704 30
3,173 56		2,555 12	891 92		22 50		287 44	12,930 54
			400 00					20,431 20
		1,767 11	1,204 88					24,271 00
142 59			902 25					53,042 02
					57 50			8,452 50
		196 42	363 44					5,690 11
\$16,734 19	\$2,200 06	\$21,496 15	\$31,559 85	\$10,234 16	\$2,738 78	\$3,949 79	\$7,217 17	\$837,366 70

CLASS C. MUNICIPAL PLANTS

LIABIL

LOCATION.	NAME OF COMPANY.	CAPITAL LIABILITIES.		RESERVE AND SPECIAL FUND LIABILITIES.	
		Capital stock.	Funded debt.	Depreciation reserve fund.	Special fund liabilities.
Algoma.....	Municipal Elec. Lt. Plant		\$5,000 00	\$11,805 95	*\$18,500 00
Arcadia.....	" " " "				
Barron.....	" " " "		3,416 67	523 12	
Bayfield.....	" " " "				
Belmont.....	" " " "		3,825 00		
Benton.....	" " " "		1,800 00		
Blair.....	" " " "				
Blanchardville.	" " " "		10,150 00		
Boscobel.....	" " " "		3,000 00		
Bruce.....	" " " " 1				
Cadott.....	" " " "				
Cashton.....	" " " "		14,906 37	2,475 00	200 00
Cassville.....	" " " "		4,000 00		
Cedarburg.....	" " " "				
Crandon.....	" " " "		14,000 00		
Cuba City.....	" " " " 1				
Cumberland.....	" " " "		12,499 98		
Elkhorn.....	" " " "			779 67	
Etroy.....	" " " " 1				
Evansville.....	" " " "		16,000 00		
Fennimore.....	" " " " 1				
Grantsburg.....	" " " "		8,000 00		
Greenwood.....	" " " "		11,000 00		
Jefferson.....	" " " "		38,000 00	2,637 53	
Kewaunee.....	" " " "		20,000 00	2,113 48	1,016 00
Kilbourn.....	" " " "		5,000 00		
Lake Mills.....	" " " "		35,000 00	1,750 00	
Lodi.....	" " " "		4,400 00		
Loyal.....	" " " "				
Mazomanie.....	" " " "		7,500 00		
Menasha.....	" " " " 1				
Merrillan.....	" " " "		1,000 00		
Monticello.....	" " " "		6,500 00		
Muscoda.....	" " " "		14,000 00	1,191 19	
Plymouth.....	" " " "		23,528 34	2,008 37	11,471 67
Princeton.....	" " " "		12,669 75		
Randolph.....	" " " "		9,500 00		
Rib Lake.....	" " " "		7,000 00		
Shell Lake.....	" " " " 1				
South Wayne...	" " " "		1,500 00		
Spring Green...	" " " "		6,000 00		
Thorp.....	" " " "		3,288 60		
Waterloo.....	" " " "		7,000 00	874 83	
Waupun.....	" " " "		17,000 00		
Westby.....	" " " "			419 75	
Whitehall.....	" " " "				
	Total.....		326,484 71	\$26,078 89	\$31,187 67

* No balance sheet available.

BALANCE SHEET, JUNE 30, 1912.—Concluded.

ITIES.

CURRENT LIABILITIES.			Accrued liabilities.	Open accounts.	Surplus.	Total liabilities.
Notes and bills payable.	Accounts payable.	Miscellaneous.				
\$2,850 63	\$1,916 26	\$5,772 11	\$32 73			\$45,377 68
4,000 00	14,618 51				\$10,506 79	29,125 30
	1,628 95				10,962 49	14,902 28
	425 00		873 33		29,091 20	30,720 15
					8,644 32	13,767 65
					3,200 00	5,000 00
					5,944 16	5,944 16
41 00					2,925 03	13,116 03
					14,599 16	17,599 16
					3,517 08	3,517 08
					475 61	18,056 98
1,500 00					7,470 00	12,970 00
	1,539 30	38,342 11				39,881 41
9,879 32	187 00	120 12				24,186 44
	1,225 22		1,043 07		10,605 21	23,105 19
					20,861 43	23,909 39
			147 00		16,599 43	32,746 43
					8,303 76	16,303 76
					5,900 00	16,900 00
12,450 00	883 21		554 36			54,525 10
	1,117 64		525 00		1,401 55	26,173 67
					10,090 00	15,090 00
2,200 00	860 89	456 26			5,028 02	45,295 17
					6,600 00	11,000 00
					1,020 82	1,020 82
					4,149 00	11,649 00
	80 00		40 00		1,780 00	2,900 00
			325 00		7,742 19	14,567 19
	22,959 85		218 75		10,329 90	25,521 09
					10,447 03	70,634 01
	592 82					
	1,356 67		4,575 00		327 05	13,589 62
			350 00		3,911 87	17,986 87
					5,056 73	13,763 40
					204 30	1,704 30
5,722 40	300 00	209 00	699 14			12,930 54
					17,142 60	20,431 20
					16,396 17	24,271 00
					36,042 02	53,042 02
					8,032 75	8,452 50
		5,041 42				
					648 69	5,690 11
\$38,643 35	\$49,691 32	\$49,941 02	\$9,383 38		\$305,956 36	\$837,366 70.

² Includes \$14,000.00 mortgage liability.

CLASS C. PRIVATE PLANTS
As

LOCATION.	NAME OF COMPANY.	PROPERTY AND PLANT.		Treas-ury se-curities.	Reserve, and spe-cial fund assets.
		Cost be-ginning of year.	Construc-tion and equipment current year.		
Albany.....	Albany El. Lt. & Mfg. Co.	\$6,600 00	\$2,400 00		
Alma.....	Alma Elec. Lt. Co.....	7,837 75	206 77		
Amery.....	Amery Elec. Co.....	8,000 00		\$100 00	
Amherst.....	B. E. Dwinell & Co.....	10,000 09		17,000 00	
Athens.....	Athens El. Lt. & Pr. Co..	27,635 96	230 06		
Augusta.....	J. I. Ball El. Lt. & Fuel Co.	10,546 16	76 12		
Baldwin.....	Baldwin E. Lt. & Fuel Co.	11,100 00	18 43		\$762 61
Bangor.....	Hussa Bros. Lt. & Pr. Co..	4,626 01	517 62		220 21
Belleville.....	Bellev. Mills & El. Lt. Pl.	2,550 00			
Bloomer.....	Bloomer El. Lt. & P. Co.	14,965 26	1,506 82		
Boyd.....	Boyd Lumb. & Impr. Co. ²				
Brillion.....	F. Paustian Mfg. Co.....	15,689 27			
Brodhead.....	Brodhead Elec. Co.....	17,238 40	518 30		
Browtown.....	Browtown Elec. Co.....	3,430 35			288 00
Campbellsport.....	Campb. El. Lt. & Pr. Co....	38,777 00	1,855 00		
Cazenovia.....	Cazenovia Lt. & Pr. Co....	1,158 10	83 20		
Cedar Grove.....	Cedar Grove Tel. Co.....	10,559 20	390 97		316 27
Cedar Grove.....	Wis. Foundry & Fuel Co..	3,292 91	61 51		
Chetek.....	Chetek Lt. & Pr. Co.....	7,298 34	404 89		
Chilton.....	Calumet Service Co.....	21,505 00	2,489 32		
Darlington.....	Darling. E. L. & W. P. Co..	18,596 92	793 54		
Dodgeville.....	Dodgeville El. Lt. Co.....	20,000 00			
Durand.....	Durand Lt. & Pr. Co.....	45,020 59	1,392 83		
Elkhart Lake.....	Milw. & Fox R. V. Ry. Co..	29,308 00	802 53		
Ellsworth.....	Ellsworth Ht. Lt. & P. Co.	51,182 15			2,019 02
Elmwood.....	Inter County Lt. & P. Co.		5,565 44		110 00
Endeavor.....	Endeavor Lt. & Pr. Co....	4,000 00			
Fountain City.....	Fount. City Lt. & Pr. Co.	7,344 80	387 97		
Frederick.....	Frederick El. Lt. Plant..	6,000 00			
Galesville.....	Davis Mill Co.....	15,000 00	800 00		
Gays Mills.....	Gays Mills El. Lt. Plant.	2,161 85	217 05		358 09
Gillett.....	Great Northern Pail Co..	4,000 00			
Glenwood.....	G. Downing E. L. & P. Co.	12,355 54	551 86		
Grafton.....	Grafton Lt. Ht. & Pr. Co.	12,691 10	1,665 42		
Hayward.....	Hayward El. Lt. & Pr. Co.	25,000 00	65 54		
Horicon.....	Horicon Lt. & Pr. Co.....	18,387 98	2,558 66		
Iron River.....	Iron Riv. W. Lt. & P. Co.	20,000 00			
Kewaskum.....	Kewaskum Elec. Lt. Co..	10,000 00	1,197 50		
La Farge.....	La Farge Elec. Co.....	7,367 75	58 86		
Lancaster.....	Lancaster Elec. Lt. Co..	31,974 26	2,657 25	15,000 00	
Lomira.....	Lomira El. Lt. & Pr. Co.		12,602 60		
Manawa.....	Little Wolf Riv. Lbr. Co..	5,642 76			
Mauston.....	Mauston Elec. Service Co.	55,833 86	1,398 06		
Milton.....	Milton W. Lt. & Pr. Co.	6,309 07			
Milwaukee.....	Molitor & Hummel Co....	17,630 18			
Milwaukee.....	Railway Exch. Bldg. Co.	24,000 00			
Mishicot.....	Mishicot El. Lt. & Pr. Co.	10,200 00	385 00		
Mondovi.....	Mondovi Lt. & Power Co..	19,230 23	53 83		
Montello.....	Montello Granite Co.....	9,708 10	3,660 88		
Mt. Horeb.....	Mt. Horeb Elec. Light Co..	6,500 00			
Necedah.....	Necedah Mfg. & Elec. Co..	15,000 00			
Neillsville.....	Neillsville Elec. Co.....	12,719 23	331 60		
Neshkora.....	Neshkora Light & Pr. Co.	20,661 20	2,658 84		
No. Freedom.....	No. Freedom Elec. Lt. Co.	3,550 00			
Omro.....	Omro Electric Light Co..	9,516 20	408 62		

¹ Investments.

BALANCE SHEET, JUNE 30, 1912.
SETS.

CURRENT ASSETS.					Pre-paid ac- counts.	Open ac- counts.	Deficit.	Total as- sets.
Cash.	Notes and bills re- ceiv- able.	Ac- counts receiv- able.	Mat- erials and sup- plies.	Miscel- laneous.				
			\$295 53					\$9,295 53
\$48 64		\$310 00	764 88					9,168 04
200 00		1,024 95						9,324 95
266 07		133 55	109 75	\$274 30				17,783 67
560 77		662 22	728 64		\$83 67	\$264 14		30,165 46
589 17		131 94	213 31					11,556 70
126 54		477 45	306 79		46 41			12,838 23
2 22		342 72	752 59					6,461 37
								2,550 00
267 79		11 55	340 28					17,091 70
1,667 77		120 30	110 00					17,587 34
			354 00					18,110 70
			490 15		200 00	434 11		4,842 61
694 30	\$402 75							41,729 05
120 60			69 00					1,471 00
20 48		1,324 10	289 70	10 12	10 00			12,920 84
		120 05						3,474 47
84 12		253 95	254 65			265 20		8,561 15
13 05		573 14	591 15			4,571 72		29,743 38
905 89		758 25	619 05			1,733 24		23,406 89
								20,000 00
1,170 84		668 91	759 83					49,013 00
146 99		278 44	456 60			1,168 26		32,160 82
171 50			460 49			\$769 69		54,602 85
167 41	356 93	448 58	855 00					7,503 36
								4,000 00
			218 00					7,950 77
			350 00					6,350 00
								15,800 00
220 19			172 24					3,129 42
400 00						165 39		4,565 39
230 50		400 20	275 44		38 97	1,509 50		15,452 01
169 80	3,000 00	551 26	818 26			244 49		19,140 33
460 55		1,231 75	465 37	1,571 35				28,794 56
105 80	295 78			450 00		9 10		21,807 32
						33,765 68		53,765 68
1,219 29			232 14					12,648 93
3 83			116 03	7 50		218 25		7,772 22
		1,009 65	1,702 73					52,343 89
154 94		98 00	194 00		114 02	386 44		13,550 00
		1,403 00	860 94			1,137 18		5,642 76
		46 18				468 20		60,633 04
			89 33					7,323 45
								17,719 51
44 25		36 22	75 65			8 88		24,000 00
		930 79	1,439 83					10,750 00
		1,116 46	974 36					21,654 68
								15,459 80
								6,500 00
		406 11	825 68		52 65			16,284 44
		1,807 33	500 00					15,358 16
981 24		16 52	400 00					24,717 80
		30 00	35 00					3,615 00
186 49		909 02	439 75					11,460 08

² No balance sheet available.

CLASS C. PRIVATE PLANTS
LIABILI

LOCATION.	NAME OF COMPANY.	CAPITAL LIABILITIES.		RESERVE LIABILITIES.	
		Capital stock.	Funded debt.	Depreciation reserve.	Special reserve liabilities.
Albany.....	Albany El. Lt. & Mfg. Co....				\$4,000 00
Alma.....	Alma Elec. Lt. Co.....	\$4,100 00			
Amery.....	Amery Elec. Co.....	3,000 00			397 90
Amherst.....	B. E. Dwinell & Co.....				3,500 00
Athens.....	Athens Elec. Lt. & Pr. Co..	12,500 00	\$10,000 00	\$2,938 34	
Augusta.....	J. I. Ball El. Lt. & Fuel Co.	11,002 19			
Baldwin.....	Baldwin El. Lt. & Fuel Co.	9,600 00		762 61	
Bangor.....	Hussa Bros. Lt. & Pr. Co..	1,000 00			
Belleville.....	Belleville Mills & El. Lt. Pl.				
Bloomer.....	Bloomer Elec. Lt. & Pr. Co.	14,800 00			
Boyd.....	Boyd Lumber & Impr. Co. ¹				
Brillion.....	F. Paustian Mfg. Co.....	15,000 00			
Brodhead.....	Brodhead Elec. Co.....				7,000 00
Browtown.....	Browtown Elec. Co.....		3,660 00	288 00	
Campbellsport..	Camp'port El. Lt. & Pr. Co.	10,000 00			
Cazenovia.....	Cazenovia Lt. & Pr. Co.....				600 00
Cedar Grove.....	Cedar Grove Tel. Co.....	5,000 00		316 27	
Cedar Grove.....	Wis. Foundry & Steel Wks.				
Chetek.....	Chetek Lt. & Pr. Co.....				2,500 00
Chilton.....	Calumet Service Co.....	5,000 00			20,000 00
Darlington.....	Darlington El. Lt. & W. Pr. Co	20,000 00			
Dodgeville.....	Dodgeville El. Lt. Co.....	20,000 00			
Durand.....	Durand Lt. & Pr. Co.....	35,000 00			
Elkhart Lake.....	Milw. & Fox R. V'y Ry. Co..	23,500 00			6,500 00
Ellsworth.....	Ellsworth Ht., Lt. & Pr. Co.	25,000 00	20,000 00		6,000 00
Elmwood.....	Inter County Lt. & Pr. Co..	4,500 00		110 00	
Endeavor.....	Endeavor Lt. & Pr. Co.....	1,400 00			
Fountain City.....	Fountain City Lt. & Pr. Co.			773 30	
Frederick.....	Frederick Elec. Lt. Plant..				800 00
Galesville.....	Davis Mill Co.....	8,000 00			
Gays Mills.....	Gays Mills Elec. Lt. Plant.	2,551 14		358 09	
Gillet.....	Great Northern Pail Co....	4,000 00		400 00	
Glenwood.....	G. Downing El. Lt. & Pr. Co	15,000 00			
Grafton.....	Grafton Lt., Ht. & Pr. Co..	10,000 00		828 52	
Hayward.....	Hayward El. Lt. & Pr. Co..	25,000 00			
Horicon.....	Horicon Lt. & Pr. Co.....	10,000 00	10,000 00	732 41	
Iron River.....	Iron River W. Lt. & Pr. Co.	40,000 00	9,200 00		600 00
Kewaskum.....	Kewaskum Elec. Lt. Co.....				
La Farge.....	La Farge Elec. Lt. Co.....	7,426 61			
Lancaster.....	Lancaster Elec. Lt. Co.....	30,000 00			
Lomira.....	Lomira Elec. Lt. & Pr. Co.	9,250 00			3,500 00
Manawa.....	Little Wolf River Lbr. Co.	5,000 00			
Mauston.....	Mauston Elec. Service Co.	19,800 00	18,923 63		
Milton.....	Milton W. Lt. & Pr. Co.....				
Milwaukee.....	Molitor & Hummel Co.....	15,000 00		1,991 13	
Milwaukee.....	Railway Exch. Bldg. Co....		15,000 00		
Mishicot.....	Mishicot E. Lt. & Pr. Co..				2,500 00
Mondovi.....	Mondovi Lt. & Pr. Co.....	17,400 00			
Montello.....	Montello Granite Co.....	9,708 10			
Mt. Horeb.....	Mt. Horeb El. Lt. Co.....	4,000 00			2,500 00

¹ No balance sheet available.

CLASS C. PRIVATE PLANTS.
As*Italic figures denote credits.*

LOCATION.	NAME OF COMPANY.	PROPERTY AND PLANT.		Treas- ury se- curities.	Reserve and special fund assets.
		Cost beginning of year.	Construc- tion and equipment current year.		
Owen	John S. Owen Lumber Co.	7,511 42	1,404 05		
Pardeeville	Pardeeville El. Lt. Plant..	12,890 32	245 89		
Park Falls.....	Park Falls W. Lt. & P. Co.	11,146 46	101 76		
Peshtigo.....	Peshtigo Lumber Co.....	37,199 32	4,108 58		
Phillips.....	Phil'ps Lt. W. Ht. & Pr. Co.	56,394 04	248 28		
Plainfield.....	Starks & Skeel.....	11,500 00			
Random Lake..	Random L. El. Lt. & P. Co..	2,256 00	372 40		
Rio.....	Rio Electric Light Plant..	12,000 00			
Seymour.....	Seymour Elec. Lt. Plant..	9,821 96	200 00		
Sheb. Falls.....	Sheb. Falls Lt. & Pr. Co..	11,512 92	666 13		
Soldiers Grove.	Soldiers Grove El. Lt. Co..	3,860 00			
Somerset.....	Apple River Power Co....	270,097 75	27,528 45		
Spring Valley..	Spring Valley Lt. & Pr. Co.	15,000 00			
Stanley.....	Northwestern Lbr. Co....	11,217 41	695 42		
Stratford.....	R. Connor Elec. Lt. Plant..	10,967 69			
Valders.....	Oslo Power & Light Co....	7,000 00	450 00		
Viola.....	Viola Light & Power Co....	7,000 00	8,300 00		
Viroqua.....	Viroqua Elec. Light Co....	32,937 67	964 18		
Waterford.....	Waterford Mfg. & Lt. Co..	7,000 00			
Westfield.....	Westf'd Mfg. & El. Lt. Co. ¹				
West Salem....	Neshonoc Lt. & Fr. Co....	35,571 00			
Weyauwega....	Weyauwega Elec. Lt. Co....	20,000 00			
Wild Rose.....	Wild Rose Milling Co.....	5,825 00	65 01		
Wilton.....	Wilton Light & Power Co..	4,956 00	35 00		
Winneconne....	Winneconne H. Lt. & P. Co.	12,757 99	307 86		
Wittenberg.....	Wittenberg Electric Co....	23,343 45	77 50		
	Total	\$1,420,001 88	\$96,539 98	\$22,100 00	\$4,074 20

¹ No balance sheet available.

CLASS C. PRIVATE PLANTS
LIABIL

LOCATION.	NAME OF COMPANY.	CAPITAL LIABILITIES.		RESERVE AND SPECIAL FUND LIABILITIES.	
		Capital stock.	Funded debt.	Depreciation reserve fund.	Special fund liabilities.
Necedah.....	Necedah Mfg. & Elec. Co.				
Neillsville.....	Neillsville Elec. Co.	\$6,000 00			
Neshkora.....	Neshkora Lt. & Pr. Co.	15,600 00			
North Freedom.	No Freedom Elec. Lt. Co.				
Omro.....	Omro Elec. Lt. Co.	10,000 00			
Owen.....	John S. Owen Lbr. Co.			\$1,000 00	
Pardeeville.....	Pardeeville Elec. Lt. Plant	10,000 00			
Park Falls.....	Park Falls W. Lt. & Pr. Co.	10,000 00		2,757 22	
Peshigo.....	Peshigo Lbr. Co.				
Phillips.....	Phillips Lt. W. Ht. & Pr. Co.	20,833 33	\$62,500 00		
Plainfield.....	Starks & Skeel				
Random Lake.	R. Lake El. Lt. & Pr. Co.				
Rio.....	Rio Elec. Lt. Plant			600 00	\$4,000 00
Seymour.....	Seymour El. Lt. Plant.				
Sheb. Falls.....	Sheb. Falls Lt. & Pr. Co.	12,000 00		326 66	
Soldiers Grove..	Soldiers Grove El. Lt. Co.	3,860 00			
Somerset.....	Apple River Pr. Co.	50,000 00	250,000 00		
Spring Valley..	Spring Valley Lt. & Pr. Co.	15,000 00			
Stanley.....	Northwestern Lbr. Co.			1,191 28	
Stratford.....	R. Connor Elec. Lt. Plant.	10,000 00			
Valders.....	Oslo Pr. & Lt. Co.	5,000 00			2,000 00
Viola.....	Viola Lt. & Pr. Co.				
Viroqua.....	Viroqua Elec. Lt. Co.	20,000 00		5,033 06	
Waterford.....	Waterford Mfg. & Lt. Co.				5,000 00
Westfield.....	Westfield Mfg. & El. Lt. Co.				
West Salem....	Neshonoc Lt. & Pr. Co.				
Weyauwega.....	Weyauwega Elec. Lt. Co.	20,000 00			
Wild Rose.....	Wild Rose Mfg. Co.	6,500 00			
Wilton.....	Wilton Lt. & Pr. Co.	5,000 00			
Winneconne....	Winneconne H. L. & P. Co.	6,600 00			
Wittenberg.....	Wittenberg Elec. Co.	20,000 00		1,171 05	
	Total.....	\$698,931 37	\$399,223 63	\$21,577 94	\$71,397 90

¹No balance sheet available.

BALANCE SHEET JUNE 30, 1912—Concluded.
ITIES.

CURRENT LIABILITIES.			Accrued liabilities.	Open accounts.	Surplus.	Total liabilities.
Notes and bills payable.	Accounts payable.	Miscellaneous.				
					\$16,284 44	\$16,284 44
\$4,605 43	\$35 00	\$340 30			4,377 43	15,358 15
2,285 00	827 99				6,004 81	24,717 80
		3,550 00			85 00	3,615 00
				\$1,013 96	446 12	11,460 08
	7 915 47					8,915 47
7,848 69		113 32	\$182 01			18,030 70
			124 95	1,630 27		14,625 76
	42,169 61					42,169 61
					2,211 34	85,544 07
					12,150 00	12,150 00
2,200 00			88 00	408 85	70 12	2,766 97
					7,450 00	12,050 00
1,000 00		75 00			9,975 29	11,050 29
	114 70				931 03	13,372 39
	347 40		107 80			4,315 20
	8,161 27			713 58		308,874 85
	10 05				489 30	15,499 35
		10,721 55				11,912 83
					1,002 69	11,602 69
1,333 04						8,333 04
15,300 00	1,260 00				368 64	16,928 64
3,500 00	1,045 76				6,743 28	36,322 10
					2,000 00	7,000 00
		35,571 00				35,571 00
					695 05	20,695 05
						6,500 00
	5,675 00		77 00	15 00	878 04	5,970 04
				426 16	930 08	13,631 24
	902 67					27,162 45
105,719 29	118,406 74	\$71,475 38	2,928 16	\$5,173 88	\$215,112 40	1,709,946 69

ALL CLASSES. ELECTRIC EQUIPMENT¹

LOCATION.	NAME OF COMPANY.	BOILERS.		PRIME	
		No.	Total h. p.	Water Wheels.	
				No.	Total h. p.
Albany.....	Albany El. Lt. & Mfg. Co.....			1	60
Algoma.....	Mun. Elec. Lt. Plant.....	2	160		
Alma.....	Alma Elec. Lt. Co.....	1	70		
Amery.....	Amery Elec. Lt. Co.....	1	35	1	70
Amherst.....	B. E. Dwinell Co.....			1	85
Antigo.....	Antigo Elec. Lt. Co.....	2	500		
Appleton.....	Wis. Tr. Lt. Ht. & Pr. Co.....	4	1,380	16	2550
Arcadia.....	Mun. Elec. Lt. Plant.....	2	180		
Ashland.....	Ashland Lt. Pr. & St. Ry. Co.....	4	500		
Athens.....	Athens Elec. Lt. & Pr. Co.....	1	60		
Augusta.....	J. L. Ball Elec. Lt. & Fuel Co.....	1	100	1	
Baldwin.....	Baldwin Elec. Lt. & Fuel Co.....	1	115		
Bangor.....	Hussa Bros. Lt. & Fuel Co.....	3	360		
Baraboo.....	Baraboo Gas & Elec. Co.....	2	220		
Barron.....	Mun. Elec. Lt. Plant.....			1	140
Bayfield.....	Mun. Elec. Lt. Plant.....	2	300		
Beaver Dam.....	Beaver Dam Lt. & Pr. Co.....	3	390		
Belleville.....	B. Mills & Elec. Lt. Plant.....			1	40
Belmont.....	Mun. Elec. Lt. Plant.....	1	100		
Beloit.....	Beloit W. Gas & Elec. Co.....	3	950	2	275
Benton.....	Mun. Elec. Lt. Plant.....				
Berlin.....	Public Service Co.....	4	650		
Blair.....	Mun. Elec. Lt. Plant.....	1	125	2	100
Blaichardville.....	Mun. Elec. Lt. Plant.....	2	135		
Bloomer.....	Bloomer Elec. Lt. & Pr. Co.....				
Boscobel.....	Mun. Elec. Lt. Plant.....	2	300		
Boyd.....	Boyd Lumber & Impr. Co.....	2	150		
Brillion.....	F. Paustian Milling Co.....				
Brodhead.....	Brodhead Elec. Co.....			5	275
Browtown.....	Browtown Elec. Co.....				
Bruce.....	Mun. Elec. Lt. Plant.....	2	84		
Burlington.....	Burlington Elec. Lt. & F. Co.....	3	450	2	195
Cadott.....	Mun. Elec. Lt. Plant.....				
Campbellsport.....	Campbellsport El. Lt. & P. Co.....				
Cashon.....	Mun. Elec. Lt. Plant.....	1	125		
Cassville.....	Mun. Elec. Lt. Plant.....	2	85		
Cazenovia.....	Cazenovia Elec. Lt. & Pr. Co.....			1	33
Cedarburg.....	Mun. Elec. Lt. Plant.....	3	350		
Cedar Grove.....	Cedar Grove Tel. Co.....				
Cedar Grove.....	Wis. Foundry & Iron Wks.....				
Chetek.....	Chetek Lt. & Pr. Co.....			1	75
Chilton.....	Calumet Service Co.....	2	225		
Chip. Falls.....	Chip. Valley Ry. Lt. & Pr. Co.....			5	956
Clintonville.....	Mun. Elec. Lt. Plant.....	2	250		
Colfax.....	Colfax Milling & Pr. Plant.....	1	30	1	50
Columbus.....	Mun. Elec. Lt. Plant.....	2	220		
Crandon.....	Mun. Elec. Lt. Plant.....	2	120		
Cumberland.....	Mun. Elec. Lt. Plant.....	2	150		
Darlington.....	D. El. Lt. & W. Pr. Co.....	1	150	2	165
Delavan.....	United Ht. Lt. & Pr. Co.....	2	410		
De Pere.....	De Pere Lt. & Pr. Co.....			2	286
Dodgeville.....	Dodgeville El. Lt. & Pr. Co.....	2	130		
Durand.....	Durand Lt. & Pr. Co.....			2	655
Eau Claire.....	Chip. Valley Ry. Lt. & Pr. Co.....	4	400	5	10,300
Edgerton.....	Edgerton Elec. Lt. Co.....				

¹Estimated.

LOAD AND DEMAND DATA—YEAR ENDING JUNE 30, 1912.

MOTIVE FACTOR.				Power purchased (reported in kw-hr.)	ELECTRIC GENERATORS.		Maximum demand on station or peak load kw.	Total kw-hr. generated and purchased.
Steam engines.		Gas engines.			No.	Total kw. capacity.		
No.	Total h. p.	No.	Total h. p.					
								60
1	150				1	45	28	48,000
1	65				1	75	65	92,000
2	50				1	50	36	52,000
					2	40	40	79,315
					1	60	33	27,000
2	600				3	565	295	612,970
4	5,351				4	2,000	1,170	2,537,416
2	216				2	166		61,160
2	45				3	75		
1	70				2	95	111	65,000
2	175				2	140	47	40,975
1	98				1	50	48	53,500
1	60				1	40	30	
2	235				5	443	112	252,000
					1	90	55	
2	250				4	186	90	139,221
4	902				4	520	377	692,967
					1	18	10	21,945
					1	75		
4	2,073				4	1,400	800	1,956,583
								31,900
2	950				2	580		31,900
1	95				1	50	170	78,500
1	100							100
2	200				2	92	70	78,017
1	50						120	
		1	100		1	75		175,000
					5	140	80	121,040
		*1	25		1	20		8,338
1	70				1	30		70
1	300				3	325	137	330,994
		1	150		1	60		150
1	100				1	100	46	140,000
					1	75	26	33,358
2	200				1	75	37	200
3	350	1	40		1	12	9	80,000
					3	220	140	173,367
								5,851
							8	5,851
2	165				1	60	52	61,270
					2	137		165
2	200				1	250	819	1,533,140
1	25				2	190		131,440
								11,153
2	360				2	225	110	360
1	120				1	75	75	120
2	280				2	175		280
1	125				2	95	90	140,000
3	370				3	300		115,266
								286
2	250	1	20		2	200		345,000
					2	160		270
					2	350		655
1	400				11	7,077	140	10,700
							3,110	213,735

*Six months only.

ALL CLASSES. ELECTRIC EQUIPMENT

LOCATION.	NAME OF COMPANY.	Commercial consumers.	LOAD
			Arcs.
Albany	Albany Electric Light & Mfg. Co.	152	2
Algoma	Municipal Electric Light Plant.	186	31
Alma	Alma Electric Light Co.	138	5
Amery	Amery Electric Light Co.	78	.....
Amherst	B. E. Dwinell Co.	68	.....
Antigo	Antigo Electric Light Co.	1,081	82
Appleton	Wisconsin Trac., Lt. Heat & Pr. Co.	1,821	343
Arcadia	Municipal Electric Light Plant.	220	.....
Ashland	Ashland Light, Pr. & Street Ry. Co.	1,008	158
Athens	Athens Electric Light & Power Co.	121	8
Augusta	J. L. Ball Electric Light & Fuel Co.	111	4
Baldwin	Baldwin Electric Light & Fuel Co.	117	11
Bangor	Hussa Bros. Light & Fuel Co.	152	.....
Baraboo	Baraboo Gas & Electric Co.	458	55
Barron	Municipal Electric Light Plant.	237	18
Bayfield	Municipal Electric Light Plant.	270	19
Beaver Dam	Beaver Dam Light & Power Co.	676	95
Belleville	Belleville Mills & Elec. Light Plant.	24	.....
Belmont	Municipal Electric Light Plant.	58	7
Beloit	Beloit Water, Gas & Electric Co.	1,133	196
Benton	Municipal Electric Light Plant.	95	.....
Berlin	Public Service Co.	489	56
Blair	Municipal Electric Light Plant.	108	42
Blanchardville	Municipal Electric Light Plant.	102	4
Bloomer	Bloomer Electric Light & Power Co.	118	7
Boscobel	Municipal Electric Light Plant.	265	30
Boyd	Boyd Lumber & Improvement Co.	29	13
Brillion	F. Paustian Milling Co.	115	6
Brodhead	Brodhead Electric Co.	430	6
Browntown	Browntown Electric Co.	27	3
Bruce	Municipal Electric Light Plant.	83	4
Burlington	Burlington Electric Light & Pr. Co.	532	14
Cadott	Municipal Electric Light Plant.	79	.....
Campbellsport	Campbellsport Elec. Light & Pr. Co.	206	18
Cashton	Municipal Electric Light Plant.	79	63
Cassville	Municipal Electric Light Plant.	88	7
Cazenovia	Cazenovia Elec. Light & Power Co.	44	.....
Cedarburg	Municipal Electric Light Plant.	225	40
Cedar Grove	Cedar Grove Telephone Co.	6	.....
Cedar Grove	Wisconsin Foundry & Iron Works.	41	.....
Chetek	Chetek Light & Power Co.	119	7
Chilton	Calumet Service Co.	202	.....
Chippewa Falls	Chippewa Valley Ry., Lt. & Pr. Co.	550	.....
Clintonville	Municipal Electric Light Plant.	210	12
Colfax	Colfax Milling & Power Plant.	61	.....
Columbus	Municipal Electric Light Plant.	348	.....
Crandon	Municipal Electric Light Plant.	82	20
Cumberland	Municipal Electric Light Plant.	185	12
Darlington	Darlington Elec. Lt. & Water Pr. Co.	251	.....
Delavan	United Heat, Light & Power Co.	304	37
De Pere	De Pere Light & Power Co.	591	78
Dodgeville	Dodgeville Elec. Light & Power Co.	160	.....
Durand	Durand Light & Power Co.	294	.....
Eau Claire	Chippewa Valley Ry., Lt. & Pr. Co.	1,356	154
Edgerton	Edgerton Electric Light Co.	386	7

LOAD AND DEMAND DATA, 1912—Continued.

Motors.		Total connected load in kw.	Meters.	Trans-formers.	Length of service.
No.	Total h. p.				
.....	.....	28	52	.....	Dusk to 11 p. m.
.....	.....	193	183	37	Dusk to daylight.
3	.....	61	34	.....	Dusk to midnight.
.....	.....	42	4	.....	Sunset to sunrise.
.....	.....	53	61	.....	Dusk to midnight.
.....	.....	923	1,061	54	Continuous.
114	283	.....	.....	.....	Continuous.
423	1,097	3,180	1,700	152	5 p. m. to 11:30 p. m. & 5 a. m. to 8 a. m. in winter.
.....	.....	130	197	11	Continuous.
.....	1,247	1,770	1,032	154	Continuous.
.....	.....	111	121	.....	Continuous.
.....	.....	82	.....	.....	Dusk to midnight.
.....	.....	67	66	.....	Sundown to midnight.
37	.....	112	126	.....	5:30 a. m. to noon; 1 p. m. to midnight.
.....	4	37	456	25	Continuous.
.....	.....	100	199	.....	Dark to daylight.
.....	.....	167	232	.....	Dusk to daylight.
44	359	11,169	663	94	Continuous.
.....	.....	16	.....	.....	Dusk until 10:30; Sat. 11 p. m.
.....	.....	19	56	.....	Sundown to 11 p. m.
232	1,015	2,188	991	103	Continuous.
.....	.....	.....	95	.....	Continuous.
85	793	913	459	88	5:30 a. m. to daylight and dusk to 11 p. m.
.....	.....	36	3	.....	Dusk to 11 p. m.
3	.....	73	86	24	Continuous.
.....	.....	.....	120	.....	.....
.....	.....	.....	242	50	Sunset to 12 p. m.
.....	.....	.....	7	.....	Dusk to midnight.
7	67	12,396	7	.....	Continuous.
11	.....	.....	254	.....	Dusk to midnight; daylight to 7 a. m.
.....	.....	.....	20	.....	Sunset to 11:30.
.....	.....	.....	74	.....	Sunset to sunrise.
54	324	766	532	14	Continuous.
.....	.....	36	62	10	Dusk to 12; 5 a. m. to daylight.
2	15	40	206	.....	Dusk to daylight.
.....	.....	.....	54	.....	Dusk to 11:15 p. m.
.....	.....	.....	87	10	Dusk to midnight.
.....	.....	21	28	.....	Sunset to 11 p. m.
.....	.....	.....	225	38	Continuous except 45 minutes at noon.
.....	.....	33	2	.....	6 p. m. to 1 a. m.
.....	.....	10	38	.....	Dusk to 11 p. m.
1	3	71	51	19	Dusk to daylight.
6	.....	.....	179	.....	Dusk to midnight.
.....	357	522	550	211	Continuous.
.....	.....	.....	218	.....	Continuous.
.....	.....	.....	18	.....	Dusk to 11; 5 a. m. to daylight.
9	65	481	354	17	Continuous.
.....	.....	.....	82	13	Dusk to daylight.
8	64	209	174	52	Sunset to sunrise.
.....	.....	187	180	.....	Dusk to daylight.
2	9	215	311	26	.....
152	839	1,233	515	.....	Continuous.
.....	.....	95	160	21	Dusk to midnight; 5 a. m. to daylight.
10	129	311	127	15	Continuous.
.....	3,324	3,895	1,245	130	Continuous.
29	211	511	378	20	Continuous.

ALL CLASSES. ELECTRIC EQUIPMENT

LOCATION.	NAME OF COMPANY.	BOILERS.		PRIME	
				Water wheels.	
		No.	Total h. p.	No.	Total h. p.
Elderon.....	Elec. Lt. & Pr. Co.....	1	12		
Elkhart Lake.....	Milw. & Fox R. Valley Ry. Co.....	3	275		
Elkhorn.....	Mun. Elec. Lt. Plant.....	1	100	1	34
Ellsworth.....	Ellsworth Ht. W. & Lt. Co.....				
Elmwood.....	Inter County Lt. & Pr. Co.....				
Elroy.....	Mun. Elec. Lt. Plant.....	2	250		
Endeavor.....	Elec. Lt. & Pr. Co.....	2	25		
Evansville.....	Mun. Elec. Lt. Plant.....	2	200		
Fairchild.....	Fairchild Elec. Lt. Plant.....				
Fennimore.....	Mun. Elec. Lt. Plant.....	2	200		
Fond du Lac.....	Eastern Wis. Ry. & Pr. Co.....	4	1,790		
Fountain City.....	Fountain City Lt. & Pr. Co.....				
Frederick.....	Frederick Elec. Lt. Plant.....	1	60		
Ft. Atkinson.....	Mun. Elec. Lt. Plant.....	3	400		
Galesville.....	Davis Mill Co.....				
Gays Mills.....	Gays Mills Elec. Co.....			1	40
Gillett.....	Great Northern Pail Co.....	2	180		
Glenwood.....	Glenwood & Downing Lt. & P. Co.....	1	100		
Grafton.....	Grafton Lt. Ht. & Pr. Co.....			1	115
Grand Rapids.....	Electric & Water Co.....	1	250		
Grantsburg.....	Mun. Elec. Lt. Plant.....	1	90		
Green Bay.....	Green Bay Gas & Elec. Co.....	1	350		
Green Bay.....	Minahan Bldg. Co.....	2	700		
Green Bay.....	Northern Hydro Elec. Pr. Co.....			7	10,500
Green Bay.....	Wisconsin Public Service Co.....			7	10,500
Greenwood.....	Mun. Elec. Lt. Plant.....			1	100
Hartford.....	Mun. Elec. Lt. Plant.....	2	250		
Hayward.....	Hayward Elec. Lt. & Pr. Co.....	2	240	1	150
Horicon.....	Horicon Lt. & Pr. Co.....				
Hudson.....	Burkhardt Mfg. & El. Pr. Co.....			6	720
Hurley.....	Ironwood & Bessemer Ry. & L. Co.....	2	300		
Iron River.....	Iron River W. Lt. & Pr. Co.....	3	175		
Janesville.....	Janesville Elec. Co.....	5	750	18	1,900
Jefferson.....	Mun. El. Lt. Plant.....	2	300	2	80
Kenosha.....	Kenosha Elec. Ry. Co.....	2	400		
Kenosha.....	Gas & Elec. Co.....				
Kewaskum.....	Kewaskum Elec. Lt. Co.....	2	300		
Kewaunee.....	Mun. Elec. Lt. Plant.....	2	200		
Kilbourn.....	Mun. Elec. Lt. Plant.....				
La Crosse.....	La Crosse Gas & Elec. Co.....	11	2,495		
La Crosse.....	La Crosse W. Pr. Co.....			4	8,500
Ladysmith.....	Ladysmith Ltg. Co.....				
La Farge.....	La Farge Elec. Co.....				
Lake Geneva.....	Equitable Elec. Lt. Co.....	3	240	5	230
Lake Mills.....	Mun. El. Lt. Plant.....	2	250		
Lancaster.....	Lancaster Elec. Lt. Co.....	2	200		
La Valle.....	La Valle Roller Mills Co.....			1	45
Lodi.....	Mun. Elec. Lt. Plant.....	2	150		
Lomira.....	Mun. Elec. Lt. Plant.....				
Loyal.....	Mun. Elec. Lt. Plant.....				
Madison.....	Madison Gas & Electric Co.....	8	2,855		
Madison.....	Southern Wisconsin Pr. Co.....			6	11,620
Manawa.....	Little Wolf River Lbr. Co.....				
Manitowoc.....	Manitowoc Elec. Lt. Co.....	5	1,000		
Marinette.....	Menom. & Mar. Lt. & Tr. Co.....	4	370		

¹ Estimated.

LOAD AND DEMAND DATA, 1912—Continued.

MOTIVE FACTOR.					Power purchased (re-ported in kw-hr.)	ELECTRIC GENERA-TORS.		Maximum demand on station or peak load, kw-hr.	Total kw-hr. gener-ated and purchased.
Steam engines.		Gas engines.		Total prime motive power, h. p.		No.	Total kw. capac-ity.		
No.	Total h. p.	No.	Total h. p.						
		2	190	190	5,781	2	65	39	
				275		2	175	101	149,201
1	144			134				90	
					31,490				31,490
				250		2	150	60	
				25		1	15	7	5,800
2	210			200					127,764
1	95			95		1	50		
3	1,600			1,600		7	1,795	1,872	3,121,686
					158,060			75	
1	50			50		1	45	21	20,000
2	350			350		2	200	190	439,130
						2	180	79	82,000
				40		1	30	24	45,140
2	225			180		1	37		19,491
1	85			85		1	60	33	
				115	7,255	3	250	60	49,920
				250	644,199	1	250		644,199
1	80			80		1	50		
1	800			350	4,897,460	1	500	2,253	
2	650			650		2	400	190	
				10,500		5	5,000		5,121,584
				10,500		5	5,000	80	4,612,897
				100		1	60	36	22,242
2	275			250					
1	200			350		2	220	143	
					48,940			50	48,940
				720		2	300	210	745,626
1	250			850		5	1,062		1,861,465
2	300			175		2			
3	750	1	50	2,700		12	1,355	1,130	2,625,050
2	305			380		3	275	68	114,193
2	950			400	281,200	2	700		1,392,085
									1,279,595
1	150			150				45	13,200
1	85			85		1	50	160	
					135,496	1	50	50	
10	3,125	2	170	2,665	772,750	14	1,570	1,937	4,443,585
				8,500	579,311				
						2	4,800		
						2	325		
3	412			470		1	60		
1	175			175	22,000	4	380	160	368,945
						2	165	95	156,372
2	190			190		2	175	94	100,271
				45					1,537
1	100			100		2	62		
		2	80	80		1	225		19,500
		1	85	85					
								63	
7	3,788	2	560	3,415		13	3,312	2,444	5,440,251
				11,620		4	6,000	7,800	33,540,544
								35	
5	1,075	1	150	1,150		11	810	479	1,095,486
2	425			370	1,501,200	3	250		1,501,200

ALL CLASSES. ELECTRIC EQUIPMENT

LOCATION.	NAME OF COMPANY.	Commercial consumers.	LOAD
			Arcs.
Elderon.....	Electric Light & Power Co.....	24	.....
Elkhart Lake.....	Milwaukee & Fox River Val. Ry. Co.....	159	24
Elkhorn.....	Municipal Electric Light Plant.....	297	27
Ellsworth.....	Ellsworth Heat, Water & Lt. Plant..	146	.....
Elmwood.....	Inter County Light & Power Co.....	45	.....
Elroy.....	Municipal Electric Light Plant.....	257	33
Endeavor.....	Electric Light & Power Co.....	48	.....
Evansville.....	Municipal Electric Light Plant.....	299	10
Fairchild.....	Fairchild Electric Light Plant.....	42	.....
Pennimore.....	Municipal Electric Light Plant.....	162	26
Fond du Lac.....	Eastern Wisconsin Ry. & Power Co..	2,841	167
Fountain City.....	Fountain City Light & Power Co.....	108	4
Frederick.....	Frederick Electric Light Plant.....	70	.....
Fl. Atkinson.....	Municipal Electric Light Plant.....	726	.....
Galesville.....	Davis Mill Company.....	188	.....
Gays Mills.....	Gays Mills Electric Company.....	84	6
Gillett.....	Great Northern Pail Company.....	78	.....
Glenwood.....	Glenwood & Downing, Lt. & P. Co..	153	6
Grafton.....	Grafton Light Heat & Power Co.....	61	.....
Grand Rapids.....	Electric & Water Company.....	810	55
Grantsburg.....	Municipal Electric Light Plant.....	141	5
Green Bay.....	Green Bay Gas & Electric Co.....	2,084	255
Green Bay.....	Minahan Building Company.....	231	6
Green Bay.....	Northern Hydro Electric Power Co..	.....	.....
Green Bay.....	Wisconsin Public Service Company..	60	.....
Greenwood.....	Municipal Electric Light Plant.....	120	7
Hartford.....	Municipal Electric Light Plant.....	526	58
Hayward.....	Hayward Electric Light & Power Co..	245	22
Horicon.....	Horicon Light & Power Co.....	85	.....
Hudson.....	Burkhardt Mfg. & Electric Power Co.	612	65
Hurley.....	Ironwood & Bessemer Ry. & Lt. Co..	366	37
Iron River.....	Iron River W. Light. & Power Co..	181	20
Janesville.....	Janesville Electric Co.....	1,471	212
Jefferson.....	Municipal Electric Light Plant.....	308	114
Kenosha.....	Kenosha Electric Railway.....	.....	216
Kenosha.....	Gas & Electric Company.....	.....	.....
Kewaskum.....	Kewaskum Electric Light Co.....	52	9
Kewaunee.....	Municipal Electric Light Plant.....	231	26
Kilbourn.....	Municipal Electric Light Plant.....	152	24
La Crosse.....	La Crosse Gas & Electric Co.....	4,274	297
La Crosse.....	La Crosse Power Company.....	55	.....
Ladysmith.....	Ladysmith Lighting Co.....	304	39
La Farge.....	La Farge Electric Company.....	99	5
Lake Geneva.....	Equitable Electric Light Co.....	705	13
Lake Mills.....	Municipal Electric Light Plant.....	271	.....
Lancaster.....	Lancaster Electric Light Co.....	239	50
La Valle.....	La Valle Roller Mills Co.....	48	.....
Lodi.....	Municipal Electric Light Plant.....	110	17
Lomira.....	Municipal Electric Light Plant.....	53	.....
Loyal.....	Municipal Electric Light Plant.....	63	10
Madison.....	Madison Gas & Electric Co.....	4,459	315
Madison.....	Southern Wisconsin Power Co.....	9	.....
Manawa.....	Little Wolf River Lumber Co.....	100	.....
Manitowoc.....	Manitowoc Electric Light Co.....	1,873	76
Marinette.....	Menom. & Marinette Light & Tr. Co.	1,743	123

¹ Estimated.

LOAD AND DEMAND DATA, 1912—Continued.

DATA.			Meters.	Trans- formers.	Length of service.
Motors.		Total connected load in kw.			
No.	Total h. p.				
		20	91	27	Sunset to 12 p.m. winter; to 2:30 a.m. summer.
			297		Dark to daylight.
25		200			Moonlight.
3	55	83	45	9	Dusk to midnight.
		195	244	35	Dark to daylight.
		125	21		Continuous.
6		362	299	17	Dusk to midnight.
		22	4		Sunset to sunrise.
			162	37	Dusk to midnight.
186	914	2,305	2,294	167	Continuous.
	170	213	108		Continuous.
			18	3	Dusk to midnight; 5 a. m. to daylight.
	403	465	679	118	Continuous.
		160	106		4 p. m. to 12: 5:30 to 8:30 a. m.
		21	14	18	Dusk to 11 p. m.; 5 a. m. to daylight.
			78	5	Dusk to daylight.
		48	126	17	Dusk to 12: 5:30 to daylight.
	75	135	63	21	Continuous.
74	327	1,250	815		Continuous.
1	2		64		Dusk to 11:30 and 12: Oct. 15 to Mch. 15, 5 a.m.
231	2,402	3,918	1,700	187	Continuous. [to daylight.
10	25	701	231		Continuous.
					Continuous.
			47		Continuous.
		51	111	16	Dusk to daylight.
20	154		496	31	Continuous.
				27	Dusk to daylight.
13	170	191	83	16	
16	118	478	585	248	Continuous.
	148		362		Continuous.
1	4	132	91		Dusk to daylight.
230	1,161	3,473	1,396	110	Continuous.
14	17	232	308	59	Continuous.
			147		
			1,374	85	Continuous.
		25	33		Sunset to 1 a. m.
			220	9	Dusk to midnight.
		106	141	11	Dusk to daylight.
	2,657	6,965	3,718	214	Continuous.
		43	55	7	
			119	61	Dusk to daylight.
			18		Sunset to 11 p. m.; 12 p. m. Sat.
90	350	981	615	138	
1		109	272	84	5 a. m. to noon; 1 p. m. to midnight.
12	72	349	227	21	Dusk to 12:30 a. m. Oct. 1 to Apr. 1, 5 a. m. to
		14	43		Continuous. [8 a. m.
			102		Dusk to midnight.
		24	53		Continuous.
1			54		Sunset to midnight.
	2,659	7,134	4,574	80	Continuous.
					Continuous.
			92		Dusk to 12 p. m. 5 a. m. to daylight.
47	594	2,033	1,736	38	Continuous.
104	1,718	2,453	1,536	104	Continuous.

ALL CLASSES. ELECTRIC EQUIPMENT

LOCATION.	NAME OF COMPANY.	BOILERS.		PRIME	
		No.	Total h. p.	Water wheels.	
				No.	Total h. p.
Marshfield.....	Mun. Elec. Lt. Plant.....	3	450		
Mauston.....	Mauston Elec. Service Co.....	1	150	3	150
Mayville.....	Northwestern Lt. & Pr. Co.....				
Mazomanie.....	Municipal Electric Light Plant.....	2	195		
Medford.....	Medford Lt. & Htg. Co.....	2	160		
Mellen.....	Mellen Water & Lt. Co.....	1	65	2	215
Menomonie.....	Chp. Val. Ry. Lt. & P. Co.....				
Merrill.....	Merrill Ry. & Lt. Co.....	4	400	5	500
Merrillan.....	Municipal Elec. Lt. Plant.....				
Milton.....	Milton W. Lt. & Pr. Co. ²				
Milwaukee.....	Commonwealth Pr. Co.....	6	3,000		
Milwaukee.....	Milwaukee Lt. Ht. & Tr. Co.....	6	1,600	1	520
Milwaukee.....	Molitor & Hummel Co.....	2	300		
Milwaukee.....	Plankinton El. Lt. & Pr. Co.....	6	1,932		
Milwaukee.....	Ry. Exch. Bldg. Co.....	2	230		
Milwaukee.....	The Milwaukee El. Ry. & Lt. Co.....	41	24,484		
Milwaukee.....	Wells Power Co.....	6	2,430		
Mineral Pt.....	Public Service Co.....	3	550		
Mishicot.....	Mishicot El. Lt. & Pr. Co ³			1	
Mondovi.....	Mondovi El. Lt. & Pr. Co.....	1	85	1	108
Monroe.....	Monroe El. Co.....	2	500		
Montello.....	Montello Granite Co.....				
Monticello.....	Municipal Elec. Lt. Plant.....	1	100		
Mosinee.....	Mosinee Elec. Co.....				
Mt. Horeb.....	Mt. Horeb El. Lt. Co.....	1	125		
Muscoda.....	Mun. Elec. Lt. Plant.....			2	257
Necedah.....	Necedah Mfg. & Elec. Co.....	1	100	1	150
Neillsville.....	Neillsville Elec. Co.....	1	125		
Neshkora.....	Neshkora Lt. & Pr. Co.....				
New London.....	Mun. Elec. Lt. Plant.....	3	250		
New Richmond.....	Mun. Elec. Lt. Plant.....				
Now Richmond.....	New Richmond Pr. Co.....				
No. Freedom.....	No. Freedom Elec. Co.....				
No. Milwaukee.....	N. Milwaukee Lt. & P. Co.....	2	160		
Oconomowoc.....	Mun. Elec. Lt. Plant.....	3	300		
Oconto.....	Oconto Elec. Co.....				
Oconto.....	Peoples Land and Elec. Co.....				
Omkro.....	Omkro Elec. Lt. Co.....	1	75		
Oshkosh.....	Oshkosh Gas Light Co.....	4	1,380		
Owen.....	Owen Lumber Co.....				
Pardeeville.....	Pardeeville Elec. Lt. Plant.....	1	60		
Park Falls.....	Park Falls W. Lt. & Pr. Co.....				
Peshigo.....	Peshigo Lbr. Co.....			3	600
Phillips.....	Phillips Lt. Ht. W. & Pr. Plant.....	3	450		
Plainfield.....	Starks & Skeel.....				
Platteville.....	Interstate Lt. & Pr. Co.....	4	310		
Plymouth.....	Mun. Elec. Lt. Plant.....	2	300		
Port Edwards.....	Nekoosa & Edwards Paper Co.....				
Portage.....	Portage El. Lt. Co.....				
Port Washington.....	Mun. Elec. Light Plant.....	3	300		
Prairie d' Chien.....	Prairie City El. Co.....	2	300		
Princeton.....	Mun. Elec. Lt. Plant.....	1	100	1	140
Randolph.....	Mun. Elec. Lt. Plant.....	2	100		
Random Lake.....	Random Lake Elec. Lt. & Pr. Co.....				
Reedsburg.....	Mun. Elec. Lt. Plant.....	2	300		

¹ Estimated.² Sold current for 4 months only.

LOAD AND DEMAND DATA, 1912.—Continued.

MOTIVE FACTOR.				Power purchased (reported in kw-hr.)	ELECTRIC GENERATORS.		Maximum demand on station or peak load kw-hr.	Total kw-hr. generated and purchased.
Steam engines.		Gas engines.			No.	Total kw. capacity		
No.	Total h. p.	No.	Total h. p.	Total prime motive power h. p.				
2	450	..	.....	450	2	325	288	463,825
1	150	.....	.....	300	5	117	180	150,000
4	890	.....	.....	890	6	900	40	1,263,410
1	50	.....	.....	50	1	75	.....	25,000
1	160	.....	.....	160	2	107	70	168,000
1	45	.....	.....	260	1	60	50	111,286
2	200	.....	.....	200	2	120	.....	363,710
1	250	.....	.....	750	4	450	.....	644,485
.....	.....	1	15	15	1	10	10	1,000
4	2,500	.....	.....	2,500	3	2,500	1,900	6,574,444
2	3,350	.....	.....	2,120	5	5,800	2,179	7,743,535
2	300	.....	.....	300	2	200	.....	162,545
6	1,387	.....	.....	1,387	6	740	670	1,482,168
2	195	.....	.....	195	2	105	76	91,000
22	91,455	.....	.....	24,484	31	38,062	12,407	41,122,359
5	2,200	.....	.....	2,200	5	1,550	765	1,690,400
2	450	.....	.....	450	2	300	83	245,696
1	85	.....	.....	193	2	60	.....	4,881
2	350	.....	.....	350	2	250	250	374,140
1	80	.....	.....	80	1	120	140	171,024
1	105	1	50	155	1	50	41	20,000
.....	.....	.....	.....	257	1	100	48	25,388
1	120	.....	.....	270	2	50	50	50,496
1	125	.....	.....	125	.....	.....	.....	.....
2	250	.....	.....	250	2	195	80	216,840
.....	.....	.....	.....	.....	.....	.....	118	.....
.....	.....	.....	.....	.....	.....	.....	315	.....
.....	.....	1	25	25	2	23	1	.....
2	130	.....	.....	130	2	130	.....	.....
4	600	.....	.....	300	8	395	32	316,110
2	230	1	120	350	3	225	115	221,856
.....	.....	.....	.....	.....	.....	.....	.....	415,585
1	65	.....	.....	65	1	57	200	40,000
3	2,250	3	225	1,605	8	1,800	1,285	3,405,400
1	130	.....	.....	130	2	105	32	.....
1	60	.....	.....	60	2	80	36	40,710
.....	.....	.....	.....	.....	2	120	65	50,483
.....	.....	.....	.....	600	5	566	160	552,460
3	850	.....	.....	450	3	225	100	200,000
.....	.....	3	250	250	.....	.....	33	.....
1	150	.....	.....	150	2	75	2,817	.....
2	560	.....	.....	300	3	390	160	.....
.....	.....	.....	.....	.....	.....	.....	.....	13,966
2	300	.....	.....	300	2	720	.....	886,760
.....	.....	.....	.....	.....	2	225	.....	.....
2	300	.....	.....	300	.....	.....	.....	1250,200
1	85	.....	.....	225	2	180	.....	179,472
.....	.....	.....	.....	100	1	60	.....	.....
.....	.....	.....	.....	34	1	45	.....	44,000
2	335	2	34	300	2	27	.....	.....
.....	.....	.....	.....	.....	2	250	.....	286,992

³Sold current after Feb. 15, 1912.

⁴ Power purchased at \$36 per year per h. p.

ALL CLASSES. ELECTRIC EQUIPMENT

LOCATION.	NAME OF COMPANY.	Commer- cial con- sumers.	LOAD
			Arcs:
Marshfield.....	Municipal Electric Light Plant.....	535	59
Mauston.....	Mauston Electric Service Co.....	220	27
Mayville.....	Northwestern Light & Power Co.....	308	82
Mazomanie.....	Mun. Elec. Lt. Plant.....	107	.....
Medford.....	Medford Ltg. and Htg. Co.....	177	31
Mellen.....	Mellen Water and Lt. Co.....	111	6
Menomonie.....	Chp. Valley Ry. Lt. and P. Co.....	461	61
Merrill.....	Merrill Ry. and Lt. Co.....	657	.....
Merrillan.....	Mun. Elec. Lt. Plant.....	129	11
Milton.....	Milton W. Lt. and Pr. Co.....	36	.....
Milwaukee.....	Commonwealth Pr. Co.....	209	71
Milwaukee.....	Milw. Lt. Ht. and Tr. Co.....	3,809	579
Milwaukee.....	Molitor & Hummel Co.....	5	.....
Milwaukee.....	Plankinton El. Lt. and Pr. Co.....	114	41
Milwaukee.....	Ry. Exch. Bldg. Co.....	73	.....
Milwaukee.....	The Milw. El. Ry. and Lt. Co.....	12,891	2,893
Milwaukee.....	Wells Pr. Co.....	582	316
Mineral Point.....	Public Service Co.....	396	8
Mishicot.....	Mishicot Elec. Lt. and Pr. Co.....	40	.....
Mondovi.....	Mondovi Elec. Lt. and Pr. Co.....	137	12
Monroe.....	Monroe Elec. Co.....	645	69
Montello.....	Montello Granite Co.....	171	17
Monticello.....	Mun. Elec. Lt. Plant.....	139	20
Mosinee.....	Mosinee Elec. Co.....	.....	.....
Mt. Horeb.....	Mt. Horeb Elec. Lt. Co.....	150	15
Muscoda.....	Mun. Elec. Lt. Plant.....	143	12
Necedah.....	Necedah Milling and Elec. Co.....	119	14
Neillsville.....	Neillsville Elec. Co.....	154	32
Neshkora.....	Neshkora Lt. and Pr. Co.....	156	15
New London.....	Mun. Elec. Lt. Plant.....	397	.....
New Richmond.....	Mun. Elec. Lt. Plant.....	367	11
New Richmond.....	New Richmond Pr. Co.....	35	.....
North Freedom.....	North Freedom Elec. Co.....	.....	.....
North Milwaukee.....	No. Milwaukee Lt. and Pr. Co.....	194	38
Oconomowoc.....	Mun. Elec. Lt. Plant.....	452	50
Oconto.....	Oconto Elec. Co.....	292	15
Oconto.....	Peoples Land and Elec. Co.....	535	69
Omro.....	Omro Elec. Lt. Co.....	128	.....
Oshkosh.....	Oshkosh Gas Lt. Co.....	1,741	558
Owen.....	Owen Lumber Co.....	82	19
Pardeeville.....	Pardeeville Elec. Lt. Plant.....	142	3
Park Falls.....	Park Falls W. Lt. and Pr. Co.....	169	24
Peshtigo.....	Peshtigo Lbr. Co.....	207	12
Phillips.....	Phillips Lt. Ht. W. and Pr. Plant.....	260	24
Plainfield.....	Starks & Skeel.....	122	17
Platteville.....	Interstate Lt. and Pr. Co.....	550	14
Plymouth.....	Mun. Elec. Lt. Plant.....	559	67
Port Edwards.....	Nekoosa & Edwards Paper Co.....	36	.....
Portage.....	Portage Elec. Lt. Co.....	516	70
Port Washington.....	Mun. Elec. Lt. Plant.....	334	50
Prairie du Chien.....	Prairie City Elec. Co.....	292	38
Princeton.....	Mun. Elec. Lt. Plant.....	178	28
Randolph.....	Mun. Elec. Lt. Plant.....	142	6
Random Lake.....	Random Lake Elec. Lt. and Pr. Co.....	31	.....
Reedsburg.....	Mun. Elec. Lt. Plant.....	479	.....

¹Estimated.

LOAD AND DEMAND DATA, 1912—Continued.

DATA.			Meters.	Trans- formers.	Length of service.
Motors.		Total connected load kw.			
No.	Total h. d.				
36	265	224	478		Continuous.
8	45	54	220	25	Continuous, except Sunday.
33	677	887	323	45	Continuous.
		40	90		Dusk to midnight.
		71	156	32	Dusk to daylight.
		90	120	49	Dusk to daylight.
29	123	542	367	94	Continuous.
51	315	858	586		Continuous.
		60	64	5	One hr. before sunset to one hr. after sunrise.
4		21	35		Continuous.
499	3,940	4,896	643	38	Continuous.
	6,000	945	3,966	234	Continuous.
				11	7 a. m. to 6 p. m.
86	273	105	149		Continuous.
2		131	67		Continuous.
	23,582	43,492	17,220	841	Continuous.
178	711	1,895	628		Continuous.
11	179	437	396		Continuous.
		27	40		Continuous.
		104	99		Dusk to 11 p. m.—12 p. m. Saturday.
	256	7,300	602	101	Continuous.
		104	168	25	Dusk to midnight.
					Dusk to 11 p. m.; 5 a. m. to daylight.
		80	105		Moonlight.
		66	21	13	Dusk to midnight.
		50			Moonlight.
		80	68	25	Daylight to 12:15 a. m. Apr. 1. to Oct. 1. 5 a. m.
9	35	38	384	51	5 p. m. to midnight [to 12:15 a. m. Oct. 1. to Apr. 1.
		262		17	Continuous.
44	138	103			Continuous.
			22		Dusk until 11 p. m.
	151	202	203	37	Continuous.
	135	718	450	146	Continuous.
9	70	304	275	41	Continuous.
19	175	331	323	37	Continuous.
		143			Dusk to midnight.
	2,174	3,805	1,575	285	Continuous.
		94	77	9	Sunset to sunrise.
16	205	92	142		1/2 hour before sunset to noon.
96	582	168	169		Continuous.
12		286	24	25	Continuous.
4		186	76		Continuous.
		67	115	27	Sundown to midnight.
109	3,200	2,921	538	97	Continuous.
19	27	1,350	559	71	Continuous.
	226	663	516	76	
			308	40	
	226		292	18	Dusk to daylight.
			178	19	Dusk to midnight.
			141		Dusk to midnight.
			27		Dusk to 11 p. m.
			521	63	Continuous.

²Does not include connected load at Oconto.

ALL CLASSES. ELECTRIC EQUIPMENT

LOCATION.	NAME OF COMPANY.	BOILERS.		PRIME	
				Water wheels.	
		No.	Total h. p.	No.	Total h. p.
Rhinelanders.....	Rhinelanders Ltg. Co.....				
Rib Lake.....	Municipal Elec. Lt. Plant.....	2	100		
Rice Lake.....	Red Cedar Val. El. Co.....			3	575
Richland Center.....	Mun. Elec. Lt. Plant.....	3	375		
Rio.....	Rio Elec. Lt. Co.....	2	65		
Ripon.....	Ripon Lt. & W. Co.....	3	275		
River Falls.....	Mun. Elec. Lt. Plant.....			2	150
Seymour.....	Seymour Elec. Lt. Co.....	1	100		
Shawano.....	Mun. Elec. Lt. Plant.....	2	500		
Sheboygan.....	Sheboygan Ry. & El. Co.....	5	1000		
Sheboygan Falls.....	Sheb. Falls Lt. & Pr. Co.....	2	300		
Shell Lake.....	Mun. Elec. Lt. Plant.....	2	140		
Soldiers Grove.....	Soldiers Grove Elec. Co.....				
Somerset.....	Apple River Pr. Co.....			4	1400
South Wayne.....	Mun. Elec. Lt. Plant.....				
Sparta.....	I. O. Newton's Sons Co.....	1	150	3	485
Spooner.....	Mun. Elec. Lt. Plant.....			2	130
Spring Green.....	Mun. Elec. Lt. Plant.....	2	165		
Spring Valley.....	Spring Valley Lt. & Pr. Co.....	1	80		
Stanley.....	Northwestern Lbr. Co.....				
Stevens Point.....	Stevens Pt. Ltg. Co.....	2	200	1	550
St. Croix Falls.....	Wisconsin Impr. Co.....			8	25,650
Stratford.....	R. Connor Elec. Lt. Plant.....	2			
Stoughton.....	Mun. Elec. Lt. Plant.....	1	155	4	540
Sturgeon Bay.....	Mun. Elec. Lt. Plant.....	3	375		
Superior.....	Northern Pr. Co.....				
Superior.....	Superior W. Lt. & Pr. Co.....	5	1219		
Thorp.....	Mun. Elec. Lt. Plant.....	2	180		
Tomah.....	Tomah Elec. & Tel. Co.....				
Tomahawk.....	Tomahawk El. W. & Tel. Co.....			2	250
Two Rivers.....	Mun. Elec. Lt. Plant.....	2	250		
Valders.....	Oslo Pr. & Lt. Co.....				
Viola.....	Viola Lt. & Pr. Co.....			2	75
Viroqua.....	Viroqua Elec. Lt. Co.....	2	200		
Walworth.....	Walworth Ltg. Co.....				
Washburn.....	Washburn El. Lt. & Pr. Co.....				
Waterford.....	Waterford Milling & Lt. Co.....			2	75
Waterloo.....	Mun. Elec. Lt. Plant.....	2	250		
Watertown.....	Watertown Gas & Elec. Co.....				
Waukesha.....	Waukesha Gas & Elec. Co.....	3	780		
Waupaca.....	Waupaca Elec. Lt. & Ry. Co.....	2	140	1	210
Waupun.....	Mun. Elec. Lt. Plant.....	3	223		
Wausau.....	Wausau St. R. R. Co.....	2	600	5	2,800
West Bend.....	West Bend Htg. & Ltg. Co.....	2	200	1	95
Westby.....	Mun. Elec. Lt. Plant.....	1	100		
Westfield.....	Westfield Mfg. & El. Lt. Co.....			1	118
West Salem.....	Neshonoc Lt. & Pr. Co.....				
Weyauwega.....	Weyauwega Elec. Lt. Co.....			2	150
Whitehall.....	Mun. Elec. Lt. Plant.....			2	100
Whitewater.....	Whitewater Elec. Lt. Co.....	2	275		
Wild Rose.....	Wild Rose Mfg. Co.....			2	65
Wilton.....	Wilton Lt. & Pr. Co.....				
Winneconne.....	Winneconne Ht. Lt. & Pr. Co.....				
Wittenberg.....	Wittenberg Elec. Co.....	2	130	2	210
Wycocena.....	Duck Creek Lt. & Pr. Plant.....	1	125		130

¹ Estimated.² Flat rate, \$200 per year.

LOAD AND DEMAND DATA, 1912.—Continued.

MOTIVE FACTOR.				Power purchased (reported in kw-hr.)	ELECTRIC GENERATORS.		Maximum demand on station or peak load kw-hr.	Total kw-hr. generated and purchased.
Steam engines.		Gas engines.			No.	Total kw. capacity		
No.	Total h. p.	No.	Total h. p.					
1	80			(³)	1	60		
				575	2	320	140	305,540
2	275			275	2	275		206,070
1	65			65	1	60		
2	350			275	2	225	275	157,906
				150	2	250	219	328,545
1	85			85	1	50		44,586
2	250			250	4	289		
5	3050			1000	4	1500	1600	4,215,800
2	175			175	3	140		
1	120			120	1	60	25	47,204
				1400	1	37 5		
		1	25	25	4	975	700	2,544,000
				610	1	20		
1	125			130	2	350		
1	85			85	2	111	63	
2	120			80	1	37 5		
				10,770	2	90		45,280
1	250			750	2	450		
1	87			25,650	6	15,000	12,000	54,412,311
1	150			87			120	69,120
2	300			695	4	440	203	315,992
				300	2	210	132	185,400
				13,500,000				
2	946			946	1	200		3,027,165
				180			39	
2	225			297,380	3	340	83	120,000
				120,000				
2	190			190	2	115	105	128,393
				75	1	50		
1	150	1	150	300	1	75	20	3,203
				175,300	2	180	65	99,508
					1	100	300	179,170
		1	45	120			65	175,300
1	125			125	1	60	40	30,996
				1,323,641	1	125		76,488
3	1,250			780	4	1,081	440	1,041,199
1	165			375	3	325		267,261
3	355			223	3	232		
1	1200			3,200	5	1,800		5,033,200
1	200			295	2	202 5		143,178
1	80			80	1	40		34,281
				118	1	50		
				150	1	75	46	
				100	1	60	75	146,656
3	385	1	6	275	3	300	120	
				65				
				(³)	1	30	16	14,000
		1	35	35	1	25		
1	100			310	1	25		18,610
				255	2	135	73	109,370
					1	150	21	14,024

³ Sold current after Feb. 15, 1912.

ALL CLASSES. ELECTRIC EQUIPMENT

LOCATION.	NAME OF COMPANY.	Commer- cial con- sumers.	LOAD
			Arcs.
Rhineland	Rhineland Ltg. Co.	636	71
Rib Lake	Mun. Elec. Lt. Plant.	118	21
Rice Lake	Red Cedar Valley Elec. Co.	682	31
Richland Center	Municipal Electric Light Plant.	429	60
Rio	Rio Electric Light Co.	74	18
Ripon	Ripon Light & Water Co.	316	.....
River Falls	Municipal Electric Light Plant.	415	46
Seymour	Seymour Electric Light Co.	134	14
Shawano	Municipal Electric Light Plant.	317	41
Sheboygan	Sheboygan Railway & Electric Co.	1,722	200
Sheboygan Falls	Sheboygan Falls Light & Power Co.	129	36
Shell Lake	Municipal Electric Light Plant.	92	10
Soldiers Grove	Soldiers Grove Electric Co.	106	.....
Somerset	Apple River Power Co.	47	.....
South Wayne	Municipal Electric Light Plant.	30	.....
Sparta	O. I. Newton's Sons Co.	464	.....
Spooner	Municipal Electric Light Plant.	201	4
Spring Green	Municipal Electric Light Plant.	121	10
Spring Valley	Spring Valley Light & Power Co.	86	15
Stanley	Northwestern Lumber Co.	231	28
Stevens Point	Stevens Point Lighting Co.	446	84
St. Croix Falls	Wisconsin Improvement Co.	174	4
Stratford	R. Connor Electric Light Plant.	37	6
Stoughton	Municipal Electric Light Plant.	538	68
Sturgeon Bay	Municipal Electric Light Plant.	485	50
Superior	Northern Power Co.	.....	.....
Superior	Superior Water, Light & Power Co.	3,316	364
Thorp	Municipal Electric Light Plant.	102	16
Tomah	Tomah Electric & Telephone Co.	346	57
Tomahawk	Tomahawk Elec., Water & Tel. Co.	287	22
Two Rivers	Municipal Electric Light Plant.	337	20
Valders	Oslo Power & Light Co.	48	.....
Viola	Viola Light & Power Co.	71	.....
Viroqua	Viroqua Electric Light Co.	244	4
Walworth	Walworth Lighting Co.	243	27
Washburn	Washburn Electric Light & Pr. Co.	331	.....
Waterford	Waterford Milling & Light Co.	107	6
Waterloo	Municipal Electric Light Plant.	175	.....
Watertown	Watertown Gas & Electric Co.	736	107
Waukesha	Waukesha Gas & Electric Co.	437	125
Waupaca	Waupaca Electric Light & Ry. Co.	336	.....
Waupun	Municipal Electric Light Plant.	441	46
Wausau	Wausau Street Railroad Co.	2,061	153
West Bend	West Bend Heating & Lighting Co.	245	.....
Westby	Municipal Electric Light Plant.	128	.....
Westfield	Westfield Milling & Electric Lt. Co.	79	23
West Salem	Neshonoc Light & Power Co.	129	.....
Weyauwega	Weyauwega Electric Light Co.	109	22
Whitehall	Municipal Electric Light Plant.	94	4
Whitewater	Whitewater Electric Light Co.	454	40
Wild Rose	Wild Rose Milling Co.	70	8
Wilton	Wilton Light & Power Co.	34	.....
Winneconne	Winneconne Heat, Light & Pr. Co.	73	.....
Wittenburg	Wittenburg Electric Co.	137	24
Wycocena	Duck Creek Light & Power Plant.	20	.....

¹ Only consumers at Somerset.

LOAD AND DEMAND DATA, 1912.—Concluded.

Motors.		Total connected load kw.	Meters.	Trans-formers.	Length of service.
No.	Total h. p.				
32	68	108	540	98	Continuous.
28	127	555	118	112	Dusk to 12; 5 a. m. to daylight.
15	78.5	87	654	52	Continuous.
			412	69	
			32		Dusk to 11 p. m.
61		333	316	59	Continuous.
29	145	432	398	47	Continuous.
		187	130		Dusk to 12; 5 a. m. to daylight.
7	38.5	204	317	37	
900			1,657	216	Continuous.
			129		Con. except noon hr., daylight to 7 a.m. & Sun.
			68	13	Dusk to daylight.
5	9.5	141	47		Dusk to 11 p. m.
			11		Continuous.
					6 p. m. to 11 p. m.
			442	36	
			198	10	6 p. m. to 6 a. m.
4	15.4	112	120	21	Dusk to midnight.
11		72	79		Dusk to daylight.
			217	79	7 a. m. to 5 a. m.
31	206	393	453	124	Continuous except 40 min. at noon.
	347.25		189	19	Continuous.
			18		Dusk to daylight.
39	70	497	554	56	
		404		44	Continuous.
192	18,176	1,355	19	100	Continuous.
	1,577	4,028	3,067	440	Continuous.
		6,355	96	6	Dusk to 12 p. m.; 5 a. m. to daylight.
10	31.5		346	60	Continuous.
6	13.5	356	277	2	Twenty-three hours.
		105	337		Dusk to daylight.
8	40	95		14	7 to 12 a. m.; 1 to 12 p. m.
		44	71		
30	293	270	184	25	Dusk to midnight; 5 a. m. until sunrise.
		354	256	31	6:30 a. m. to 12 m.
		84	324	41	Continuous.
18	51	218	99		Continuous except noon hour and Sunday.
17	74	218	161		Continuous.
	1,045	1,765	689	89	Continuous.
109	1,058	1,376	437	94	Continuous.
			310	53	Continuous.
			441	43	Continuous.
256	3,231	4,129	1,855	258	Continuous.
			417	28	Continuous.
		38	67		Dusk to 11 p. m.
			77		Sunset to sunrise.
					Sunset to sunrise.
		75			Dark to midnight; 5 a. m. to daylight.
14	27	495	94		Dusk to midnight; 5 a. m. to daylight.
			465	43	Continuous.
			70	15	Dusk to 11 p. m.; 5 a. m. to daylight.
			34		Continuous.
		43	72		Continuous.
3		154	116	22	Dusk to daylight.
		26	11	4	Sunset to 11 p. m.

CLASSES A AND B. RATIO OF OPERATING EXPENSES

LOCATION.	NAME OF COMPANY.	PER		
		Power incl. transmission, transf. and storage.	Distribution.	Consumption.
<i>Class A. Private.</i>				
Appleton.....	Wis. Tr. Lt. & Pr. Co.....	32.13	3.47	10.39
Ashland.....	Ashland Lt. Pr. & St. Ry. Co.....	35.57	2.15	1.26
Beloit.....	Beloit W. Gas & Elec. Co.....	47.95	4.07	5.04
Chippewa Falls..	Chip. Val. Ry. Lt. & Pr. Co.....	42.44	2.72	16.48
Eau Claire.....	Chip. Val. Ry. Lt. & Pr. Co.....	18.38	4.30	3.95
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.....	49.22	10.96	8.36
Green Bay.....	Green Bay Gas & Elec. Co.....	68.67	7.40	3.68
Green Bay.....	Minahan Bldg Co.....	60.22	.57	.88
Green Bay.....	Northern Hydro El. Pr. Co.....	44.23	.....	.....
Green Bay.....	Wis. Public Service Co.....	48.53	.....	.....
Janesville.....	Janesville El. Co.....	37.20	6.14	8.17
Kenosha.....	Kenosha Gas & El. Co.....	50.59	3.38	4.31
Kenosha.....	Kenosha El. Ry. Co.....	52.76	3.35	10.04
La Crosse.....	La Crosse Gas & El. Co.....	55.53	4.54	4.94
La Crosse.....	La Crosse Water Pr. Co.....	49.97	.59	.26
Madison.....	Madison Gas & El. Co.....	45.06	8.88	5.81
Madison.....	Southern Wis. Pr. Co.....	26.77	.03	.....
Manitowoc.....	Electric Light Co.....	61.67	6.41	8.78
Marinette.....	Men. & Mar. Lt. & Tr. Co.....	56.55	2.74	3.48
Milwaukee.....	Commonwealth Pr. Co.....	61.49	4.53	9.34
Milwaukee.....	Plankinton El. Lt. & Pr. Co.....	55.09	5.00	.....
Milwaukee.....	The Milw. El. Ry. & Lt. Co.....	35.74	7.57	13.39
Milwaukee.....	Milw. Lt. Ht. & Tr. Co.....	38.72	7.80	8.52
Milwaukee.....	Wells Power Co.....	54.39	3.35	4.00
Oshkosh.....	Oshkosh Gas Light Co.,.....	53.24	5.86	10.58
St. Croix Falls..	Wisconsin Improvement Co.....	64.93	.86	.33
Sheboygan.....	Sheboygan Ry. & El. Co.....	46.41	7.42	6.62
Superior.....	Northern Power Co.....	87.24	1.28	.....
Superior.....	Superior W. Lt. & Pr. Co.....	39.05	10.48	4.37
Watertown.....	Watertown Gas & El. Co.....	33.82	4.24	8.48
Wausau.....	Wausau St. Ry. Co.....	23.82	8.03	2.47
	Total.....	45.42	5.92	7.78
<i>Class B. Municipal.</i>				
Columbus.....	Municipal Elec. Light Plant...	79.12	2.29	2.99
Ft. Atkinson.....	" " " ".....	61.18	4.10	2.56
Hartford.....	" " " ".....	60.28	18.15	.....
Marshfield.....	" " " ".....	72.52	4.53	6.21
New London.....	" " " ".....	78.35	10.84	4.08
New Richmond..	" " " ".....	74.92	17.48	.....
Oconomowoc.....	" " " ".....	53.91	19.55	1.13
Port Washington.	" " " ".....	82.54	8.16	7.07
Richland Center.	" " " ".....	64.57	33.83	.70
River Falls.....	" " " ".....	33.60	17.35	3.67
Shawano.....	" " " ".....	86.18	6.72	.65
Stoughton.....	" " " ".....	40.24	5.97	1.90
Sturgeon Bay.....	" " " ".....	81.15	4.85	2.22
Two Rivers.....	" " " ".....	70.05	15.56	10.14
	Total.....	65.44	12.43	2 58

AND EARNINGS, YEAR ENDING JUNE 30, 1912.

CENT DIVISION OF OPERATING EXPENSES.							Percentage of operating expenses to operating revenues.
Commercial.	General.	Undistributed.	Total of foregoing.	Depreciation.	Taxes.	Total.	
4.72	10.95	8.95	70.61	18.37	11.02	100.00	54.44
1.21	8.29	3.71	52.19	41.36	6.45	100.00	60.88
2.15	22.00	2.83	84.04	5.51	10.45	100.00	42.67
2.43	7.84	5.70	77.61	15.14	7.25	100.00	59.91
10.45	17.30	7.27	61.65	23.88	14.47	100.00	32.06
6.26	12.60	5.63	93.03	.....	6.97	100.00	47.97
4.17	8.58	3.29	95.79	.....	4.21	100.00	70.55
.41	9.96	.93	72.97	20.93	6.10	100.00	110.95
.31	21.92	6.26	72.72	.....	27.28	100.00	46.28
.....	12.80	7.44	68.77	.....	31.23	100.00	35.19
5.03	15.03	4.83	76.40	16.99	6.61	100.00	66.37
8.14	8.66	5.94	81.02	14.54	4.44	100.00	68.78
1.88	14.90	4.40	87.33	8.66	4.01	100.00	73.68
2.27	8.43	3.46	79.17	11.78	9.05	100.00	67.37
.02	9.08	11.70	71.62	.....	28.38	100.00	163.89
5.67	8.69	.....	74.11	22.01	3.88	100.00	59.73
.....	17.32	3.92	48.04	51.21	4.75	100.00	29.99
4.31	10.50	3.12	94.79	.....	5.21	100.00	65.16
6.10	8.04	11.01	87.92	8.81	3.27	100.00	95.09
2.15	5.61	1.14	84.26	13.32	2.41	100.00	57.95
.....	8.68	14.00	82.77	15.91	1.32	100.00	83.09
9.71	2.22	1.95	70.58	19.40	10.02	100.00	72.34
10.31	2.41	3.38	71.14	18.55	10.31	100.00	70.41
5.32	4.32	2.14	73.52	16.80	9.68	100.00	76.98
1.09	18.17	5.60	94.54	.....	5.46	100.00	52.46
.....	7.49	.74	74.55	.....	25.45	100.00	85.76
8.88	17.73	7.76	94.82	.....	5.18	100.00	52.13
.26	10.07	.36	99.21	.....	.79	100.00	95.57
8.39	8.60	.....	70.89	24.23	4.88	100.00	66.01
5.22	14.16	8.88	74.80	19.20	6.00	100.00	50.17
8.74	16.67	5.31	65.04	24.38	10.58	100.00	51.52
6.17	7.47	3.27	76.03	15.51	8.46	100.00	64.97
.....	11.73	3.87	100.00	.....	.....	100.00	79.21
2.58	16.38	.61	87.41	12.59	.....	100.00	85.70
.....	3.83	.....	82.26	17.74	.....	100.00	79.47
4.44	11.03	1.27	100.00	.....	.....	100.00	49.66
6.70	.02	.01	100.00	.....	.....	100.00	52.81
.....	.53	1.68	94.61	5.39	.....	100.00	110.72
.79	4.83	2.57	82.78	17.22	.....	100.00	99.23
2.08	.....	.15	100.00	.....	.....	100.00	62.57
.32	.....	.58	100.00	.....	.....	100.00	71.92
3.35	12.51	.....	70.48	29.52	.....	100.00	55.28
.....	5.77	.14	100.00	.....	.....	100.00	77.88
3.52	11.86	4.97	69.18	30.16	.66	100.00	61.11
1.64	9.67	.47	100.00	.....	.....	100.00	79.56
.97	3.28	.....	100.00	.....	.....	100.00	56.20
1.76	7.01	1.36	90.58	9.38	.04	100.00	73.18

CLASSES A AND B. RATIO OF OPERATING

LOCATION,	NAME OF COMPANY.	PER		
		Power incl. transmission, transf. and storage.	Distribution.	Consumption.
<i>Class B. Private.</i>				
Antigo.....	Antigo Electric Co.....	38.90	6.02	2.19
Baraboo.....	Baraboo Gas & El. Co.....	62.23	1.67	3.68
Beaver Dam.....	Beaver Dam Lt. & Pr. Co.....	42.44	5.19	4.12
Berlin.....	Berlin Public Service Co.....	65.16	3.14	1.93
Burlington.....	Burlington El. Lt. & Pr. Co.....	45.77	2.68	10.27
Delavan.....	United Ht. Lt. & Pr. Co.....	72.39	5.45	2.28
De Pere.....	De Pere El. Lt. & Pr. Co.....	46.00	5.11	3.43
Edgerton.....	Edgerton El. Lt. Co.....	57.29	4.67	5.69
Grand Rapids.....	Electric & Water Co.....	47.19	5.20	3.88
Hudson.....	Burkhardt Mfg. & El. Pr. Co.....	21.65	4.23	1.15
Hurley.....	Ironw'd & Bessemer R. & L. Co.	71.58	3.96	4.74
Ladysmith.....	Ladysmith Ltg. Co.....	41.15	27.86	7.44
Lake Geneva.....	Equitable El. Lt. Co.....	38.94	11.76	1.15
Mayville.....	Northwestern Lt. & Pr. Co.....	75.44	2.20	2.86
Medford.....	Medford Lt. & Htg. Co.....	78.91	5.65	5.20
Mellen.....	Mellen Water & Lt. Co.....	30.93	8.20	1.23
Menomonie.....	Chp. Valley Ry. Lt. & Pr. Co..	48.19	2.94	2.37
Merrill.....	Merrill Ry. & Lt. Co.....	20.15	9.62	7.49
Mineral Point.....	Mineral Point Pub. Service Co..	65.00	1.02	.72
Monroe.....	Monroe El. Co.....	47.99	2.23	2.20
New Richmond.....	New Richmond Pr. Co.....	96.66	.....	.....
North Milwaukee	N. Milwaukee Lt. & Pr. Co.....	56.77	3.59	8.44
Oconto.....	Oconto Elec. Co.....	51.45	11.01	4.60
Oconto.....	Peoples Land & Mfg. Co.....	32.09	5.33	7.16
Platteville.....	Interstate Lt. & Pr. Co.....	92.88	1.37	.21
Portage.....	Portage El. Lt. Co.....	61.65	3.46	2.35
Prairie du Chien..	Prairie City El. Co.....	66.97	3.97	5.47
Rhinclander.....	Rhinclander Ltg. Co.....	32.16	14.19	8.26
Rice Lake.....	Red Cedar Valley El. Co.....	26.59	22.82	4.57
Ripon.....	Ripon Lt. & W. Co.....	40.94	4.50	1.76
Sparta.....	O. I. Newton's Sons Co.....	22.94	7.31	6.48
Stevens Point.....	Stevens Point Ltg. Co.....	58.63	7.25	.49
Stevens Point.....	Stevens Point Pr. Co.....	69.66	.....	.....
Tomah.....	Tomah El. & Tel. Co.....	46.88	2.82	8.99
Tomahawk.....	Tomahawk Lt. Tel. & Imp. Co..	42.11	9.10	7.88
Walworth.....	Walworth Ltg. Plant.....	51.02	4.04	3.74
Washburn.....	Washburn El. Lt. & Pr. Co.....	54.69	11.03	3.67
Waukesha.....	Waukesha Gas & El. Co.....	59.30	5.69	4.87
Waupaca.....	Waupaca El. Lt. & Ry. Co.....	28.24	9.90	8.68
West Bend.....	West Bend Htg. & Ltg. Co.....	68.57	3.28	4.00
Whitewater.....	Whitewater El. Lt. Co.....	59.19	8.81	5.25
	(Total.....	60.49	5.02	3.14

EXPENSES AND EARNINGS, 1912—Concluded.

CENT DIVISION OF OPERATING EXPENSES.

Commer- cial.	General.	Undistri- buted.	Total of foregoing.	Depre- ciation.	Taxes.	Total.	Percentage of operating expenses to operating revenues.
5.90	19.20	4.41	76.62	16.44	6.94	100.00	72.91
7.45	16.95	2.04	94.02	.....	5.98	100.00	64.58
5.44	9.91	1.59	68.69	28.17	3.14	100.00	88.18
2.82	10.00	2.53	85.58	12.97	1.45	100.00	98.50
2.91	14.55	2.90	79.08	18.86	2.06	100.00	80.03
1.07	15.26	2.12	98.57	.....	1.43	100.00	89.86
7.36	13.52	3.34	78.76	15.00	6.24	100.00	65.34
9.74	9.52	1.81	88.72	8.94	2.34	100.00	87.27
1.32	15.98	3.58	77.15	19.93	2.92	100.00	65.76
1.62	29.66	2.59	60.90	34.37	4.73	100.00	75.14
.36	12.59	2.29	95.52	.....	4.48	100.00	66.35
5.05	15.83	.49	97.82	.....	2.18	100.00	91.00
1.96	15.80	11.16	79.77	18.26	1.97	100.00	104.77
.17	4.74	1.05	86.46	12.94	.60	100.00	72.91
4.21	.14	2.95	97.06	.....	2.94	100.00	91.73
1.58	23.60	9.90	75.44	19.26	5.30	100.00	93.16
4.36	19.82	.75	78.43	17.29	4.28	100.00	65.25
7.53	16.94	3.01	64.74	29.68	5.58	100.00	60.40
.....	28.37	2.25	97.36	.....	2.64	100.00	71.48
1.77	29.84	.56	84.59	12.95	2.46	100.00	71.22
.....	1.07	.....	97.73	1.98	.29	100.00	92.93
3.91	11.06	2.70	86.47	8.20	5.33	100.00	87.06
23.63	1.60	4.13	96.42	.....	3.58	100.00	79.32
1.45	25.66	1.98	73.67	23.98	2.35	100.00	91.50
1.09	2.63	1.19	99.37	.....	.63	100.00	91.80
.34	9.98	1.96	79.74	18.61	1.65	100.00	70.34
1.36	.52	5.17	83.46	14.13	2.41	100.00	73.50
1.49	18.08	14.20	88.38	8.40	3.22	100.00	90.37
.....	20.09	6.91	80.98	.....	19.02	100.00	45.35
6.98	13.36	3.05	70.59	24.84	4.57	100.00	76.06
2.23	29.52	3.43	71.91	24.54	3.55	100.00	57.81
3.47	18.69	5.48	94.01	.....	5.99	100.00	63.65
.....	.....	.34	70.00	.....	30.00	100.00	33.38
1.26	15.04	.57	75.56	22.81	1.63	100.00	81.15
2.28	10.06	8.50	79.93	18.35	1.72	100.00	77.12
1.94	3.77	26.82	91.33	7.64	1.03	100.00	96.18
3.76	18.06	.....	91.21	.....	8.79	100.00	87.33
5.57	11.21	2.74	89.38	7.16	3.46	100.00	71.10
6.11	36.92	5.09	94.94	.....	5.06	100.00	52.92
2.59	6.34	1.65	86.43	12.71	.86	100.00	91.76
1.24	6.86	1.15	82.50	13.71	3.79	100.00	78.69
2.84	11.72	3.22	86.43	10.73	2.84	100.00	79.31

Financial and Operating Statistics

Italic figures denote deficits.

CLASS A. INCOME ACCOUNT FOR

LOCATION.	NAME OF COMPANY.	Total operating revenues.	Total operating expenses.	Net operating revenues.	Non-operating revenues.	Gross income.
Appleton.....	Wis. T. L. H. & P. Co.	\$112,495 05	\$84,132 95	\$28,362 10	\$3,682 48	\$32,044 58
Ashland.....	Ash. L. P. & St. R. Co.	18,652 57	15,022 01	3,630 56	.....	3,630 56
Beloit.....	Beloit W. G. & E. Co.	82,873 51	56,643 70	26,229 81	752 29	25,477 61
Chipp. Falls..	C. V. Ry. Lt. & Pr. Co.	10,691 17	9,047 44	1,643 73	174 67	1,818 40
Eau Claire....	Eau C. Gas Lt. Co....	67,893 40	44,387 07	23,506 33	6,457 86	29,964 19
Fond du Lac..	E. Wis. Ry. & L. Co...	87,240 96	65,522 10	21,718 86	3,780 91	25,499 77
Green Bay....	G. Bay Gas & El. Co.	79,805 05	66,882 53	12,922 52	789 67	13,712 19
Janesville....	New Gas Lt. Co.	77,737 95	51,944 79	25,793 16	1,981 76	27,774 92
Kenosha.....	Ken. Gas & E. Co....	105,564 51	82,688 94	22,875 57	1,995 65	24,871 22
La Crosse....	La C. Gas & El. Co....	123,381 49	98,712 10	24,669 39	160 17	24,829 56
Madison.....	Mad. Gas & Elec. Co.	178,910 73	125,978 33	52,932 40	2,548 96	55,481 36
Manitowoc....	Manitowoc Gas Co...	58,867 86	42,827 51	16,040 32	1,556 26	17,596 58
Marinette....	M. & M. Lt. & Tr. Co.	18,922 11	16,019 73	2,902 38	569 49	3,471 87
Milwaukee....	Milw. Gas Lt. Co....	2,307,750 35	1,461,796 24	845,954 11	53,002 34	898,956 45
Oshkosh.....	Oshkosh Gas Lt. Co.	127,621 80	93,931 71	33,690 09	3,611 27	37,301 36
Racine.....	Racine Gas Lt. Co...	329,831 11	230,476 44	99,354 67	600 00	99,954 67
Sheboygan....	Sheb. Gas Lt. Co....	75,162 49	51,331 29	23,831 20	1,880 76	25,711 96
Superior.....	Sup. W. L. & P. Co.	72,987 47	55,023 07	17,964 47	435 05	17,509 42
Watertown....	Wat. Gas & El. Co...	42,649 87	36,725 67	5,924 20	1,384 74	7,308 94
Wausau.....	Wausau Gas Co....	44,039 30	36,152 80	7,886 50	723 77	8,610 27
	Total.....	\$4,023,058 75	\$2,725,246 38	\$1,297,812 37	\$83,713 51	\$1,381,525 88

CLASS B. INCOME ACCOUNT FOR

Antigo.....	Antigo Gas Co. ¹	\$3,263 28	\$4,557 21	\$1,293 93	\$183 58	\$1,110 35
Baraboo.....	Baraboo G. & El. Co.	13,898 24	12,961 00	937 24	198 85	1,136 09
Beaver Dam..	B. D. Fuel & Lt. Co.	14,271 84	9,634 33	4,637 51	846 85	5,483 86
Berlin.....	R. Pub. Service Co. ²	15,597 14	13,434 01	2,163 13	147 39	2,310 52
Burlington...	Citizens Gas Co.....	14,417 47	10,702 65	3,714 82	189 61	3,904 43
Ft. Atkinson.	Ft. Atkinson G. Co.	8,148 36	6,930 04	1,218 32	85 72	1,304 04
Hudson.....	St. Croix Gas Co....	6,389 40	6,348 29	41 11	80 90	122 01
Hurley.....	Hurley Gas Co....	13,416 77	13,461 04	44 27	1,421 72	1,465 99
Menomonie...	Menomonie Gas Co.	9,012 34	8,355 19	657 15	730 84	1,387 99
Monroe.....	Mon. Lt. & Fuel Co.	10,654 38	7,280 42	3,373 96	.....	3,373 96
Platteville....	Platteville Gas Co. ²	11,881 53	12,522 50	640 97	124 27	765 24
Portage.....	Port. Am. Gas Co....	35,353 69	24,998 31	10,355 38	404 97	10,760 35
Rhinelanders..	Oneida Gas Co.....	7,616 95	6,517 29	1,099 66	763 44	1,863 10
Ripon.....	Ripon Lt. & W. Co...	11,394 17	10,189 28	1,204 89	277 14	933 75
Stevens Point.	Stevens Pt. Ltg. Co.	15,743 03	13,781 31	1,961 72	589 21	2,550 93
Stoughton....	S. Lt. & Fuel Co....	16,369 73	9,411 96	6,957 77	1,621 03	5,336 74
Waukesha....	Wauk. Gas & El. Co.	56,415 27	41,505 56	14,909 71	662 15	15,571 86
Wauwatosa....	Wauwatosa Gas Co..	17,128 91	13,527 01	3,601 90	8 07	3,609 97
West Allis....	West Allis Gas Co...	29,195 81	22,738 86	6,456 95	.....	6,456 95
	Total.....	\$310,168 31	\$248,856 26	\$61,312 05	\$1,452 92	\$62,764 97

¹ Report covers 6 months ending June 30, 1912.

of Public Utilities—C. Gas.

YEAR ENDING JUNE 30, 1912.

DEDUCTIONS FROM GROSS INCOME.				Net income.	DISPOSITION OF NET INCOME.			Surplus.
Interest on funded debt.	Interest on floating debt.	Miscellaneous deductions.	Total.		Dividends.	Other payments from net income.	Total.	
\$20,088 00			\$20,088 00	\$11,956 58				\$11,956 58
3,900 00		\$850 00	4,750 00	1,119 44				1,119 44
12,791 99	\$6,500 31		19,292 30	6,185 31	\$4,368 05		\$4,368 05	\$1,817 26
1,086 11			1,086 11	732 29	1,244 45		1,244 45	512 16
12,531 26	620 14		13,151 40	16,812 79	12,480 00		12,480 00	4,332 79
18,067 40	85 26		17,982 14	7,517 63				
10,636 24	3,867 69		14,503 93	791 74	5,924 00		5,924 00	1,593 63
11,450 00			11,450 00	16,324 92	11,250 00		11,250 00	791 74
8,950 00	3,066 17		12,016 17	12,855 05	9,943 35		9,943 35	5,074 92
16,122 64	1,320 62	1,404 00	18,847 26	5,982 30	3,000 00		3,000 00	2,911 70
		19,745 70	19,745 70	35,735 66				2,982 30
11,640 98		1,613 81	13,254 79	4,341 79	19,216 00		19,216 00	16,519 66
919 61	385 62		1,305 23	2,166 64				4,341 79
321,280 00	2,501 60		323,781 60	575,174 85	2,000 00		2,000 00	166 64
17,783 34	252 24		17,531 10	19,770 26	400,000 00		400,000 00	175,174 85
50,000 00	6,993 81		56,993 81	42,960 86	37,500 00		37,500 00	19,770 26
12,074 30			12,074 30	15,637 66	10,500 00		10,500 00	5,460 86
13,345 20		2,824 80	16,170 00	1,339 42				3,137 66
4,671 88	1,704 37		6,376 25	932 69	8,828 22		8,828 22	1,339 42
9,000 00	4,069 63		13,069 63	4,459 36				7,895 53
\$556,338 95	\$30,692 46	\$26,438 31	\$613,469 72	\$768,056 16	\$526,254 07		\$526,254 07	\$241,802 09

YEAR ENDING JUNE 30, 1912.

\$625 00			\$625 00	\$1,735 35				\$1,735 35
1,000 00	\$43 37		1,043 37	1,136 09				1,136 09
	622 47		622 47	4,440 49				4,440 49
554 50			554 50	1,688 05	\$1,810 00		\$1,810 00	1,688 05
937 50	380 34		1,317 84	3,349 93				1,539 93
6,787 50			6,787 50	13 80				13 80
3,612 50			3,612 50	122 01	249 79		249 79	127 78
	345 00		345 00	8,253 49				8,253 49
				2,224 51				2,224 51
				3,028 96				3,028 96
				765 24				765 24
6,150 00			6,150 00	4,610 35	8,678 83		8,678 83	4,068 48
				1,863 10				1,863 10
995 00	82 99	\$99 50	1,177 49	243 74				243 74
3,000 00	2,164 24		5,164 24	2,613 31				2,613 31
5,000 00	650 22		5,650 22	313 48				313 48
8,550 00	4,281 38		12,831 38	2,740 48				2,740 48
	274 20		274 20	3,335 77	2,250 00		2,250 00	1,085 77
	1,439 97	40 45	1,480 42	4,976 53	1,250 00		1,250 00	3,726 53
\$37,212 00	\$10,284 18	\$139 95	\$47,636 13	\$15,128 84	\$14,238 62		\$14,238 62	\$890 22

² Income account beyond gross income reported incompletely.

GASOLINE AND CARBIDE PROCESS. DETAILED

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	OPERATING REVENUES.			
		Comm. light and fuel earnings.	Mun. contract earnings.	Misc. earnings.	Total operating revenues.
	<i>Private.</i>				
Deerfield	Urban Construction Co.....	\$426 50	\$240 00	.....	\$666 50
Hortonville...	Hortonville Lt. Ht. & Pr. Co...	1,418 53	564 00	.....	1,982 53
	Total	\$1,845 03	\$804 00	.....	\$2,649 03
	<i>Municipal.</i>				
Cambria	Municipal Gas Plant	\$1,382 78	.....	.....	\$1,382 78
Clinton	" " "	2,101 55	.....	.....	2,101 55
Fox Lake	" " "	3,723 86	.....	\$13 56	3,737 42
Hammond	" " "	954 67	.....	.....	954 67
Hilbert	" " "	1,617 25	.....	.....	1,617 25
Horicon	" " "	3,184 05	.....	.....	3,184 05
Marion	" " "	1,372 94	\$752 38	69 00	2,194 32
Markesan	" " "	1,694 30	1,200 00	2,726 64	5,620 94
Nekoosa	" " "	1,899 75	2,300 00	.....	4,199 75
Palmyra	" " "	722 00	.....	.....	722 00
Wautoma	" " "	1,712 00	.....	.....	1,712 00
	Total	\$20,365 15	\$4,252 38	\$2,809 20	\$27,426 73

LOCATION.	NAME OF COMPANY.	Net operating revenue.	Non-operating revenue.
	<i>Private.</i>		
Deerfield	Urban Construction Co.....	\$22 40	.....
Hortonville...	Hortonville Lt. Ht. & Pr. Co.....	606 01	\$72 43
	Total	\$583 61	\$72 43
	<i>Municipal.</i>		
Cambria	Municipal Gas Plant	\$750 89	.....
Clinton	" " "	678 17	.....
Fox Lake	" " "	826 36	.....
Hammond	" " "	846 23	.....
Hilbert	" " "	685 25	.....
Horicon	" " "	1,078 58	.....
Marion .....	" " " .....	.....	.....
Markesan .....	" " " .....	.....	.....
Nekoosa	" " "	677 46	.....
Palmyra	" " "	938 41	.....
Wautoma	" " "	1,033 81	.....
	Total	\$6,160 24	.....

INCOME ACCOUNT YEAR ENDING JUNE 30, 1912.

OPERATING EXPENSES.							
Production.	Distribution.	Municipal contract lighting.	Commercial, general and undistributed.	Total of foregoing.	Depreciation.	Taxes.	Total operating expense.
\$599 00	\$12 95	\$20 00	\$16 05	\$648 00	40 90		\$688 90
1,100 21	.....	145 19	122 03	1,367 43	.....	\$9 09	1,376 52
\$1,699 21	\$12 95	\$165 19	\$138 08	\$2,015 43	\$40 90	\$9 09	\$2,065 42
\$2,133 67	.....	.....	.....	\$2,133 67	.....	.....	\$2,133 67
2,471 47	\$277 00	.....	\$31 25	2,779 72	.....	.....	2,779 72
4,451 43	.....	.....	112 35	4,563 78	.....	.....	4,563 78
1,800 90	.....	.....	.....	1,800 90	.....	.....	1,800 90
2,302 50	.....	.....	.....	2,302 50	.....	.....	2,302 50
4,017 63	145 00	.....	100 00	4,262 63	.....	.....	4,262 63
2,194 32	.....	.....	.....	2,194 32	.....	.....	2,194 32
5,620 94	.....	.....	.....	5,620 94	.....	.....	5,620 94
3,220 26	237 03	.....	65 00	3,522 29	.....	.....	3,522 29
1,660 41	.....	.....	.....	1,660 41	.....	.....	1,660 41
2,705 81	.....	.....	40 00	2,745 81	.....	.....	2,745 81
\$32,579 34	\$659 03	.....	\$348 60	\$33,586 97	.....	.....	\$33,586 97

Gross income.	DEDUCTIONS FROM GROSS INCOME.			Surplus.
	Interest.	Dividends.	Total deductions.	
\$22 40	.....	.....	.....	\$22 40
678 44	\$325 00	\$325 00	\$650 00	28 44
\$656 04	\$325 00	\$325 00	\$650 00	\$6 04
\$750 89	.....	.....	.....	\$750 89
678 17	.....	.....	.....	678 17
826 36	\$168 00	.....	\$168 00	994 36
846 23	67 00	.....	67 00	913 23
685 25	175 00	.....	175 00	860 25
1,078 58	150 00	.....	150 00	1,228 58
.....	250 00	.....	250 00	250 00
677 46	.....	.....	.....	677 46
938 41	.....	.....	.....	938 41
1,033 81	180 00	.....	180 00	1,213 81
\$6,160 24	\$990 00	.....	\$990 00	\$7,150 24

CLASS A. DETAILED OPERATING

Italic figures denote credits.

LOCATION.	NAME OF COMPANY.	Commercial earnings.	Industrial earnings.
Appleton	Wisconsin Traction, Lt., Ht. & Pr. Co.	\$86,654 53	.....
Ashland	Ashland Light, Power, & Street Ry. Co.	18,652 57	.....
Beloit.....	Beloit Water, Gas & Electric Co.	66,871 75	.....
Chip. Falls.....	Chippewa Valley Railway, Lt. & Pr. Co.	10,691 17	.....
Eau Claire.....	Eau Claire Gas Light Co.	50,383 66	.....
Fond du Lac..	Eastern Wisconsin Railway & Light Co.	62,106 88	.....
Green Bay.....	Green Bay Gas & Electric Co.	58,413 74	\$379 20
Janesville.....	New Gas Light Co.	77,274 08	.....
Kenosha.....	Kenosha Gas & Electric Co.	96,388 19	8,814 46
La Cro.se.....	La Crosse Gas & Electric Co.	81,615 08	.....
Madison.....	Madison Gas & Electric Co.	171,812 41	5,854 54
Manitowoc.....	Manitowoc Gas Co.	39,114 15	1,157 79
Marinette.....	Men. & Mar. Light & Traction Co.	14,293 96	.....
Milwaukee.....	Milwaukee Gas Light Co.	1,944,851 37	165,853 51
Oshkosh.....	Oshkosh Gas Light Co.	93,789 18	.....
Racine.....	Racine Gas Light Co.	193,891 52	9,602 74
Sheboygan.....	Sheboygan Gas Light Co.	55,925 18	2,206 33
Superior.....	Superior Water, Light & Power Co.	68,889 67	2,712 25
Watertown.....	Watertown Gas & Electric Co.	32,161 07	942 58
Wausau.....	Wausau Gas Co.	32,548 91	.....
	Total.....	\$3,256,329 07	\$197,523 40

CLASS B. DETAILED OPERATING

Antigo.....	Antigo Gas Co. ¹	\$3,263 28	.....
Baraboo.....	Baraboo Gas & Electric Co.	11,565 41	\$167 69
Beaver Dam..	Beaver Dam Fuel & Light Co.	14,271 84	.....
Berlin.....	Berlin Public Service Co.	8,987 15	1,969 80
Burlington....	Citizens Gas Co.	14,417 47	.....
Ft. Atkinson..	Ft. Atkinson Gas Co.	8,148 36	.....
Hudson.....	St. Croix Gas Co.	6,389 40	.....
Hurley.....	Hurley Gas Co.	13,416 77	.....
Menomonie....	Menomonie Gas Co.	9,012 34	.....
Monroe.....	Monroe Light & Fuel Co.	10,654 38	.....
Platteville....	Platteville Gas Co.	8,830 76	741 71
Portage.....	Portage American Gas Co.	25,487 67	.....
Rhinelanders..	Oneida Gas Co.	7,472 95	.....
Ripon.....	Ripon Light & Water Co.	11,106 44	306 60
Stevens Point	Stevens Point Light Co.	14,974 35	.....
Stoughton....	Stoughton Light & Fuel Co.	16,369 73	.....
Waukesha.....	Waukesha Gas & Electric Co.	42,775 09	.....
Wauwatosa....	Wauwatosa Gas Co.	16,725 84	216 87
West Allis....	West Allis Gas Co.	27,651 39	1,098 26
	Total.....	\$271,520 62	\$4,500 93

¹ Report covers 6 months ending June 30, 1912.

REVENUES, YEAR ENDING JUNE 30, 1912.

Power earnings.	Municipal contract lighting earnings.	Sales of gas to other public utilities.	Net earnings from residuals.	Miscellaneous earnings from operation.	Total operating revenues.
.....	\$24,575 21	\$1,265 31	\$112,495 05
.....	16,001 76	.....	18,652 57
.....	17,509 74	.....	82,873 51
.....	25,052 08	82 00	10,691 17
\$16 90	20,451 17	544 04	67,893 40
.....	463 87	.....	87,240 96
.....	41,766 41	361 86	79,805 05
.....	77,737 95
399 96	574 18	269 64	105,564 51
1,133 19	\$627 43	16,827 80	7 50	123,381 49
.....	4,576 19	51 96	178,910 73
35,641 03	\$33,567 99	31,460 16	96,255 91	120 38	58,867 86
.....	33,546 67	285 95	18,922 11
.....	2,307,750 35
6,719 94	20,051 29	99,565 62	.....	127,621 80
952 00	15,642 30	436 68	329,831 11
1,365 55	1,866 25	.....	7,679 97	.....	75,162 49
.....	11,490 39	.....	72,967 47
.....	42,649 87
.....	44,039 30
\$46,228 57	\$35,434 24	\$52,138 88	\$431,979 27	\$3,425 32	\$4,023,058 75

REVENUES, YEAR ENDING JUNE 30, 1912.

.....	.....	.....	\$2,165 14	.....	\$3,263 28
.....	.....	.....	.....	.....	13,898 24
.....	.....	.....	4,540 92	\$99 27	14,271 84
.....	.....	.....	.....	.....	15,597 14
.....	.....	.....	.....	.....	14,417 47
.....	.....	.....	.....	.....	8,148 36
.....	.....	.....	.....	.....	6,389 40
.....	.....	.....	.....	.....	13,416 77
.....	.....	.....	.....	.....	9,012 34
.....	.....	.....	.....	.....	10,654 38
.....	.....	.....	2,309 06	.....	11,881 53
.....	\$2,066 83	.....	7,799 19	.....	35,353 69
.....	144 90	.....	.....	.....	7,616 95
\$16 13	46 25	.....	87 25	.....	11,394 17
.....	.....	.....	768 68	.....	15,743 03
.....	.....	.....	.....	.....	16,369 73
163 98	.....	.....	13,476 20	.....	56,415 27
186 20	.....	.....	.....	.....	17,128 91
446 16	.....	.....	.....	.....	29,195 81
.....
\$812 47	\$2,257 08	.....	\$30,977 94	\$99 27	\$310,168 31

CLASS A. DETAILED OPERATING
PRODUCTION—

LOCATION.	NAME OF COMPANY.	OPERA				
		Super-intend-ence.	Retort house labor.	Purify-ing labor.	Miscel-laneous labor.	Coal carbon-ized.
Appleton.....	Wis. Tr. Lt. Ht. & Pr. Co.....	\$788 26	\$4,916 29	\$272 79	\$5 18	\$26,549 50
Beloit.....	Beloit W. Gas & Elec. Co.....	938 43	3,667 68	162 81	.....	17,268 25
Eau Claire.....	Eau Claire Gas Lt. Co.....	166 30	3,098 56	65 08	216 09	17,964 62
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.....	2,038 00	5,094 30	227 49	299 09	26,846 26
Green Bay.....	Green Bay Gas & Elec. Co.....	2,111 39	6,061 77	176 48	335 44	24,007 57
La Crosse.....	La Crosse Gas & Elec. Co.....	1,100 00	8,511 86	432 71	1,168 06	44,834 03
Manitowoc.....	Manitowoc Gas Co.....	906 51	4,572 31	155 26	65 80	15,701 62
Marinette.....	Men. & Mar. Lt. & Tr. Co.....	292 03	1,607 52	125 49	.....	5,185 75
Milwaukee.....	Milwaukee Gas Light Co.....	1,598 88	9,841 07	1,189 69	5,809 40	91,763 89
Oshkosh.....	Oshkosh Gas Lt. Co.....	2,220 19	8,465 04	364 83	76 44	37,030 51
Racine.....	Racine Gas Co.....	2,250 00	18,192 63	300 39	1,306 32	93,898 89
Sheboygan.....	Sheboygan Gas Lt. Co.....	1,233 32	5,102 73	317 98	151 84	17,396 86
Watertown.....	Watertown Gas & El. Co.....	803 91	3,469 28	64 13	256 81	14,796 26
Wausau.....	Wausau Gas Co.....	.....	2,991 30	243 00	.....	13,615 31
Total.....		\$16,507 22	\$85,592 34	\$4,098 43	\$9,690 47	\$446,859 32

PRODUCTION—

LOCATION.	NAME OF COMPANY.	OPERA				
		Super-intend-ence.	Genera-tor house labor.	Purify-ing labor.	Miscel-laneous labor.	Steam for gener-ating water gas.
Appleton.....	Wis Tr. Lt. Ht. & Pr. Co.....	\$240 00	\$544 96	\$19 96	\$3 72	\$710 21
Ashland.....	Ashland L. P. & St. Ry. Co.....	1,080 00	877 15	48 20	.....	1,620 14
Beloit.....	Beloit W. Gas & Elec. Co.....	528 33	829 21	61 74	.....	855 22
Chipp. Falls..	Chipp. Val Ry. Lt. & Pr. Co.....	43 35	822 12	.....	17 10	433 56
Janesville.....	New Gas Co.....	1,157 24	1,873 51	214 70	574 80	4,458 97
Kenosha.....	Kenosha Gas & Elec. Co.....	225 00	1,868 46	229 69	13 48	3,570 65
Madison.....	Madison Gas & Elec. Co.....	2,420 33	4,257 77	422 67	1,946 21	3,578 00
Milwaukee.....	Milwaukee Gas Lt. Co.....	216 95	884 74	137 09	987 96	835 08
Sheboygan.....	Sheboygan Gas Lt. Co.....	.....	55 86	.....	.....	16 35
Total.....		\$5,911 20	\$12,013 78	\$1,134 05	\$3,543 27	\$16,078 18

PRODUCTION—

LOCATION.	NAME OF COMPANY.	OPERA				
		Super-intend-ence.	Purify-ing labor.	Miscel-laneous labor.	Crude gas pur-chased.	Purify-ing sup-plies and expenses.
Kenosha.....	Kenosha Gas & Elec. Co.....	\$20 00	.....	\$102 96	\$20,028 79	.....
Milwaukee.....	Milwaukee Gas Lt. Co.....	13,279 57	\$8,357 78	9,160 03	434,925 99	\$7,848 44
Superior.....	Superior Water Lt. & Pr. Co.....	300 00	.....	1,383 45	25,269 00	.....
Total.....		\$13,599 57	\$8,357 78	\$10,646 44	\$480,223 78	\$7,848 44

¹Includes \$883.76 gas used by company, credit.²Includes \$470.42 gas used by company and in holder \$298.95 credit.

EXPENSES, YEAR ENDING JUNE 30, 1912.
COAL GAS.

OPERATION.						MAINTENANCE.			Total coal gas production.
Bench fuel.	Steam.	Retort house supplies and expenses	Coal gas purifying supplies and expenses	Miscellaneous coal gas supplies and expenses.	Total operation.	Of benches.	Of coal gas apparatus buildings, fixtures and grounds.	Total maintenance.	
\$5,206 71	\$2,600 70	\$79 53	\$109 82	\$228 36	\$40,757 14	\$1 13	\$432 99	\$434 12	\$41,191 26
4,560 57	878 10	.....	.....	512 66	28,048 60	796 12	126 37	922 49	28,971 09
4,903 90	1,265 60	351 28	302 30	320 01	28,653 74	697 22	173 74	870 96	29,524 70
5,987 73	2,125 41	260 94	263 72	572 25	43,715 19	1,358 73	909 21	2,267 94	45,983 13
5,628 73	3,231 91	306 16	220 45	720 16	42,800 06	1,401 90	838 53	2,240 43	45,040 49
10,307 88	5,263 73	218 84	344 22	900 88	73,082 21	217 36	457 60	674 96	73,757 17
3,323 80	891 01	234 39	77 46	666 83	26,594 99	1,375 56	373 53	1,740 09	28,344 08
1,367 03	323 46	34 95	87 51	350 22	9,373 96	279 70	185 75	465 45	9,839 41
13,002 00	9,627 93	1,643 94	949 72	7,006 58	142,433 10	4,864 46	8,637 48	13,501 94	155,935 04
7,405 81	1,926 51	284 32	298 95	1,129 44	59,202 04	3,672 53	2,752 23	6,424 76	65,626 80
17,924 45	4,370 17	626 99	824 49	2,956 02	142,650 35	4,658 65	8,926 49	13,585 14	156,235 49
2,468 41	2,367 85	135 77	3 42	101 23	29,278 91	832 43	552 31	1,384 74	30,663 65
2,977 00	1,121 33	253 39	5 03	335 70	24,082 84	37 89	143 31	181 20	23,793 62
4,317 73	2,612 85	528 97	39 25	159 26	24,507 67	473 95	290 62	764 57	25,272 24
\$89,381 75	\$38,606 06	\$4,959 47	\$3,526 34	\$15,959 60	\$715,180 80	\$20,667 63	\$24,800 16	\$45,467 79	\$260,648 59

WATER GAS.

OPERATION.						MAINTENANCE.			Total water gas production.
Generator fuel.	Enricher	Water gas generator house supplies.	Water gas purifying supplies.	Steam.	Miscellaneous water gas supplies and expenses.	Total operation.	Of water gas apparatus.	Of water gas buildings, fixtures and grounds.	
\$1,478 99	\$1,574 02	\$6 36	\$50 25	.....	\$75 06	\$4,703 53	-\$70 69	\$5 04	\$4,779 26
2,470 28	2,849 49	.....	31 88	.....	.....	8,977 14	.....	.....	8,977 14
2,950 27	2,629 21	471 96	.....	.....	326 48	8,652 42	482 60	3 50	9,138 52
1,455 30	1,561 15	254 81	180 95	.....	13 27	4,781 61	43 91	15 55	4,841 07
6,312 86	8,337 62	138 70	98 07	.....	409 85	23,576 32	1,330 19	87 82	24,994 33
8,660 81	8,345 19	75 62	320 00	\$1,190 21	186 73	24,685 84	1,619 88	809 94	27,115 66
18,098 65	23,490 21	588 36	1,000 73	1,843 37	1,390 96	59,037 26	4,969 09	406 27	64,412 62
4,536 97	7,555 81	362 65	118 91	776 57	33 70	16,446 43	751 55	118 85	17,316 83
49 09	562 84	.....	.....	.....	.....	684 14	10 83	.....	694 97
\$46,013 22	\$56,905 54	\$1,898 46	\$1,800 79	\$3,810 15	\$2,436 05	\$151,544 69	\$9,278 74	\$1,446 97	\$162,270 40

GAS PURCHASED.

OPERATION.			MAINTENANCE.			Total purchased gas.
Steam.	Miscellaneous purchased gas supplies and expenses.	Total operation.	Of purchased gas apparatus.	Of purchased gas buildings fixtures and grounds.	Total maintenance.	
.....	\$11 13	\$20,162 88	.....	.....	.....	\$20,162 88
\$15,912 83	3,143 99	492,628 63	\$5,290 00	\$1,966 77	\$7,256 77	499,885 40
263 82	161 81	27,377 58	165 00	490 00	655 00	28,032 58
\$16,176 65	\$3,316 43	\$540,169 09	\$5,455 00	\$2,456 77	\$7,911 77	\$548,080 86

*Includes \$220.26 gas used by company and in holder, credit.

CLASS A. DETAILED OPERATING DISTRI

LOCATION.	NAME OF COMPANY.	Total cost of production.	OPERATING EXPENSES.			
			Labor, removing and resetting meters.	Street department labor.	Meter and fittings department labor.	Customers premises expenses.
Appleton.....	Wis Trac. Lt. Ht. & Pr. Co.	\$45,970 52	\$513 29	\$36 53	\$450 00	\$2,960 27
Ashland.....	Ashland Lt. Pr. & St. R. Co.	8,977 14	87 35	.....	.....	146 15
Beloit.....	Beloit W. G. & Elec. Co.....	38,109 61	699 62	.....	.....	597 95
Chippewa Falls	Chip. Val. Ry. Lt. & Pr. Co.	4,841 07	217 01	10 18	.....	408 66
Eau Claire.....	Eau Claire Gas Light Co.....	29,524 70	251 62	312 57	342 48	554 18
Fond du Lac..	Eastern Wis. Ry. & Lt. Co..	45,983 13	389 78	567 54	658 36	772 42
Green Bay....	Green Bay Gas & Elec. Co....	45,040 49	628 80	607 75	75 05	968 80
Janesville....	New Gas Light Co.....	24,994 33	356 89	1,529 37	51 92	1,003 55
Kenosha.....	Kenosha Gas Light Co.....	47,278 54	1,038 23	292 45	84 03	1,417 10
La Crosse.....	La Crosse Gas & Elec. Co....	73,757 17	346 34	9 75	409 82	1,157 03
Madison.....	Madison Gas & Elec. Co.....	64,412 62	1,324 10	2,182 77	832 38	3,450 18
Manitowoc....	Manitowoc Gas Co.....	28,344 08	317 59	24 11	166 60	190 82
Marinette....	Men. & Mar. Lt. & Tr. Co..	9,839 41	53 96	37 85	42 15	265 81
Milwaukee....	Milwaukee Gas Lt. Co.....	1668,457 62	22,348 08	13,465 91	5,646 14	19,039 35
Oshkosh.....	Oshkosh Gas Lt. Co.....	65,626 80	543 22	86 97	.....	623 61
Racine.....	Racine Gas Light Co.....	156,235 49	584 47	180 87	258 62	2,838 80
Sheboygan....	Sheboygan Gas Lt. Co.....	31,358 62	502 14	59 17	.....	1,780 40
Superior.....	Superior W. Lt. & Pr. Co....	28,032 58	1,920 55	1,833 42	.....	1,877 78
Watertown....	Watertown Gas & Elec. Co..	23,793 62	447 77	4 00	1 84	477 57
Wausau.....	Wausau Gas Co.....	25,272 24	1,575 49	.....	.....	.....
Total.....		\$1,465,849 78	\$34,146 30	\$21,241 21	\$9,019 40	\$40,530 43

LOCATION.	NAME OF COMPANY.	MUNICIPAL CONTRACT LIGHTING.				
		OPERATION.			Maintenance of municipal contract lighting system.	Total municipal contract lighting.
		Labor in-spec. removing and reset meters.	Supplies and expenses.	Total operation.		
Appleton.....	Wis. Tr. Lt. Ht. & Pr. Co.	.....	.....	.....	.....
Ashland.....	A. Lt. Pr. & St. Ry. Co.	.....	.....	.....	.....
Beloit.....	Beloit W. Gas & El. Co.	.....	.....	.....	.....
Chipp Falls..	C. Val. Ry. L. & P. Co.	.....	.....	.....	.....
Eau Claire....	Eau Claire Gas Lt. Co.	.....	.....	.....	.....
Fond du Lac..	Eastern Wis. R. & L. Co.	.....	.....	.....	.....
Green Bay....	Green Bay Gas & El. Co.	.....	.....	.....	.....
Janesville....	New Gas Light Co.	.....	.....	.....	.....
Kenosha.....	Kenosha Gas & El. Co.	.....	.....	.....	.....
La Crosse....	LaCrosse Gas & El. Co.	.....	.....	.....	.....
Madison.....	Madison Gas & Elec. Co.	.....	.....	.....	.....
Manitowoc....	Manitowoc Gas Co.	.....	.....	.....	.....
Marinette....	Men. & Mar. Lt. & P. Co.	.....	.....	.....	.....
Milwaukee....	Milwaukee Gas Lt. Co.	\$1,970 81	\$1,391 11	\$3,361 92	\$2,622 66	\$5,984 58
Oshkosh.....	Oshkosh Gas Lt. Co.
Racine.....	Racine Gas Lt. Co.
Sheboygan....	Sheboygan Gas Lt. Co.
Superior.....	Superior W. Lt. & P. Co.
Watertown....	Watertown Gas & El. Co.	277 71	523 31	801 02	34 41	835 43
Wausau.....	Wausau Gas Co.
Total.....		\$2,248 52	\$1,914 42	\$4,162 94	\$2,657 07	\$6,820 10

EXPENSES, 1912—Continued.
DISTRIBUTION.

OPERATION.				MAINTENANCE.					Total distribution.
Pump- ing gas.	Street dep't. sup. and exps.	Meter and fit- tings dept. sup. and exps.	Total oper- ation.	Of mains.	Of services.	Of meters.	Bldgs. fixtures and gro'nds.	Total main- tenance.	
\$303 18	\$915 06	\$13 81	\$5,192 14	\$133 32	\$60 47	\$1,338 51	\$13 00	\$1,545 30	\$6,737 44
2,617 37		92 66	233 50	395 91	174 10	76 69		646 70	880 20
			4,007 60	306 79	179 17	950 10		1,436 06	5,443 66
			635 85	29 86	13 28	34 16		77 30	713 15
	295 15	205 12	1,961 12	431 77		591 58		1,023 35	2,984 47
	18 10	282 59	2,688 79	774 02	874 89	1,894 64	12 15	3,555 70	6,244 49
524 51	100 06	308 42	3,213 39	1,668 79	1,585 44	831 71	1 57	4,087 51	7,300 90
	137 08	202 39	3,281 20	305 20	380 14	630 89		1,316 23	4,597 43
351 36	305 48	108 45	3,597 04	2,252 98	1,126 49	2,252 98		5,632 45	9,229 49
	119 23	39 53	2,081 70	49 87	55 33	479 40		584 60	2,666 30
865 52	1,778 81	494 74	10,928 50	3,649 74	2,168 26	4,014 61		9,832 61	20,761 11
	34 70	65	734 47	74 46	15 93	417 67		508 06	1,242 53
	2 79	7 87	410 44	150 43	83 71	144 72		378 86	789 30
9,547 50	9,510 74	9,734 33	89,292 05	29,108 85	44,440 37	39,827 97	386 70	113,763 89	203,055 94
23	114 38	1,225 84	2,594 25	606 74	624 41	265 95		1,497 10	4,091 35
1,440 13	50 45	589 04	5,942 38	4,639 74	2,648 97	7,221 42		14,510 13	20,452 51
	43 56		2,385 27	343 72	236 36	421 34		1,001 42	3,386 69
	522 23		6,153 98	115 00	240 00	1,150 00		1,505 00	7,658 98
	71 75	204 04	1,206 97	22 28	126 79	220 27		369 34	1,576 31
	82 50		1,657 99	71 81	189 01	712 13		972 95	2,630 94
\$15,649 74	\$14,102 07	\$13,509 48	\$148,198 63	\$45,131 28	\$55,223 12	\$63,476 74	\$413 42	\$164,244 56	\$312,443 19

* Includes \$4,673 65 credit, for gas used by company.

COMMERCIAL.

Collection salaries and commissions.	Reading meters and delivering bills.	Collection supplies and expenses.	Uncollect- able ac- counts.	Promotion of business sal- aries and commissions.	Promotion of business sup- plies and expenses.	Total commercial.
\$321 47	\$514 48	\$34 22	\$553 83	\$1,284 73	\$1,284 73	\$3,993 46
	635 22				4 50	639 72
		763 37			143 33	906 70
	2 60	17	30 00		41 41	74 18
683 62	712 38			240 05	275 16	1,911 21
567 07	410 33	138 95	316 34	544 05	950 26	2,927 00
322 50	553 64	122 73	613 54	997 22	425 24	3,034 87
4,103 29	860 97	1,335 74	807 04	1,770 85	1,423 78	10,301 67
1,896 83	683 98	371 49	1,126 49	2,534 63	844 84	7,458 26
191 62	435 72	10 35	360 00	13 17	436 21	1,447 07
3,680 21	940 97	965 07	600 00	807 98	2,489 36	9,483 59
	316 21		250 45			566 66
150 09	175 96	10 00	142 88		234 96	1,204 63
62,842 04	18,556 65	11,015 31	2,452 97	34,047 01	11,998 91	140,912 89
45	846 05	37 90	120 00	516 78	687 08	2,208 26
2,112 33	1,705 60	957 53	1,337 62	5,976 25	1,797 54	13,886 87
469 38	519 75	131 38	357 79	1,627 91	585 71	3,691 92
1,987 42	1,134 40	1,100 87	300 00	815 73	1,194 66	6,533 08
140 50	176 04	101 96	105 77	1,331 18		1,855 45
	250 00		161 31	895 85		1,307 16
\$79,468 82	\$29,430 95	\$17,097 04	\$9,636 03	\$53,894 13	\$24,817 68	\$214,344 65

CLASS A. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	GEN				
		OPER				
		Salaries of general officers.	Salaries of general office clerks.	General office rent.	General office supplies and expenses.	Law expenses—general.
Appleton.....	Wis.Tr.Lt. Ht. & Pr. Co.....	\$1,520 00	\$2,884 21	\$235 00	\$463 41	\$553 83
Ashland.....	Ashland Lt.Pr.& St.Ry. Co.....	2,008 57	667 48	181 57	224 19	.....
Beloit.....	Beloit W.Gas & El. Co.....	2,816 91	2,420 38	435 00	651 84	262 64
Chipp. Falls..	Chip.Valley Ry.Lt & Pr.Co...	200 04	289 14	207 00	169 96	56 00
Eau Claire....	Eau Claire Gas Lt. Co.....	1,725 00	1,311 00	1,450 00	657 99	159 21
Fond du Lac..	Eastern Wis.Ry.& Lt.Co.....	1,976 20	1,962 38	93 59	779 70	400 95
Green Bay....	Green Bay Gas & El. Co.....	1,396 16	1,856 44	306 06	426 37	408 99
Janesville....	New Gas Light Co.....	3,100 00	448 81	.....	50 46	204 20
Kenosha.....	Kenosha Gas & El.Co.....	2,182 36	1,214 40	513 10	839 35	1,126 49
LaCrosse.....	La Crosse Gas & El Co.....	1,800 00	1,674 35	216 00	683 94	148 62
Madison.....	Madison Gas & El.Co.....	7,562 46	1,675 45	1,740 00	460 31	600 00
Manitowoc....	Manitowoc Gas Co.....	3,000 00	1,890 80	1,620 00	1,023 50	108 00
Marinette....	Men. & Mari.Lt. & Pr.Co.....	172 08	209 41	.....	.....	12 00
Milwaukee....	Milwaukee Gas Lt. Co.....	35,040 00	11,603 25	4,308 00	6,873 65	5,318 35
Oshkosh.....	Oshkosh Gas Light,Co.....	4,399 98	2,825 94	930 00	552 85	2,400 42
Racine.....	Racine Gas Lt. Co.....	3,752 08	3,130 60	1,113 29	2,828 16	1,886 98
Sheboygan....	Sheboygan Gas Lt. Co.....	2,433 32	1,856 40	1,220 00	466 33	66 64
Superior.....	Superior W.Lt. & Pr.Co.....	1,800 00	649 98	520 00	128 52	298 91
Watertown....	Watertown Gas & El.Co.....	775 03	909 34	217 60	311 79	271 04
Wausau.....	Wausau Gas Co.....	1,529 00	1,476 00	.....	1,263 12	95 00
	Total.....	\$79,189 19	\$40,994 36	\$15,306 21	\$18,854 94	\$14,378 27

LOCATION.	NAME OF COMPANY.	UNDISTRIBUTED (Concluded.)				
		Stationery and printing.	Stores department expense.	Utility equipment expense.	Total undistributed.	Total production.
Appleton.....	Wis. Trac. Lt.Ht.& Pr. Co.	\$631 43	\$226 36	\$2,264 63	\$4,407 18	\$45,970 52
Ashland.....	Ashland Lt.Pr.& St.Ry. Co.	.....	.....	.....	313 89	8,977 14
Beloit.....	Beloit W. Gas & Elec. Co.	141 66	.....	.....	395 38	38,109 61
Chipp. Falls..	Chip. Val. Ry.Lt. & Pr.Co.	59 16	108 99	11 74	179 89	4,841 07
Eau Claire....	Eau Claire Gas Lt. Co.....	308 57	.....	.....	442 78	29,524 70
Fond du Lac..	Eastern Wis.Ry.& Lt. Co..	210 60	345 04	207 28	1,328 66	45,983 13
Green Bay....	Green Bay Gas & Elec. Co.	402 56	165 90	202 70	1,923 76	45,040 49
Janesville....	New Gas Light Co.....	.....	16 85	.....	868 36	24,994 33
Kenosha.....	Kenosha Gas & Elec. Co..	90	500 01	32 23	2,786 12	47,278 54
La Crosse.....	La Crosse Gas & Elec. Co..	291 34	822 00	148 63	2,665 41	73,757 17
Madison.....	Madison Gas & Elec. Co..	.....	.....	.....	.....	64,412 62
Manitowoc....	Manitowoc Gas Co.....	.....	.....	457 78	1,069 41	28,344 08
Marinette....	Men. & Mar. Lt. & Pr. Co.	39 75	438 34	50 00	583 96	9,839 41
Milwaukee....	Milwaukee Gas Light Co..	10,839 97	25,916 68	74,723 42	119,511 37	668,457 62
Oshkosh.....	Oshkosh Gas Light Co....	116 91	69 09	553 22	4,228 32	65,626 80
Racine.....	Racine Gas Lt. Co.....	.....	.....	.....	7,599 63	156,235 49
Sheboygan....	Sheboygan Gas Light Co..	241 12	.....	788 11	1,186 98	31,358 62
Superior.....	Superior Water. Lt.& Pr.Co.	.....	.....	.....	.....	28,032 58
Watertown....	Watertown Gas & Elec. Co.	104 58	31 54	611 82	1,288 08	23,793 62
Wausau.....	Wausau Gas Co.....	318 55	.....	.....	444 36	25,272 24
	Total.....	\$13,707 10	\$28,640 80	\$80,051 56	\$151,223 54	\$1,465,849 78

¹Contingencies (extraordinary).

²Includes \$9,310.43 miscellaneous expense.

EXPENSES, 1912.—Continued.

GENERAL.						UNDISTRIBUTED.		
OPERATION.			MAINTENANCE.			Total general expenses.	Injuries and damages.	Insurance.
Miscellaneous general expenses.	Railroad commission expenses.	Total operation.	General office equipment.	General office buildings, fixtures and grounds.	Total maintenance.			
\$659 50		\$6,315 95	\$17 28	\$30.99	\$48 27	\$6,364 22	\$553 83	\$730 93
294 53		3,376 34				3,376 34		313 89
804 58		7,391 35				7,391 35		253 72
39 12		961 26	1 39		1 39	962 65		
85 15		5,388 35				5,388 35	3 00	131 21
831 70	\$136 44	6,180 96	49	64 03	64 52	6,245 48	360 00	205 74
1,913 44	41 95	6,349 41	15 58	60 32	75 90	6,425 31	320 00	832 60
1,023 94	30	4,827 71				4,827 71	590 58	460 93
365 67	6 48	6,247 85	69 88	43 63	113 51	6,361 36	1,126 49	1,126 49
210 26		4,733 17	171 59		171 59	4,904 76	802 95	600 49
1,344 56		13,382 78				13,382 78		
734 00		8,376 30				8,376 30	310 00	301 63
980 83		774 32	35 61	2 63	38 29	812 61		55 87
4,490 99	5,909 86	73,544 10	16 63	1,389 64	1,556 27	75,100 37	4,004 79	4,026 51
2,493 15	27	13,602 61	65 71	1 80	67 51	13,670 12	108 60	3,380 50
717 00	401 89	13,830 00				13,830 00	4,980 45	2,619 18
412 47	570 56	7,063 82	13 45	15 17	28 62	7,092 44	26 75	131 00
618 94		4,016 35				4,016 35		
391 29		2,876 09				2,876 09	270 07	270 07
		4,363 12				4,363 12		125 81
\$17,811 12	\$7,067 75	\$193,601 84	\$557 61	\$1,608 26	\$2,165 87	\$195,767 71	\$13,257 51	\$15,566 57

SUMMARY OF OPERATING EXPENSES.

Total distribution.	Total municipal contract lgt.	Total commercial.	Total general.	Total undistributed.	Total fore-going.	Depreciation.	Taxes.	Total operating expenses.
\$6,737 44		\$3,993 46	\$6,364 22	\$4,407 18	\$67,472 82	\$11,909 03	\$4,751 10	\$84,132 95
880 20		639 72	3,376 34	313 89	14,187 29		834 72	15,022 01
5,443 66		906 70	7,391 35	395 88	52,246 70	840 00	3,557 00	56,643 70
713 15		74 18	962 65	179 89	6,770 94	1,200 00	1,076 50	9,047 44
2,984 47		1,911 21	5,388 35	442 78	40,251 51		4,135 56	44,387 07
6,244 49		2,927 00	6,245 48	1,328 66	62,728 76		2,791 34	65,520 10
7,300 90		3,034 87	6,425 31	1,923 76	63,725 33		3,157 20	66,882 53
4,597 43		10,301 67	4,827 71	868 36	45,589 50	3,111 53	3,243 76	51,944 79
9,229 49		7,458 26	6,361 36	2,786 12	73,113 77		2,816 23	82,688 94
2,666 30		1,447 07	4,904 76	2,665 41	85,440 71	7,500 00	5,771 39	93,712 10
20,761 11		9,483 59	13,382 78		108,040 10	11,326 94	6,611 29	125,978 33
1,242 53		566 66	8,376 30	1,069 41	39,598 98	93 04	3,135 52	42,827 54
789 30		1,204 63	812 61	583 96	13,229 91	1,460 91	1,328 91	16,019 73
203,055 94	\$5,984 58	140,912 89	75,100 37		1,093,511 40	180,000 00	188,284 84	1,461,796 24
4,091 35		2,208 26	13,670 12	4,228 32	89,824 83		4,106 86	93,931 71
20,452 51		13,886 87	13,830 00	7,599 63	212,004 50	1,386 99	17,084 89	230,476 38
3,386 69		3,691 92	7,092 44	1,186 98	46,716 65		4,614 64	51,331 29
7,653 98		6,533 08	4,016 35		46,240 99	6,000 00	2,782 01	55,023 00
1,576 31	835 43	1,855 45	2,876 09	1,288 08	32,224 98	3,565 03	935 66	36,725 67
2,630 94		1,307 16	4,363 12	444 36	34,017 82		2,134 98	36,152 80
\$312,443 19	\$6,820 01	\$214,344 65	\$195,767 71	\$31,712 17	\$2,226,937 51	\$235,152 41	\$263,154 40	\$2,725,244 32

*This amount has been cleared into the detail of expenses.

CLASS A. STEAM GENERATION APPORTIONMENT

LOCATION.	NAME OF COMPANY.	OPERATION.				
		Operat- ing labor.	Fuel for steam.	Water for steam.	Miscella- neous steam supplies and ex- penses.	Total opera- tion.
Appleton.....	Wis. Tr. Lt. Ht. & Pr. Co.	\$809 98	\$2,505 38		\$30 69	\$3,346 05
Ashland.....	Ash. Lt. Pr. & St. Ry. Co.	385 85	1,192 04		18 51	1,596 41
Beloit.....	Beloit W. Gas & Elec. Co.	1,306 23	387 13	\$39 96		1,733 32
Chip. Falls.....	Chip. V. Ry. Lt. & P. Co.		396 06	37 50		433 56
Eau Claire.....	Eau Claire Gas Lt. Co.	269 75	971 35		24 50	1,265 60
Fond du Lac.....	F. Wis. Ry. & Lt. Co.	334 68	1,509 84	29 35	139 18	2,013 05
Green Bay.....	Green Bay Gas & Elec. Co.	1,096 39	1,572 29		359 16	3,027 84
Janesville.....	New Gas Light Co.	1,610 74	2,220 95	393 41	26 66	4,251 76
Kenosha.....	Kenosha Gas & Elec. Co.	1,007 90	2,888 72	494 18	342 02	4,732 82
La Crosse.....	La Crosse Gas & Elec. Co.	840 00	3,950 97	143 05	115 92	5,049 94
Madison.....	Madison Gas & Elec. Co. ¹					
Manitowoc.....	Manitowoc Gas Co. ¹					
Marinette.....	Men. & Mar. Lt. & Pr. Co.		195 02	53 35	28 72	282 09
Milwaukee.....	Milwaukee Gas Light Co.	6,617 42	33,520 76	1,601 03	1,729 19	43,468 40
Oshkosh.....	Oshkosh Gas Light Co.	1,293 46	342 14		105 92	1,741 52
Racine.....	Racine Gas Lt. Co.	3,873 86	4,070 25		800 40	8,744 51
Sheboygan.....	Sheboygan Gas Lt. Co.	549 56	1,469 14	225 85	7 93	2,252 48
Superior.....	Superior W. Lt. & Pr. Co.		216 74		12 08	228 82
Watertown.....	Watertown Gas & Elec. Co.	337 12	459 67	46 65	83 18	926 62
Wausau.....	Wausau Gas Co.	886 33	1,726 52			2,612 85
	Total.....	\$21,219 28	\$59,594 97	\$3,069 33	\$3,824 06	\$87,707 64

CLASS A. DISTRIBUTION OF THE PAY

LOCATION.	NAME OF COMPANY.	Produc- tion coal gas.	Produc- tion water gas.	Produc- tion purch- ased gas.	Steam genera- tion.	Distribu- tion.
Appleton.....	Wis. Tr. Lt. Ht. & Pr. Co.	\$6,323 20	\$849 02		\$812 45	\$7,550 78
Ashland.....	Ash. Lt. Pr. & St. Ry. Co.		2,005 35		397 06	836 55
Beloit.....	Beloit Water, G. & Elec. Co.	4,701 44	1,455 27		1,306 23	2,785 76
Chip. Falls.....	Chip. Val. Ry. Lt. & Pr. Co.		951 94		10 00	593 36
Eau Claire.....	Eau Claire Gas Lt. Co.	3,631 91			269 75	2,283 97
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.	8,080 31			419 22	4,373 99
Green Bay.....	Green Bay Gas & Elec. Co.	8,872 02			1,140 65	5,328 04
Janesville.....	New Gas Lt. Co.		3,751 40		1,620 74	3,608 35
Kenosha.....	Kenosha Gas & Elec. Co.		3,187 49	\$122 96	1,080 51	4,782 80
La Crosse.....	La Crosse Gas & Elec. Co.	11,639 67			958 27	1,585 76
Madison.....	Madison Gas & Elec. Co.		10,161 38			12,652 86
Manitowoc.....	Manitowoc Gas Co.	5,939 51			8 40	1,090 96
Marinette.....	Men. & Mar. Lt. & Tr. Co.	2,209 91				704 77
Milwaukee.....	Milwaukee Gas Lt. Co.	18,012 75	3,129 93	15,095 33	9,008 81	108,172 09
Oshkosh.....	Oshkosh Gas Lt. Co.	12,585 73			1,421 65	2,629 98
Racine.....	Racine Gas Lt. Co.	24,234 16			3,873 86	7,419 34
Sheboygan.....	Sheboygan Gas Lt. Co.	7,006 44	97 76		598 36	4,545 11
Superior.....	Superior Water, Lt. & Pr. Co.			1,683 45		5,580 75
Watertown.....	Watertown Gas & Elec. Co.	4,675 58			369 07	1,273 30
Wausau.....	Wausau Gas Co.	3,399 53			886 33	1,686 80
	Total.....	\$121,312 16	\$25,589 54	\$16,901 74	\$24,101 36	\$179,485 32

¹ No detailed apportionment.² Sales labor.

ACCOUNT, YEAR ENDING JUNE 30, 1912.

MAINTENANCE.				Total cost of steam.	APPORTIONED TO	
Of boiler and boiler auxiliary equipment.	Of coal and ash handling equipment.	Of boiler plant buildings, fixtures, and grounds.	Total maintenance.		Gas utility.	Other utilities.
\$27 99	\$4 44		\$32 43	\$3,378 48	\$3,378 48	
		\$23 73	23 73	1,620 14	1,620 14	
				1,733 32	1,733 32	
				433 56	433 56	
				1,265 60	1,265 60	
112 08		28	112 36	2,125 41	2,125 41	
204 07			204 07	3,231 91	3,231 91	
207 21			207 21	4,458 97	4,458 97	
28 04			28 04	4,760 86	4,760 86	
139 42	74 37		213 79	5,263 73	5,263 73	
35 30		6 07	41 37	323 46	323 46	
6,231 76			6,231 76	49,700 16	49,700 16	
184 42		57	184 99	1,926 51	1,926 51	
				8,744 51	8,744 51	
114 87			114 87	2,367 35	2,367 35	
35 00			35 00	263 82	263 82	
189 19		5 52	194 71	1,121 33	1,121 33	
				2,612 85	2,612 85	
\$7,509 35	\$78 81	\$36 17	\$7,624 33	\$95,331 97	\$95,331 97	

ROLL. YEAR ENDING JUNE 30, 1912.

Municipal contract lighting.	Commercial.	General.	Undistributed.	Stock accounts.	Construction and equipment.	Depreciation.	Total.
	\$2,394 69	\$4,489 79	\$1,233 97	\$2,335 16	\$2,797 58	\$956 60	\$29,743 24
	633 24	2,676 05					6,548 25
	686 17	5,546 90		2,022 04	2,781 61	2,219 99	25,505 41
	6 31	496 00	20 08	99 48	977 41		3,154 58
	2,783 17	5,460 00		717 94	3,935 67		19,082 41
	1,508 48	4,085 41	318 23	2,404 36	3,351 17		24,541 17
	1,673 86	3,252 60	144 61	85 69	2,124 47		22,621 94
	6,260 11	893 03	501 68	445 21	1,377 37	2,787 20	19,245 09
	4,052 79	3,510 27	488 46	465 38	2,193 55	2,130 84	21,143 05
	631 27	3,497 27	198 00	2,354 00	2,897 23		23,761 47
	5,057 23	9,184 90		1,241 85	24,860 09		63,158 31
	1,754 55	4,931 67	4 62	2,064 65	1,550 00		17,344 36
	714 08	381 49	695 61	384 66	250 06		5,340 58
\$3,972 12	104,217 84	54,392 60	45,917 85	22,260 86	59,872 12	211,848 42	561,900 72
	1,367 43	7,394 44	195 71	3,804 33	5,238 66	2,072 23	36,710 16
	9,585 08	6,882 68		20,730 73	5,762 40	29,385 23	87,873 48
	2,610 74	4,450 18	100 63	1,569 13	2,754 97		23,703 32
	4,351 54	2,449 98			10,118 87	2,051 69	29,236 28
	316 54	1,684 37	231 08	2,052 50	835 50	21,082 31	12,831 01
	819 76	2,070 22	4 50	512 87	2,198 99	2,515 99	14,094 99
\$4,282 88	\$151,424 88	\$127,729 85	\$50,055 03	\$65,550 84	\$135,877 72	\$145,228 50	\$1,047,539 82

³ Miscellaneous.

CLASS B. DETAILED OPERATING
PRODUCTION

LOCATION.	NAME OF COMPANY.	OPERA		
		Coal gas operating labor.	Coal carbonized.	Bench fuel.
Baraboo	Baraboo Gas & Electric Co.....	\$1,571 10	\$5,616 76	\$1,534 50
Berlin.....	Berlin Public Service Co.....	1,213 15	4,518 68	1,892 73
Platteville.....	Platteville Gas Co.....	1,402 83	3,559 54	977 17
Portage.....	Portage Amer. Gas Co.....	3,620 40	10,261 35	1,744 39
Ripon.....	Ripon Lt. & W. Co. ¹	1,148 06	1,873 80	1,083 28
Stevens Point....	Stevens Pt. Ltg. Co.....	1,200 00	6,149 75	.....
Waukesha.....	Waukesha Gas & El. Co.....	5,747 96	17,128 20	4,556 58
	Total	\$15,903 50	\$49,108 08	\$11,788 65

PRODUCTION.—WATER GAS

LOCATION.	NAME OF COMPANY.	OPERA			
		Water gas operating labor.	Steam for generating water gas.	Generator fuel.	Enricher.
Antigo	Antigo Gas Co. ²	\$314 12	\$450 00	\$576 32	\$562 02
Beaver Dam.....	Beaver Dam Fuel & Lt. Co. ...	1,287 27	30 00	3,351 97	.....
Burlington.....	Citizens Gas Co.....	780 00	1,186 78	2,011 94	1,342 14
Port Atkinson.....	Pt. Atkinson Gas Co.....	943 75	.....	1,528 10	1,311 59
Hudson.....	St. Croix Gas Co.....	.....	.....	.....	.....
Hurley.....	Hurley Gas Co.....	1,026 76	945 84	2,278 95	1,860 88
Menomonie.....	Menomonie Gas Co.....	694 77	737 02	1,126 25	1,144 38
Monroe.....	Monroe Lt. & Fuel Co.....	792 81	413 27	1,420 83	1,277 07
Rhineland.....	Oneida Gas Co.....	1,102 10	454 47	790 97	366 42
Stoughton.....	Stoughton Lt. & Fuel Co.....	882 75	1,041 74	1,864 88	1,845 02
Wauwatosa.....	Wauwatosa Gas Co.....	.....	.....	.....	.....
West Allis.....	West Allis Gas Co.....	.....	.....	.....	.....
	Total	\$7,824 33	\$5,259 12	\$14,950 21	\$9,709 52

¹ Expenses are for the production of oil gas.² Includes retorts \$686 81.

EXPENSES, YEAR ENDING JUNE 30, 1912.
COAL GAS.

OPERATION.			MAINTENANCE.			Total coal gas production.
Steam.	Misc. coal gas supplies and expenses.	Total operation.	Of coal gas apparatus.	Of coal gas bldgs., fixtures and grounds.	Total maintenance.	
\$1,200 00	\$60 59	\$9,982 95	\$33 60	\$39 30	\$72 90	\$10,055 85
775 14	514 88	8,914 58	28 51	49 25	77 76	8,992 34
920 02	321 32	7,180 88	78 78	27 50	106 28	7,287 16
710 45	441 46	16,778 05	208 58	43 82	252 40	17,030 45
.....	868 52	4,973 66	468 38	73 69	542 07	5,515 73
1,284 40	.....	8,634 15	.....	138 35	138 35	8,772 50
1,409 06	802 05	29,643 85	361 61	86 82	448 43	30,092 28
\$6,299 07	\$3,008 82	\$86,108 12	\$1,179 46	\$458 73	\$1,638 19	\$87,746 31

AND GAS PURCHASED.

OPERATION.		MAINTENANCE.			Total water gas production.	Total gas purchased.
Misc. water gas supplies & expenses.	Total operation.	Of water gas apparatus.	Of water gas bldgs., fix. & grounds.	Total maintenance.		
\$113 50	\$2,015 96	\$36 25	\$25 46	\$61 71	\$2,077 67	.....
232 96	4,902 20	1,417 23	9 47	1,426 70	6,328 90	.....
404 40	5,725 26	132 47	592 43	724 90	6,450 16	.....
276 39	4,059 83	.....	866 09	866 09	4,925 92	.....
.....	.....	.....	.....	.....	.....	\$3,959 08
433 36	6,545 79	241 53	147 47	389 00	6,934 79	.....
138 50	3,840 92	205 08	155 11	360 19	4,201 11	.....
150 83	4,054 81	457 47	11 34	468 81	4,523 62	.....
.....	2,713 96	.....	65 63	65 63	2,779 59	.....
174 13	5,808 52	160 38	38 29	198 67	6,007 19	.....
.....
.....
.....
\$1,924 07	\$39,667 25	\$2,650 41	\$1,911 29	\$4,561 70	\$44,228 95	\$35,419 24

³ Report covers 6 months ending June 30, 1912.

CLASS B. DETAILED

LOCATION.	NAME OF COMPANY.	Total cost of production.	Dis	
			OPERA	
			Distribution system operating labor.	Customers' premises expenses.
Antigo.....	Antigo Gas Co. ¹	\$2,077 67	\$119 24	\$26 35
Baraboo.....	Baraboo Gas & El. Co.....	10,055 85	2 89	156 61
Beaver Dam.....	Beaver Dam Fuel & Lt. Co.....	6,328 90	163 62	404 61
Berlin.....	Berlin Public Service Co.....	8,992 34	221 02	237 43
Burlington.....	Citizens Gas Co.....	6,450 16	322 95	.....
Ft. Atkinson.....	Ft. Atkinson Gas Co.....	4,925 92	129 53	.....
Hudson.....	St. Croix Gas Co.....	3,959 08	483 42	107 82
Hurley.....	Hurley Gas Co.....	6,934 79	155 90	905 08
Menomonie.....	Menomonie Gas Co.....	4,201 11	173 51	284 06
Monroe.....	Monroe Lt. & Fuel Co.....	4,523 62	654 20	1 50
Platteville.....	Platteville Gas Co.....	7,287 16	60	384 75
Portage.....	Portage American Gas Co.....	17,030 45	430 50	679 24
Rhineland.....	Oneida Gas Co.....	2,779 59	.....	.....
Ripon.....	Ripon Lt. & W. Co.....	5,515 73	81 99	56 25
Stevens Point.....	Stevens Pt. Lt. Co.....	8,772 50	780 00	.....
Stoughton.....	Stoughton Lt. & Fuel Co.....	6,007 19	57 67	295 29
Waukesha.....	Waukesha Gas & El. Co.....	30,092 28	664 69	673 95
Wauwatosa.....	Wauwatosa Gas Co.....	11,550 72	.....	.....
West Allis.....	West Allis Gas Co.....	19,909 44	.....	.....
Total.....		\$167,394 50	\$4,441 73	\$4,212 94

LOCATION.	NAME OF COMPANY.	MUNICIPAL CONTRACT LIGHTING.				
		OPERATION.			Total maintenance.	Total municipal contract lighting.
		Operating labor.	Supplies and expenses.	Total operation.		
Antigo.....	Antigo Gas Co. ¹.....	.....	.....	.....	.....	.....
Baraboo.....	Baraboo Gas & Elec. Co.....	.....	.....	.....	.....	.....
Beaver Dam.....	Beaver Dam Fuel & Lt. Co.....	.....	.....	.....	.....	.....
Berlin.....	Berlin Public Service Co.....	.....	.....	.....	.....	.....
Burlington.....	Citizens Gas Co.....	.....	.....	.....	.....	.....
Ft. Atkinson.....	Ft. Atkinson Gas Co.....	.....	.....	.....	.....	.....
Hudson.....	St. Croix Gas Co.....	.....	.....	.....	.....	.....
Hurley.....	Hurley Gas Co.....	.....	.....	.....	.....	.....
Menomonie.....	Menomonie Gas Co.....	.....	.....	.....	.....	.....
Monroe.....	Monroe Lt. & Fuel Co.....	.....	.....	.....	.....	.....
Platteville.....	Platteville Gas Co.....	.....	.....	.....	.....	.....
Portage.....	Portage Amer. Gas Co.....	\$630 11	\$81 18	\$711 29	\$64 07	\$775 36
Rhineland.....	Oneida Gas Co.....	.....	.....	.....	.....	.....
Ripon.....	Ripon Lt. & W. Co.....	.....	.....	.....	.....	.....
Stevens Point.....	Stevens Pt. Lt. & W. Co.....	.....	.....	.....	.....	.....
Stoughton.....	Stoughton Lt. & Fuel Co.....	.....	.....	.....	.....	.....
Waukesha.....	Waukesha Gas & El. Co.....	.....	.....	.....	.....	.....
Wauwatosa.....	Wauwatosa Gas Co.....	.....	.....	.....	.....	.....
West Allis.....	West Allis Gas Co.....	.....	.....	.....	.....	.....
Total.....		\$630 11	\$81 18	\$711 29	\$64 07	\$775 36

¹ Report covers 6 months ending June 30, 1912.

OPERATING EXPENSES, 1912—Continued.

TRIBUTION.						
TION.		MAINTENANCE.			Total maintenance.	Total distribution.
Distribution system supplies and expenses.	Total operation.	Of mains.	Of services.	Of meters.		
\$82 13	\$227 72	\$41 78	\$30 57	\$4 26	\$76 61	\$304 33
8 67	168 17	8 47	19 34	10 50	38 31	206 48
-----	568 23	-----	23 78	24 81	48 59	616 82
160 12	618 57	6 05	7 80	16 95	30 80	649 37
38 34	361 29	63 83	10 40	14 75	88 98	450 27
-----	-----	-----	-----	-----	-----	-----
85 26	214 79	-----	-----	-----	-----	214 79
5 15	596 39	44 17	3 17	1 35	48 69	645 08
75	1,061 73	619 86	320 13	16 20	956 19	2,017 92
15 20	472 77	147 83	28 47	120 97	297 27	770 04
-----	655 70	5 60	5 39	57 37	68 36	724 06
-----	-----	-----	-----	-----	-----	-----
75	385 35	297 29	-----	15 91	313 20	698 55
-----	1,110 49	31 73	121 57	172 21	325 51	1,436 00
-----	-----	-----	-----	-----	-----	-----
57 04	195 28	130 05	77 44	557 44	764 93	960 21
-----	780 00	-----	-----	-----	-----	780 00
-----	-----	-----	-----	-----	-----	-----
10 40	363 36	61 06	13 02	15 18	89 26	452 62
212 29	1,550 93	132 30	523 06	605 62	1,260 98	2,811 91
-----	-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----
\$676 10	\$9,330 77	\$1,590 02	\$1,184 14	\$1,633 52	\$4,407 68	\$13,738 4

COMMERCIAL.			GENERAL.				
Collection expense.	Promotion of business.	Total commercial.	OPERATION.				
			General office salaries.	General office supplies and expenses.	Law expenses—general.	Miscellaneous general expenses.	Total operation.
\$54 75	\$315 52	\$370 27	\$737 76	\$165 00	\$174 12	\$252 21	\$1,329 09
253 11	392 33	645 44	843 05	434 45	-----	35 47	1,312 97
256 99	319 63	576 62	1,128 75	564 55	-----	-----	1,693 30
60 60	35 47	96 07	912 00	284 35	1 60	303 91	1,501 86
-----	15 62	15 62	1,126 50	274 12	-----	8 76	1,409 38
-----	-----	-----	-----	-----	-----	-----	-----
117 77	17 20	134 97	900 00	231 84	-----	125 00	1,256 84
-----	259 99	259 99	618 25	543 68	41 66	243 57	1,447 16
1,013 30	674 76	1,688 06	1,173 25	1,056 11	-----	216 49	2,445 85
202 90	704 60	907 50	1,955 50	643 95	-----	180 46	1,779 91
-----	46 59	46 59	1,380 00	65 60	-----	293 45	1,739 05
-----	-----	-----	-----	-----	-----	-----	-----
189 78	446 31	636 09	676 62	187 75	-----	365 46	1,229 83
473 38	97 53	570 91	1,616 89	535 93	762 19	637 15	3,602 16
-----	-----	-----	2,220 05	363 19	-----	134 93	2,718 17
172 52	461 33	633 85	1,224 07	97 20	-----	79 37	1,400 64
196 80	901 95	1,098 75	1,414 50	484 72	-----	35 18	1,934 40
-----	-----	-----	-----	-----	-----	-----	-----
181 82	517 50	699 32	1,227 00	319 60	1 00	187 06	1,734 66
1,152 23	615 39	1,767 62	1,034 30	566 80	125 02	1,602 17	3,328 29
-----	-----	-----	-----	-----	-----	-----	-----
86 26	-----	86 26	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----	-----	-----
\$4,412 21	\$5,821 72	\$10,233 93	\$19,188 49	\$6,868 84	\$1,105 59	\$4,700 64	\$31,863 56

CLASS B.—DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	GENERAL—Concluded.			
		MAINTENANCE.			Total general.
		Of general office equipment	Of general office buildings fixtures & grounds.	Total maintenance.	
Antigo.....	Antigo Gas Co.....	\$43 78	\$55 75	\$99 53	\$1,428 62
Baraboo.....	Baraboo Gas & El. Co.....	.....	.....	.....	1,312 97
Beaver Dam.....	Beaver Dam Fuel & Lt. Co.....	.....	.....	.....	1,693 30
Berlin.....	Berlin Public Service Co.....	.....	.....	.....	1,501 86
Burlington.....	Citizens Gas Co.....	305 00	.....	305 00	1,714 38
Ft. Atkinson.....	Ft. Atkinson Gas Co.....	.....	.....	.....	1,256 84
Hudson.....	St. Croix Gas Co.....	3 94	.....	3 94	1,451 10
Hurley.....	Hurley Gas Co.....	2 02	.....	2 02	2,447 87
Menomonie.....	Menomonie Gas Co.....	54 00	.....	54 00	1,833 91
Monroe.....	Monroe Lt. & Fuel Co.....	.....	.....	.....	1,739 05
Platteville.....	Platteville Gas Co.....	60 00	180 00	240 00	1,469 83
Portage.....	Portage American G. Co.....	6 24	1 05	7 29	3,609 45
Rhineland.....	Oneida Gas Co.....	.....	.....	.....	2,718 17
Ripon.....	Ripon Lt. & W. Co.....	11 67	6 64	18 31	1,418 95
Stevens Point.....	Stevens Point Ltg. Co.....	.....	.....	.....	1,934 40
Stoughton.....	Stoughton Lt. & Fuel Co.....	2 05	.....	2 05	1,736 71
Waukesha.....	Waukesha Gas & El. Co.....	8 83	6 87	15 70	3,343 99
Wauwatosa.....	Wauwatosa Gas Co.....	.....	.....	.....	.....
West Allis.....	West Allis Gas Co.....	.....	.....	.....	.....
	Total.....	\$497 53	\$250 31	\$747 84	32,611 40

SUMMARY OF

LOCATION.	NAME OF COMPANY.	Total production.	Total distribution.	Total municipal contract lighting.	Total commercial.
Antigo.....	Antigo Gas Co.....	\$2,077 67	\$304 33	.....	\$370 27
Baraboo.....	Baraboo Gas & El. Co.....	10,055 85	206 48	.....	645 44
Beaver Dam.....	Beaver Dam Fuel & Lt. Co.....	6,328 90	616 82	.....	576 62
Berlin.....	Berlin Public Service Co.....	8,992 34	649 37	.....	96 07
Burlington.....	Citizens Gas Co.....	6,450 16	450 27	.....	15 62
Ft. Atkinson.....	Ft. Atkinson Gas Co.....	4,925 92	214 79	.....	134 97
Hudson.....	St. Croix Gas Co.....	3,959 08	645 08	.....	259 99
Hurley.....	Hurley Gas Co.....	6,934 79	2,017 92	.....	1,688 06
Menomonie.....	Menomonie Gas Co.....	4,201 11	770 04	.....	907 50
Monroe.....	Monroe Lt. & Fuel Co.....	4,523 62	724 06	.....	46 59
Platteville.....	Platteville Gas Co.....	7,287 16	698 55	.....	636 09
Portage.....	Portage American G. Co.....	17,030 45	1,436 00	\$775 36	570 91
Rhineland.....	Oneida Gas Co.....	2,779 59	.....	.....	.....
Ripon.....	Ripon Lt. & W. Co.....	5,515 73	960 21	.....	633 85
Stevens Point.....	Stevens Point Ltg. Co.....	8,772 50	780 00	.....	1,098 75
Stoughton.....	Stoughton Lt. & Fuel Co.....	6,007 19	452 62	.....	693 32
Waukesha.....	Waukesha Gas & El. Co.....	30,092 28	2,811 91	.....	1,767 62
Wauwatosa.....	Wauwatosa Gas Co.....	11,550 72	.....	.....	.....
West Allis.....	West Allis Gas Co.....	19,909 44	.....	.....	86 26
	Total.....	\$167,394 50	\$13,738 45	\$775 36	\$10,233 93

¹ Report covers 6 months ending June 30, 1912.

EXPENSES, 1912—Concluded.

UNDISTRIBUTED.

Injuries and damages.	Insurance.	Stationery and printing	Stores department expenses.	Utility equipment expenses.	Total undistributed.
	\$132 26				\$132 26
\$2 50	14 37	\$86 85			103 72
	72 00	78 40			150 40
	100 38	95 30			195 68
	39 00				39 00
61 50	72 30		\$33 04		33 04
	57 50				133 80
	35 00				57 50
					35 00
	28 16	82 27	462 48		572 91
	189 13				189 13
	18 08			\$65 63	83 71
	80 13	31 23		34 52	145 88
	392 88			183 43	576 31
	25 20				25 20
	286 37				286 37
64 00	\$1,542 76	\$374 05	\$495 52	\$283 58	\$2,759 91

OPERATING EXPENSES.

Total general.	Total undistributed.	Total of foregoing.	Depreciation.	Taxes.	Total operating expenses.
\$1,428 62		\$4,180 89		\$372 32	\$4,553 21
1,312 97	132 26	12,353 00		608 00	12,961 00
1,693 30	103 72	9,319 36		314 97	9,634 33
1,501 86	150 40	11,390 04	\$1,737 97	306 00	13,434 01
1,714 38	195 68	8,826 11	1,620 00	256 54	10,702 65
1,256 84	39 00	6,571 52			6,930 04
1,451 10	33 04	6,348 29		358 52	6,348 29
2,447 87	133 80	13,222 44		238 60	13,461 04
1,833 91	57 50	7,770 06		585 13	8,355 19
1,739 05	35 00	7,068 32		212 10	7,280 42
1,460 83	572 91	10,664 54	1,500 00	357 96	12,522 50
3,609 45	189 13	23,611 30	866 83	520 18	24,998 31
2,718 17	83 71	5,581 47	405 57	530 25	6,517 29
1,418 95	145 88	8,674 62	1,136 16	378 50	10,189 28
1,934 40	576 31	13,161 96		619 35	13,781 31
1,736 71	25 20	8,921 04		490 92	9,411 96
3,343 99	286 37	38,302 17	1,889 87	1,313 52	41,505 56
		11,550 72	1,703 64	272 65	13,527 01
		19,995 70	1,704 54	1,038 62	22,738 86
\$32,611 40	\$2,759 91	\$27,513 55	\$12,564 58	\$8,774 13	\$248,352 26

CLASS B. STEAM GENERATION APPORTIONMENT

LOCATION.	NAME OF COMPANY.	OPERATION.				
		Oper- ating labor.	Fuel for steam.	Water for steam.	Misc. steam supplies and ex- penses.	Total opera- tion.
Antigo.....	Antigo Gas Co ¹	\$89 25	\$349 45	\$3 25	\$2 23	\$444 18
Baraboo.....	Baraboo Gas & El. Co.....				1,200 00	1,200 00
Beaver Dam..	Beaver Dam Fuel & Lt. Co.....			30 00		30 00
Berlin.....	Berlin Public Service Co.....	219 00	553 49		2 65	775 14
Burlington...	Citizens Gas Co.....	540 00	646 78			1,186 78
Ft. Atkinson..	Ft. Atkinson Gas Co.....					
Hurley.....	Hurley Gas Co.....	277 09	663 95		4 80	945 84
Menomonee...	Menomonee Gas Co.....	243 54	423 46		70 02	737 02
Monroe.....	Monroe Lt. & Fuel Co.....		413 27			413 27
Platteville...	Platteville Gas Co.....	552 85	285 35	65 64	3 62	907 46
Portage.....	Portage American Gas Co.....	152 00	542 85	10 00		704 85
Rhinelande..	Oneida Gas Co.....					
Ripon.....	Ripon Lt. & W. Co.....					
Stevens Point.	Stevens Pt. Ltg. Co.....					
Stoughton....	Stoughton Lt. & Fuel Co.....	295 75	582 15	12 50	151 34	1,041 74
Waukesha....	Waukesha Gas & El. Co.....					
	Total.....	\$2,369 48	\$4,460 75	\$121 39	\$1,434 66	\$8,386 28

¹ Report covers 6 months ending June 30, 1912.

ACCOUNT, YEAR ENDING JUNE 30, 1912.

MAINTENANCE.			Total cost of steam.	APPORTIONED TO	
Of boilers and boiler aux. equip-ment.	Of boilers plant, bldgs., fix. and gds.	Total mainte-nance.		Gas utility.	Other utilities.
\$4 15	\$1 67	\$5 82	\$450 00	\$450 00	.....
.....	1,200 00	1,200 00	.....
.....	30 00	30 00	.....
.....	775 14	.....	.....
.....	1,186 78	1,186 78	.....
.....
.....	945 84	945 84	.....
.....	737 02	737 02	.....
.....	413 27	413 27	.....
12 56	12 56	920 02	.....	.....
5 60	5 60	710 45	710 45	.....
.....
.....	1,041 74	\$1,041 74	.....
.....
\$22 31	\$1 67	\$23 98	\$8,410 26	\$6,715 10	.....

CLASS A. BALANCE
As

LOCATION.	NAME O COMPANY.	PROPERTY AND PLANT.		Treasury securities.	Stocks, bonds and other investments.	Reserve, sinking, and special fund assets.
		Cost begin-ning of year.	Construc-tion and equip-ment.			
Appleton	Wis. Tr. Ht. Lt. & Pr. Co. . . .	\$635,049 43	\$9,093 73	\$81,162 00	\$15,405 00	\$24,300 00
Ashland	Ash. Lt. Pr & St. Ry. Co. . . .	118,839 14	1,131 73	7,000 00		
Beloit	Beloit W. Gas & Elec. Co. . . .	632,426 16	33,789 92		3,400 00	
Chipp. Falls	Chipp. Val Ry. Lt. & P. Co. . . .	38,154 53	3,047 05			
Eau Claire	Eau Claire Gas Light Co. . . .	486,041 32	12,022 38		400 00	
Fond du Lac	Eastern Wis. Ry. & Lt. Co. . . .	429,446 28	20,589 62	26,065 60	60,605 86	
Green Bay	Green Bay Gas & El. Co. . . .	516,222 19	7,840 44	127,032 00	1,374 65	
Janesville	New Gas Light Co.	522,914 20	3,085 92	21,000 00		
Kenosha	Kenosha Gas & Elec. Co. . . .	451,304 81	6,094 41			28,917 05
La Crosse	La Crosse Gas & El. Co. . . .	553,471 34	7,316 39		135 00	
Madison	Madison Gas & Elec. Co. . . .	693,725 50	71,071 12			
Manitowoc	Manitowoc Gas Co.	471,080 04	5,891 93		2,757 18	
Marinette	Men. & Mar. Lt. & Pr. Co. . . .	75,070 30	938 99			
Milwaukee	Milwaukee Gas Light Co. . . .	13,626,315 68	104,977 26	99,000 00		
Oshkosh	Oshkosh Gas Light Co.	881,523 08	11,564 70		10,537 44	
Racine	Racine Gas Light.	1,736,882 82	14,674 78			
Sheboygan	Sheboygan Gas Lt Co.	443,351 88	8,791 51			
Superior	Superior W. Lt. & Pr. Co. . . .	510,052 58	18,558 29	35,000 00	3,328 96	9,025 88
Watertown	Watertown Gas & El. Co. . . .	268,329 78	6,138 49	50,000 00		
Wausau	Wausau Gas Co.	403,975 42	7,519 42	26,000 00		436 59
	Total	\$23,494,186 48	\$354,138 08	\$472,259 60	\$97,944 09	\$62,679 52

SHEET, JUNE 30, 1912.
SETS.

CURRENT ASSETS.					Prepaid ac- counts.	Open ac- counts.	Deficit.	Total.
Cash.	Notes and bills receiv- able.	Accounts receiv- able.	Material and supplies.	Miscel- laneous current assets.				
\$54 86		\$15,256 85	\$9,489 72		\$330 94			\$790,142 53
206 05		5,111 98	2,596 67		226 30			135,111 87
35,383 31	\$1,770 06	8,991 40	14,236 95		365 99	\$8,494 41		738,868 20
		421 91	516 55		278 49			42,418 53
2,188 06	8 00	7,581 27	11,197 68		57 50			519,496 21
7,274 09	11,646 51	11,059 46	8,213 18	\$954 87	968 63			576,824 10
1,441 02		22,539 74	6,589 71			731 65	\$4,062 27	687,833 67
8,242 69		8,589 93	12,664 97	108 35	87 07			576,693 13
4,538 40	7,986 78	24,203 09	8,003 74	1,737 33		11 1 ²		532,796 74
1,536 44		4,370 10	6,274 57		2,709 05	15,775 57	20,989 06	612,577 52
14,756 26		25,744 74	17,180 54		107 93			822,586 09
			6,152 89	858 70	229 64	15,163 09		502,133 47
608 66	306 21	1,703 52	2,177 31		841 56			81,646 55
526,521 62	157,633 11	203,075 26	198,734 91	12,320 33	5,544 22	17,605 15		14,551,727 54
4,094 70	5,126 57	9,995 17	14,172 00	166 66	1,079 91	189 90		9,845,450 13
27,838 12		30,900 82	55,140 30		207 37	1,981 20		1,867,625 41
5,935 81		9,370 64	11,626 42		3,584 03			482,660 29
2,734 23	160 00	5,749 85	8,582 88	69 00	1,265 16	865 75	22,024 12	617,416 70
299 93		6,688 79	8,804 06					340,261 05
		9,958 30	10,535 72		149 91	25,263 45	16,203 42	500,042 23
\$643,654 25	\$184,637 24	\$411,312 82	\$412,890 77	\$16,215 24	\$18,033 70	\$86,081 30	\$63,278 87	\$26,317,311 96

CLASS A. BALANCE
LIABILI

LOCATION.	NAME OF COMPANY.	CAPITAL LIABILITIES.			Mortgage liabilities.
		Capital stock preferred	Capital stock common.	Funded debt.	
Appleton.....	Wis. Tr. Lt. Ht. & Pr. Co.....		\$270,000 00	\$400,950 00	
Ashland.....	Ashl'd Lt. Pr. & St. Ry Co.....	\$39,000 00		85,000 00	
Beloit.....	Beloit Water Gas & E. Co....	170,000 00	170,000 00	306,000 00	
Chip'wa Falls.	Chip. Val. Ry. Lt. & Pr. Co.....		17,777 78	22,222 22	
Eau Claire.....	Eau Claire Gas Lt. Co.....	28,000 00	184,000 00	250,000 00	
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.....		148,100 00	411,273 70	
Green Bay.....	Green Bay Gas & Elec. Co....	60,300 00	241,200 00	277,782 00	
Janesville.....	New Gas Light Co.....		250,000 00	250,000 00	
Kenosha.....	Kenosha Gas & Elec. Co....	56,000 00	112,000 00	168,000 00	
La Crosse.....	La Crosse Gas & Elec. Co....	60,000 00	135,000 00	360,000 00	
Madison.....	Madison Gas & Elec. Co.....	192,160 00			\$341,677 00
Manitowoc.....	Manitowoc Gas Co.....		200,000 00	241,000 00	1,800 00
Marinette.....	Men. & Mar. Lt. & Tr. Co....		46,480 00	18,367 50	
Milwaukee.....	Milwaukee Gas Lt. Co.....		5,000,000 00	8,111,000 00	
Oshkosh.....	Oshkosh Gas Lt. Co.....		450,000 00	356,000 00	
Racine.....	Racine Gas Lt. Co.....		500,000 00	1,000,000 00	
Sheboygan.....	Sheboygan Gas Lt. Co.....		150,000 00	241,500 00	
Superior.....	Superior Water Lt. & Pr. Co.....	100,000 00	100,000 00	360,000 00	
Watertown.....	Watertown Gas & Elec. Co....		100,000 00	140,000 00	
Wausau.....	Wausau Gas Co.....		200,000 00	194,000 00	
	Total.....	\$705,460 00	\$8,274,557 78	\$13,193,095 42	\$343,477 00

LIABILITIES

LOCATION.	NAME OF COMPANY.	ACCRUED	
		Taxes accrued.	Unmatured interest on funded debt accrued.
Appleton.....	Wis. Tr. Lt. Ht. & Pr. Co.....	\$3,995 64	\$1,221 75
Ashland.....	Ashland Lt. Pr. & St. Ry. Co.....	421 32	105 84
Beloit.....	Beloit Water Gas & Elec. Co.....	1,737 62	5,100 00
Chippewa Falls..	Chip. Val. Ry. Lt. & Pr. Co.....		
Eau Claire.....	Eau Claire Gas Lt. Co.....	1,965 60	3,132 81
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.....	1,179 06	4,079 72
Green Bay.....	Green Bay Gas & Elec. Co.....	1,386 28	1,929 57
Janesville.....	New Gas Light Co.....	1,200 00	954 16
Kenosha.....	Kenosha Gas & Elec. Co.....	3,450 13	875 00
La Crosse.....	La Crosse Gas & Elec. Co.....		5,984 01
Madison.....	Madison Gas & Elec. Co.....	3,184 12	
Manitowoc.....	Manitowoc Gas Co.....	1,500 00	1,004 17
Marinette.....	Men. & Mar. Lt. & Tr. Co.....	367 77	384 96
Milwaukee.....	Milwaukee Gas Light Co.....	100,365 31	52,880 00
Oshkosh.....	Oshkosh Gas Light Co.....	1,319 90	2,933 33
Racine.....	Racine Gas Lt. Co.....	8,274 92	
Sheboygan.....	Sheboygan Gas Lt. Co.....	1,200 00	
Superior.....	Superior W. Lt. & Pr. Co.....		2,545 20
Watertown.....	Watertown Gas & Elec. Co.....	872 38	375 00
Wausau.....	Wausau Gas Co.....	786 51	
	Total.....	\$135,206 56	\$83,505 52

SHEET. 1911—Concluded.
TIES.

RESERVE LIABILITIES.			CURRENT LIABILITIES.				
Depreciation reserve.	Sinking fund reserve.	Special reserves.	Notes and bills payable.	Accounts payable.	Matured int. on funded debt unpaid.	Deposits.	Miscellaneous current liabilities.
\$8,355 42		\$36,075 84		\$2,442 89		\$216 59	
2,000 00	\$851 00		\$2,748 69	2,900 73			
840 00		667 94		4,934 98		609 55	
886 96			11,500 00	1,418 74			\$1,978 50
				1,587 87			
		2,881 45		3,841 69		900 85	38 66
		1,129 86	76,983 00	24,871 81			220 78
9,445 66		389 54		2,469 02			
23,363 48		28,464 17	43,980 69	5,045 75		1,137 00	21 38
14,602 60	9,243 00	830 53	3,540 00	633 88		211 49	1,265 88
38,030 80				7,372 66	\$5,125 10	3,016 92	3,040 44
		1,549 66	20,218 47	742 50			1,374 67
6,392 85		186 76	6,588 08	498 51			
1,170,000 00		43,660 31		91,686 03		86,195 68	10,885 31
		718 50		2,585 41		549 15	
		89,792 86	100,000 00	30,303 95	25,800 00	3,177 58	482 11
		604 90	5,000 00	9,606 92		89 50	5,250 00
37,890 80	9,110 70			6,945 00		925 00	
9,115 74		2,396 10	45,512 50	2,110 88	131 25	85 00	3,000 00
		599 04					87,815 65
\$1,320,924 31	\$19,203 70	\$208,611 58	\$316,071 43	\$201,999 22	\$31,056 35	\$97,114 31	\$115,371 38

Concluded.

LIABILITIES.					
Unmatured interest, notes and bills payable accrued.	Dividends accrued.	Miscellaneous liabilities accrued.	Open accounts.	Surplus.	Total liabilities.
				\$66,884 40	\$790,142 53
				2,085 29	135,111 87
				80,313 99	738,868 20
				112 83	42,418 53
\$40 00				37,291 43	519,496 21
				4,528 97	576,824 10
2,030 37					687,833 67
		\$246 71	\$25 75	61,962 29	576,693 13
	\$1,475 02	284 70	2,302 73	86,396 69	532,796 74
	17,874 98		3,391 15		612,577 52
		4,614 94		224,364 11	822,586 09
		39 62	7,976 94	24,927 44	502,133 47
146 58		5 00		2,228 54	81,646 55
				285,054 90	14,951,727 54
		331 34		124,012 50	938,450 13
			316 04	109,477 95	1,867,625 41
				69,380 94	482,660 29
		28 03			617,416 70
				36,662 20	340,261 05
			16,843 03		500,042 23
\$2,216 95	\$19,350 00	\$5,550 34	\$30,855 64	\$1,215,684 47	\$26,317,311 96

CLASS B. BALANCE
AS

LOCATION.	NAME OF COMPANY.	PROPERTY AND PLANT		Treasury securities.	Reserve, sinking and special fund assets.
		Cost beginning of year.	Construction and equipment current year.		
Antigo.....	Antigo Gas Co. ¹	\$56,179 58	\$1,915 53	\$5,000 00	\$5,000 00
Baraboo.....	Baraboo Gas & Electric Co.....	99,000 00	9,642 04		
Beaver Dam.....	Beaver Dam Fuel & Light Co.....	93,393 51	3,078 14		
Berlin.....	Berlin Public Service Co.....	68,551 14	967 85		
Burlington.....	Citizens Gas Co.....	49,257 15	1,681 82	3,000 00	
Ft. Atkinson.....	Fort Atkinson Gas Co.....	47,137 20	1,558 86	8,600 00	
Hudson.....	St. Croix Gas Co.....	23,923 95	5,752 45		1,365 77
Hurley.....	Hurley Gas Co.....	263,745 27	4,382 42		
Menomonie.....	Menomonie Gas Co.....	176,346 11	4,569 26		
Monroe.....	Monroe Light & Fuel Co.....	48,178 15	1,716 88		
Platteville.....	Platteville Gas Co. ²	47,590 56			
Portage.....	Portage American Gas Co.....	145,753 60	4,252 12	40,000 00	633 35
Rhineland.....	Oneida Gas Co.....	40,242 68	2,129 31		
Ripon.....	Ripon Light & Water Co.....	48,144 50	592 09	199 00	1,791 00
Stevens Point.....	Stevens Point Lighting Co.....	126,167 03	8,074 40		
Stoughton.....	Stoughton Light & Fuel Co.....	182,287 22	904 29		
Waukesha.....	Waukesha Gas & Electric Co.....	202,271 63	31,661 73	160,000 00	2,433 87
Wauwatosa.....	Wauwatosa Gas Co.....	59,366 83	7,113 97		
West Allis.....	West Allis Gas Co.....	60,081 19	7,539 04		
	Total.....	\$1,837,617 30	\$97,532 20	\$216,799 00	\$11,223 99

LIABIL

LOCATION.	NAME OF COMPANY.	CAPITAL LIABILITIES.		RESERVE LIABILITIES.	
		Capital stock.	Funded debt.	Depreciation reserve.	Special reserves.
Antigo.....	Antigo Gas Co. ¹	\$41,950 00	\$30,000 00		
Baraboo.....	Baraboo Gas & Electric Co.....	50,000 00	49,000 00		
Beaver Dam.....	Beaver Dam Fuel & Light Co.....	81,500 00	20,000 00		
Berlin.....	Berlin Public Service Co.....	59,500 00	10,500 00	\$1,737 97	
Burlington.....	Citizens Gas Co.....	36,200 00	15,000 00	5,212 29	
Ft. Atkinson.....	Fort Atkinson Gas Co.....	25,000 00	18,750 00		
Hudson.....	St. Croix Gas Co.....	45,000 00			\$37 98
Hurley.....	Hurley Gas Co.....	150,000 00	135,000 00		
Menomonie.....	Menomonie Gas Co.....	100,000 00	51,956 98		
Monroe.....	Monroe Light & Fuel Co.....	30,000 00			
Platteville.....	Platteville Gas Co. ²	10,000 00	40,000 00		
Portage.....	Portage American Gas Co.....	40,000 00	155,000 00	1,274 41	352 50
Rhineland.....	Oneida Gas Co.....	40,000 00			
Ripon.....	Ripon Light & Water Co.....	15,614 70	20,099 00	4,240 56	
Stevens Point.....	Stevens Point Lighting Co.....	48,000 00	60,000 00		
Stoughton.....	Stoughton Light & Fuel Co.....	85,000 00	100,000 00		
Waukesha.....	Waukesha Gas & Electric Co.....	42,000 00	290,500 00	2,968 85	460 23
Wauwatosa.....	Wauwatosa Gas Co.....	45,000 00		7,130 33	
West Allis.....	West Allis Gas Co.....	25,000 00		6,250 65	
	Total.....	\$969,764 70	\$995,805 98	\$28,815 06	\$850 71

¹ Report covers 6 months ending June 30, 1912.

SHEET, JUNE 30, 1912.

SETS.

CURRENT ASSETS.					Prepaid ac- counts.	Open ac- counts.	Deficit.	Total assets.
Cash.	Notes and bills receivable.	Ac- counts re- ceivable.	Materials and supplies.	Miscel- laneous.				
\$131 40		\$1,685 49	\$1,642 55		\$380 48	\$2,437 54	\$6,496 19	\$78,050 74
1,819 57		2,427 35	4,410 41		11 25			114,354 91
9 69		2,183 02	4,497 45		1,284 32			105,140 23
873 84		4,082 93	1,758 11	\$327 51	61 56			77,493 47
142 98		1,568 75	2,936 59					61,944 38
2,856 29		1,418 40	1,618 96		77 51	8,217 27	127 78	45,358 38
187 02	\$1,540 00	4,150 71	6,581 72		132 88		10,850 41	291,570 43
135 04	4,600 00	2,098 82	1,923 86		325 22		488 35	190,486 66
959 76		1,635 00				757 76		53,247 55
		490 03	1,919 41					50,000 00
1,064 21		3,746 58	5,523 81		24 90	2,197 06		203,195 63
4 45		1,139 61	2,671 95				5,730 56	51,918 56
280 00	43 98	2,137 00	1,902 40			457 41		55,548 28
49 58		1,400 38	1,515 79		172 03		17,760 94	155,140 15
259 59		3,912 34	2,498 87		256 49	1 74	5,994 ^a 00	196,114 58
2,181 73		5,999 90	11,035 70		723 80	8,138 42		424,446 78
5,844 78		3,910 08						76,235 66
16,613 85		3,694 22						87,928 30
\$33,414 68	\$6,183 98	\$47,680 61	\$55,332 43	\$327 51	\$3,450 44	\$22,207 20	\$47,448 27	\$2,379,217 61

LIABILITIES.

CURRENT LIABILITIES.			Accrued liabilities.	Open accounts.	Surplus.	Total liabilities.
Notes and bills payable.	Accounts payable.	Miscel- laneous.				
\$1,750 00	\$3,353 42	\$625 00	\$372 32		\$6,404 15	\$78,050 74
	8,950 76				2,161 06	114,354 91
	1,479 17				\$0 29	105,140 23
	1,293 02	1,750 00			4,217 71	77,493 47
	300 00		112 92			61,042 92
7,000 00	1,719 14				9,475 24	61,944 38
	224 40		96 00			45,358 33
	6,560 44			9 99		291,570 48
35,974 77	2,292 48	193 90		68 53		190,486 66
5,000 00					18,247 55	53,247 55
						50,000 00
4,300 09	942 81		361 50	14 37	949 95	203,195 63
7,978 21	2,101 39			1,838 96		51,918 56
2,066 44		2 00	24 89	38 68	13,462 01	55,548 28
13,511 42	33,628 73					155,140 15
7,400 00	2,242 52		1,472 06			196,114 58
	86,361 20	151 85	977 51		1,027 14	424,446 78
5,499 89	8,188 65	380 00	275 46		9,761 93	76,235 66
30,970 61	1,409 75	1,767 56	1,243 22		21,286 51	87,928 30
\$121,451 43	\$161,047 88	\$4,870 31	\$4,935 88	\$1,970 82	\$89,704 84	\$2,379,217 61

^a Balance sheet of company as taken out of receiver's hands on July, 1912.

GASOLINE AND ACETYLENE PROCESS—

LOCATION.	NAME OF COMPANY.	ASSETS.			
		Cost of plant.	Reserve and sinking fund assets.	Cash, bills, and accounts receivable.	Other current assets.
	<i>Private</i>				
Deerfield.....	Urban Construction Co.....	\$7,500 00	.....	.....	\$30 00
Hortonville.....	Hortonville Lt. Ht. & Pr. Co.	6,550 00	.....	\$252 53	223 05
	Total.....	\$14,050 00.	.....	\$252 53	\$253 05
	<i>Municipal</i>				
	Municipal Gas Plant.....	\$4,500 00	.....	.....	.....
Cambria.....	" " " ".....	9,941 67	.....	.....	\$467 22
Clinton.....	" " " ".....	6,882 30	.....	.....	.....
Fox Lake.....	" " " ".....	4,500 00	.....	.....	.....
Hammond.....	" " " ".....	8,152 00	.....	.....	.....
Hilbert.....	" " " ".....	10,000 00	.....	\$300 00	.....
Horicon.....	" " " ".....	7,850 00	.....	.....	.....
Marion.....	" " " ".....	9,955 00	.....	296 00	.....
Markesan.....	" " " " 1.....	4,100 00	.....	.....	.....
Nekoosa.....	" " " ".....	7,000 00	.....	.....	275 00
Palmyra.....	" " " ".....	.....	.....	.....	.....
Wautoma.....	" " " ".....	.....	.....	.....	.....
	Total.....	\$72,880 97	.....	\$596 00	\$742 22

¹No balance sheet reported.

BALANCE SHEET, JUNE 30, 1912.

Deficit.	Total assets.	LIABILITIES.					Total liabilities.
		Capital stock.	Funded and mortgaged debt.	Current liabilities.	Surplus.		
\$226 58	\$7,756 58	\$7,500 00				\$256 58	\$7,756 58
	7,025 58	6,500 00		\$349 32		176 26	7,025 58
\$226 58	\$14,782 16	\$14,000 00		\$349 32		\$432 84	\$14,782 16
	\$4,500 00		\$1,000 00			\$3,500 00	\$4,500 00
	10,408 89		3,500 00	\$337 92		6,570 97	10,408 89
	6,882 30		3,850 00			3,032 30	6,882 30
	4,500 00		1,000 00			3,500 00	4,500 00
	8,152 00		3,000 00			5,152 00	8,152 00
	10,300 00		2,000 00			8,300 00	10,300 00
	7,850 00		3,900 00			3,950 00	7,850 00
	10,251 00		4,500 00	144 20		5,606 80	10,251 00
	4,100 00					4,100 00	4,100 00
	7,275 00		4,000 00			3,275 00	7,275 00
	\$74,219 19		\$26,750 00	\$482 12		\$46,987 07	\$74,219 19

ALL CLASSES. STATISTICS OF PRODUCTION AND COAL

LOCATION.	NAME OF COMPANY.	Coal gas made during year, cubic feet.	Average daily production, cubic feet.	Kind of coal used.	Coal carbonized, tons.
Antigo.....	Antigo Gas Co. ¹				
Appleton.....	Wis. Tr. L. H. & P. Co.	69,139,000	188,904	Sc. Yough. Gas Coal..	6,621.5
Ashland.....	Ash. L. P. & St. R. Co.				
Baraboo.....	Baraboo Gas & El. Co.	10,773,060	29,516	Yough. Gas.....	1,134.61
Beaver Dam..	Beaver D. Fuel & L. Co.				
Beloit.....	Beloit W. Gas & El. Co.	39,599,000	108,490	Bituminous.....	4,133.17
Berlin.....	Berlin Pub. Service Co.	9,240,000	25,310	Yough.....	1,038
Burlington..	Citizens Gas Co.....				
Chip Falls..	C. F. Ry. Lt. & P. Co.				
Eau Claire..	Eau Claire Gas Lt. Co.	43,580,800	119,399	Yo. Pile Run & Lump	4,164
Fond du Lac..	East. Wis. Ry. & L. Co.	61,756,000	169,194	‡ Yough.....	6,716.43
Ft. Atkinson..	Ft. Atkinson Gas Co.				
Green Bay....	Green Bay Gas & E. Co.	66,684,000	182,000	‡ Yough. Lump.....	7,567.9
Hudson.....	St. Croix Gas Co.....				
Hurley.....	Hurley Gas Co.....				
Janesville...	New Gas Light Co.....				
Kenosha.....	Kenosha Gas & El. Co.				
La Crosse....	La Crosse Gas & El. Co.	87,098,800	237,975	Yough. Lump.....	9,699
Madison.....	Madison Gas & El. Co.				
Manitowoc...	Manitowoc Gas Co.....	46,073,300	125,883	Yough. Pile Run....	4,554.25
Marinette....	Men. & M. Lt. & T. Co.	1,474,500	40,392	‡ Yough. Gas Coal ...	1,048.6
Menomonie...	Menomonie Gas Co.....				
Milwaukee...	Milwaukee Gas Lt. Co.	361,628,000	1,532,300	You. and O. ‡ Lump.	33,858
Monroe.....	Monroe Lt. & Fuel Co.				
Oshkosh.....	Oshkosh Gas Lt. Co.....	98,768,000	269,000	2 Pool Yough. Lump.	9,303.3
Platteville...	Platteville Gas Co.....	7,641,800	20,879		739.6
Portage.....	Portage Amer. Gas Co.	22,167,900	60,700	You. and O. ‡ Lump.	2,303.57
Racine.....	Racine Gas Lt. Co.....	297,086,000	84,710	Yough. ‡ Lump.....	29,695
Rhinelande...	Oneida Gas Co.....				
Ripon.....	Ripon Lt. & Water Co. ²	6,095,600	16,654	Standard Gas Oil....	
Sheboygan...	Sheboygan Gas Lt. Co.	50,155,000	137,411	Yough. Pile Run.....	4,970.5
Stevens Pt. ...	Stevens Pt. Ltg. Co.....	12,584,000	34,000	Yough. Sc'd Lump...	1,187.55
Stoughton...	Stought. Lt. & Fuel Co.				
Superior....	Superior W. L. & P. Co.				
Watertown...	Watertown G. & El. Co.	33,751,000	92,000	You. Gas & Pile Run	3,550
Waukesha...	Waukesha Gas & El. Co.	40,337,500	110,500	You. and O. ‡ Lump.	4,353.14
Wausau.....	Wausau Gas Co.....	29,613,000	81,131	Yough. ‡ Sc. Lump...	3,107.1
Wauwatosa...	Wauwatosa Gas Co.....				
West Allis...	West Allis Gas Co.....				
	Total.....	1396,146,260	174,588		139,745.22

¹ Report covers 6 months ending June 30, 1912.² Includes coal used.

SERVICE DATA, YEAR ENDING JUNE 30, 1912.

GAS.

Yield per lb. of coal, cubic feet.	Average cost per ton coal delivered at plant.	Coke produced per ton of coal carbonized, lbs.	Coke used for bench fuel per ton of coal carbonized.	Coal used for bench fuel per ton of coal carbonized.	Average selling price coke per ton at works.	Tar produced per ton coal carbonized, gallons.	Average selling price tar per gallon at works.	Other residuals per ton coal carbonized, gallons.	Average selling price per unit of such residuals.
5.221	\$3.92	1,354.203	348.026	1.661	\$5.42	14.633	\$0.0306	2.518	\$0.0608
4.75					4.80				
4.79	4.17	1,384	388		5.60	13.7	.0339		
4.54	4.35		900		5.50	12.5	.05		
5.233	4.2152	931	422	62	5.4279	11.89	.0315		
4.64	4.10	900	400		5.50	13	.045		
4.405	3.65	1,300	111	279	4.50	11	.03		
4.49	4.60	1,200	411		5.00	12	.035		
5.05	3.44	1,440	185	573	4.819	11.6	.03094		
4.76	3.34	1,233	2396		3.96	12	.0319		
5.24	2.654	1,400	283.5		5.17	13.4	.0278	6.11	.095
5.30	4.00	1,360	352		5.00	12.5	.0343	4.33	.0713
5.166	4.81	1,099	528		5.66	13.6	.027		
4.8	4.35	1,200	287		6.07	11.5	.031		
5.00	3.00	1,489	336	408	4.45	13.3	.035	3.4	.066
102.00	4.77								
5.05	3.50				5.077		.0274		
5.21	4.85	1,200	900		5.00	11	.025		
4.75	4.15	1,200	484		4.50	12	.03		
4.6	3.957	1,224	434		5.521	13.2	.034	1.6	.085
4.76	4.62	1,200	428		6.12	11	.0409		
4.635	\$3.981	1,173.01	423.862	264.332	\$5.155	12.434	\$0.0331	3.592	\$0.0556

³ Oil gas production.

⁴ Yield per gallon of oil, —omitted from average.

ALL CLASSES. STATISTICS OF PRODUCTION

LOCATION.	NAME OF COMPANY.	WATER			
		Water gas made during the year, cubic feet.	Average daily production,	Gallons of enricher used.	Enricher used per M cubic feet in gallons.
Antigo	Antigo Gas Co. ¹	3,628,100	40,300	16,197	4.46
Appleton	Wisconsin Tr. Lt. Ht. & Pr. Co.	15,287,000	41,768	59,502	3.892
Ashland	Ashland Lt. Pr. & St. Ry. Co.	15,527,400	.....	74,682	4.9
Baraboo	Baraboo Gas & Electric Co. ....	.....	.....	.....	.....
Beaver Dam ..	Beaver Dam Fuel & Light Co.	11,243,270	.....	.....	.....
Beloit	Beloit W. Gas & Elec. Co.	23,057,000	63,169	94,483	4.09
Berlin	Berlin Public Service Co. ....	.....	.....	.....	.....
Burlington ..	Citizen's Gas Co.	9,928,754	27,200	43,782	4.41
Chip. Falls ..	Chip. Falls Ry. Lt. & Power Co.	7,414,000	24,300	43,760	5.9
Eau Claire ..	Eau Claire Gas Lt. Co. ....	.....	.....	.....	.....
Fond du Lac ..	Eastern Wis. Ry. & Lt. Co. ....	.....	.....	.....	.....
Ft. Atkinson ..	Fort Atkinson Gas Co.	6,632,100	17,300	33,787	5.39
Green Bay	Green Bay Gas & Elec. Co. ....	.....	.....	.....	.....
Hudson	St. Croix Gas Co. ....	.....	.....	.....	.....
Hurley	Hurley Gas. Co.	14,551,860	39,868	49,232	3.38
Janesville	New Gas Light Co.	64,443,782	176,076	306,101	4.75
Kenosha	Kenosha Gas & Electric Co.	80,994,100	221,901	339,408	4.19
La Crosse	LaCrosse Gas & Electric Co. ....	.....	.....	.....	.....
Madison	Madison Gas & Electric Co.	187,475,000	513,600	668,822	3.56
Manitowoc	Manitowoc Gas Co. ....	.....	.....	.....	.....
Marinette	Menom. & Marinette Lt. & Tr. Co. ....	.....	.....	.....	.....
Menomonie	Menomonie Gas Co.	6,660,200	18,247	31,617	4.74
Milwaukee	Milwaukee Gas Lt. Co.	50,167,000	1,254,200	220,930	4.48
Monroe	Monroe Lt. & Fuel Co.	7,683,646	22,667	.....	4+
Oshkosh	Oshkosh Gas Light Co. ....	.....	.....	.....	.....
Platteville	Platteville Gas Co. ....	.....	.....	.....	.....
Portage	Portage American Gas Co. ....	.....	.....	.....	.....
Racine	Racine Gas Light Co. ....	.....	.....	.....	.....
Rhineland	Oneida Gas Co.	5,899,429	34,398	23,439	4.
Ripon	Ripon Lt. & Water Co. ....	.....	.....	.....	.....
Sheboygan	Sheboygan Gas Lt. Co. ....	.....	.....	.....	.....
Stevens Point ..	Stevens Point Ltg. Co. ....	.....	.....	.....	.....
Stoughton	Stoughton Lt. & Fuel Co. ²	14,412,000	39,480	63,756	4.42
Superior	Superior W. Light & Power Co. ....	.....	.....	.....	.....
Watertown	Watertown Gas & Electric Co. ....	.....	.....	.....	.....
Waukesha	Waukesha Gas & Electric Co. ....	.....	.....	.....	.....
Wausau	Wausau Gas Co. ....	.....	.....	.....	.....
Wauwatosa	Wauwatosa Gas Co. ....	.....	.....	.....	.....
West Allis	West Allis Gas Co. ....	.....	.....	.....	.....
	Total	525,004,641	168,965	2,069,498	4.41

¹Report covers six months ending June 30, 1912.

AND SERVICE DATA 1912—Continued.

GAS.					PURCHASED GAS.		
Boiler fuel per cubic foot in gallons.	Generator per M cu. ft. of gas produced.	Tar produced per M cu. ft. of gas produced.	Tar produced per M gallons oil used, gallons.	Average selling price of tar per gallon at works.	Total amount of gas purchased during year, cu. ft.	Average amount purchased per day, cu. ft.	Average price per M cu. ft. of gas purchased.
45.87	52.08						
16.087	42.999						
14.	46.	0.08	19.4	\$0.021			
90.9	53.3						
	53.86						
15.7	70.1						
24.99	43.12				4,277,000	12,000	\$0.75
22.34	37.45	.26	53.96	.03165			
25.47	45.87			.02	47,774,640	130,889	.419
13.0	34.86	.214	.60				
20.49	55.04						
37.86	44.48				2,731,826,000	7,464,000	.1592
25+	57+						
.87	.53						
28.55	44.59				72,428,000	197,870	.35
					33,137,200		.60
27.223	45.418	0.185	24.65	0.024	2,889,442,840	1,951,180	\$0.456

*Statistics are for gas sold rather than for gas made.

ALL CLASSES. STATISTICS OF PRODUCTION

LOCATION.	NAME OF COMPANY.	Total gas produced, coal and water gas, cu. ft.	Total gas produced and purchased during year, cu. ft.	Gas delivered to mains, cu. ft.	Gas used by company, cu. ft.
Antigo.....	Antigo Gas Co ¹	3,628,100	3,628,100	3,640,700	.....
Appleton.....	Wis. Tr. Lt. Ht. & Pr. Co.....	84,426,000	84,426,000	84,432,000	436,200
Ashland.....	Ashland Lt. Pr. & St. Ry. Co.....	15,527,400	15,527,400	.....	.....
Baraboo.....	Baraboo Gas & El. Co.....	10,773,060	10,773,060	10,813,830	158,700
Beaver Dam.....	Beaver Dam Fuel & Lt. Co.....	11,243,270	11,243,270	11,243,270	1,044,570
Beloit.....	Beloit W. Gas & El. Co.....	62,656,000	62,656,000	62,591,000	655,700
Berlin.....	Berlin Public Service Co.....	9,240,000	9,240,000	9,241,041	321,400
Burlington.....	Citizens Gas Co.....	9,928,754	9,928,754	9,918,198	129,400
Chip. Falls.....	Chip. Falls Ry. Lt. & Pr. Co.....	7,414,000	7,414,000	7,524,000	.....
Eau Claire.....	Eau Claire Gas Lt. Co.....	43,580,800	43,580,800	43,583,000	.....
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.....	61,756,000	61,756,000	61,757,400	.....
Ft. Atkinson.....	Ft. Atkinson Gas Co.....	6,632,100	6,632,100	6,632,100	50,000
Green Bay.....	Green Bay Gas & El. Co.....	66,684,000	66,684,000	66,737,000	133,000
Hudson.....	St. Croix Gas Co.....	4,277,000	4,277,000	4,277,000	10,000
Hurley.....	Hurley Gas Co.....	14,566,860	14,566,860	14,517,240	.....
Janesville.....	New Gas Light Co.....	64,443,782	64,443,782	64,433,092	728,500
Kenosha.....	Kenosha Gas & El. Co.....	80,994,100	128,768,740	128,768,740	508,000
La Crosse.....	La Crosse Gas & El. Co.....	87,098,800	87,098,800	87,096,700	688,500
Madison.....	Madison Gas & El. Co.....	187,475,000	187,475,000	187,220,000	593,000
Manitowoc.....	Manitowoc Gas Co.....	46,073,300	46,073,300	46,077,200	.....
Marinette.....	Menominee & M. Lt. & Tr Co.....	14,745,000	14,745,000	14,749,620	.....
Menomonie.....	Menomonie Gas Co.....	6,660,200	6,660,200	6,655,700	.....
Milwaukee.....	Milwaukee Gas Lt. Co.....	411,795,000	3,143,621,000	3,143,815,000	26,755,500
Monroe.....	Monroe Lt. & Fuel Co.....	7,585,446	7,585,446	7,585,446	50,000
Oshkosh.....	Oshkosh Gas Lt. Co.....	98,768,000	98,768,000	98,771,000	365,700
Platteville.....	Platteville Gas Co.....	7,641,800	7,641,800	7,630,500	329,100
Portage.....	Portage American Gas Co.....	22,167,900	22,167,900	22,166,900	335,000
Racine.....	Racine Gas Lt. Co.....	297,086,000	297,086,000	296,864,000	3,800,200
Rhineland.....	Oneida Gas Co.....	5,899,429	5,899,429	5,889,340	142,600
Ripon.....	Ripon Lt. & Water Co.....	6,095,600	6,095,600	6,095,600	20,458
Sheboygan.....	Sheboygan Gas Lt. Co.....	50,155,000	50,155,000	50,117,000	995,100
Stevens Point.....	Stevens Pt. Ltg. Co.....	12,584,000	12,584,000	12,588,000	68,000
Stoughton.....	Stoughton Lt. & Fuel Co.....	.....	72,428,000	72,423,000	.....
Superior.....	Superior W. Lt. & Pr. Co.....	.....	33,751,000	33,733,000	655,000
Watertown.....	Watertown Gas & El. Co.....	33,751,000	33,751,000	33,733,000	655,000
Waukesha.....	Waukesha Gas & El. Co.....	40,337,500	40,337,500	40,328,600	272,400
Wausau.....	Wausau Gas Co.....	29,613,000	29,613,000	29,612,100	703,400
Wauwatosa.....	Wauwatosa Gas Co.....	.....	19,191,200	19,191,200	.....
West Allis.....	West Allis Gas Co.....	.....	33,137,200	33,137,200	.....
	Total.....	1,919,026,201	4,827,660,241	4,811,856,717	39,549,428

¹ Report covers 6 months ending June 30, 1912.² Includes gas used by company.

AND SERVICE DATA, 1911—Concluded.

Gas transferred, cu. ft.	Gas sold for all other purposes, cu. ft.	GAS UNACCOUNTED FOR.		Average amount sold per day, cu. ft.	Total number of consumers.	Total number service connections, (main to place of use.)
		Cu. ft.	Per cent total delivered to mains.			
.....	2,665,100	975,600	26.81	14,643	245	245
.....	73,094,400	10,901,400	13.00	200,258	4,600	3,807
.....	13,434,400	.....	.....	.....	923	760
.....	9,474,300	1,339,530	12.36	25,956	588	560
.....	10,198,700	.....	.....	27,941	630	637
.....	53,814,700	8,520,600	13.6	147,437	2,199	2,329
.....	8,780,800	138,841	1.27	24,057	658	480
.....	9,439,700	349,078	3.53	25,862	596	576
.....	26,971,700	552,300	7.34	19,100	733	.....
.....	240,076,500	3,506,500	8.0454	2109,798	2,773	3,182
.....	54,428,200	7,329,200	11.87	149,118	2,922	3,532
.....	6,037,800	569,300	8.59	16,541	263	293
.....	53,730,000	12,874,000	19.29	147,205	3,466	.....
.....	4,131,000	136,000	8.41	11,317	231	231
.....	10,348,700	4,168,500	28.61	28,352	.....	.....
.....	60,767,700	2,936,892	4.56	166,486	2,783	2,475
.....	112,649,800	15,610,940	12.15	308,629	3,666	3,218
.....	79,324,400	7,083,800	8.13	217,327	3,640	942
.....	177,900	23,581,700	12.57	446,212	5,510	4,817
.....	41,653,500	4,423,700	10.31	114,119	2,101	2,472
.....	12,452,400	2,297,220	15.6	34,116	654	581
.....	6,460,200	195,500	2.92	17,699	457	386
.....	3,032,445,200	84,614,300	2.70	8,308,069	82,730	56,764
.....	48,200	98,000	1.29	20,782	576	571
.....	90,779,600	7,625,700	7.72	248,711	6,337	3,956
.....	5,560,500	1,740,900	13.25	15,234	307	298
.....	21,174,000	657,900	3.0	58,011	1,184	1,120
.....	270,261,140	22,802,660	7.68	740,341	11,316	7,345
.....	5,733,900	12,840	.21	15,709	347	337
.....	4,776,842	1,298,300	21.3	13,087	460	504
.....	70,900	44,429,100	9.41	121,723	3,205	2,870
.....	10,800,000	1,720,000	17.20	29,589	945	700
.....	267,260,000	5,173,000	7.14	184,274	3,351	2,249
.....	27,732,000	5,346,000	15.83	75,978	1,581	1,564
.....	36,106,700	3,949,500	9.74	98,922	1,767	1,767
.....	25,257,200	3,651,500	12.4	69,197	1,593	1,354
.....	19,191,200	.....	.....	52,578	632	617
.....	33,137,200	.....	.....	90,787	1,058	888
297,000	4,535,031,428	250,884,101	5.28	12,395,265	157,790	115,142

*In cludes gas used by company. Transferred credit.

ALL CLASSES. GAS DISTRIBUTION

Italic figures denote decreases.

LOCATION.	NAME OF COMPANY.	SIZE OF MAIN					
		1" and less.	1 1/2"	1 3/4"	2"	2 1/2"	3"
Antigo.....	Antigo Gas Co.....				11,570		
Appleton.....	Wis. Tr. Lt. Ht. & Pr. Co.	2,857	2,011	2,732	62,555		4,600
Ashland.....	Ashl. Lt. Pr. & St. Ry. Co.				54,146		10,038
Baraboo.....	Baraboo Gas & Elec. Co.				8,673		17,363
Beaver Dam.....	Beaver D. Fuel & Lt. Co.				6,750	13,192	17,134
Beloit.....	Beloit W. Gas & El. Co.	1,106	658.5	2,074.5	83,760.2		12,201
Berlin.....	Berlin Public Service Co.		408	352	26,655		7,150
Burlington.....	Citizens Gas Co.	426	19,723	19,899	8,466	3,544	
Chip. Falls.....	Ch. Falls Ry. Lt. & P. Co.	395	3,781	3,143	21,810		9,714
Eau Claire.....	Eau Claire Gas Lt. Co.		14,024	6,283	49,992	2111	64,126
Fond du Lac.....	East. Wis. Ry. & Lt. Co.		778	1,836	16,915		51,413
Ft. Atkinson.....	Fort Atkinson Gas Co.						
Green Bay.....	Green Bay G. & El. Co.	2,855	11,335		43,295		63,495
Hudson.....	St. Croix Gas Co.				23,688		10,889
Hurley.....	Hurley Gas Co.				14,375		9,050
Janesville.....	New Gas Light Co.				35,351		17,096
Kenosha.....	Kenosha Gas & El. Co.				11,264		1,890
La Crosse.....	La Crosse Gas & El. Co.	1,800	2,800	2,692	72,021	21,600	94,505
Madison.....	Madison Gas & El. Co.				152,702	2,292	5,743
Manitowoc.....	Manitowoc Gas Co.	5340	5,247	5,998	36,316	340	13,117 1/2
Marinette.....	Men. & Mar. Lt. & Tr. Co.				15,095		26,709
Menomonie.....	Menomonte Gas Co.	1,226		26,085	5,036	3,960	1,890
Milwaukee.....	Milwaukee Gas Lt. Co.		163	610	3,916		100,601
Monroe.....	Monroe Light & Fuel Co.				24,511		14,232
Oshkosh.....	Oshkosh Gas Light Co.				8,926.8		32,757.84
Platteville.....	Platteville Gas Co.				1,965		11,927
Portage.....	Portage American G. Co.						
Racine.....	Racine Gas Light Co.				4,164		58,627
Rhineland.....	Oneida Gas Co.			200	15,585	6,890	9,500
Ripon.....	Ripon Lt. & Water Co.	13,355	2,962	9,581	22,840		2,772
Sheboygan.....	Sheboygan Gas Lt. Co.	6,450			30,870	1,638	8,545
Stevens Point.....	Stevens Point Ltg. Co.		5,325	4,065	8,726	1,425	7,350
Stoughton.....	Stoughton Lt. & Fuel Co.	6,684 1/2		684	35,372		7,872
Superior.....	Superior W. Lt. & P. Co.			531	23,633		12,995
Watertown.....	Watertown G. & El. Co.						
Waukesha.....	Waukesha Gas & El. Co.			1,040	2,949	330	6,868
Wausau.....	Wausau Gas Co.	9,188			50,246		9,395
Wauwatosa.....	Wauwatosa Gas Co.				595		
West Allis.....	West Allis Gas Co.				4,134		
	Total.....	45,682	60,215.5	87,805.5	998,868	35,322	719,675.09

1 Includes 5,015' of 20" pipe.

2 5" pipe.

3 Includes 2 1/2" pipe.

4 4' and 6' uncompleted pipe.

UTION SYSTEM DATA—JUNE 30, 1912.
INS.

PIPE (FEET).						TOTAL LENGTH OF MAIN PIPE.			
4"	6"	8"	10"	12"	16"	In feet.	In miles and feet.		Total increase since June 30, 1911, in feet.
							Miles.	Feet.	
4,170						15,740	2	5,180	
157,172	34,216	4,758				270,901	51	1,721	13,839
3,828	2,635	385	760	1,715	16,403	79,858	15	658	1,340
13,200	941	400	200			40,777	7	3,817	6,000
14,090	2,815	271				54,252	10	1,452	3,323
41,491.9	16,390	1,993				159,675.1	30	1,275.1	3,660.2
5,575		150				40,290	7	3,330	412
						52,058	9	4,538	1,958
4,393	2,711					45,230	8	2,990	1,010
49,073	3,151	3,152	1,186	928		191,915	36	1,835	2,520
94,374.5	21,833		11,860			199,009.5	37	3,649.5	8,602.5
56,290	26,938	11,335	1,600	2,000	370	219,513	41	3,033	8,529
						34,577	6	2,897	955
9,375	5,770	3,450		75		42,095	7	5,135	300
85,066	20,203	2,738		130		163,096	30	4,696	663
136,750	31,190		6,951			186,155	35	1,355	8,487
39,094	24,892	1,700	1,600	1,200		242,904	46	24	28,354
91,124	44,576	946	9,101	6,203	2,429	315,116	57	4,156	47,628
72,209	9,880	3,168	2,542			149,157.25	28	1,317.25	4,327.4
16,156	10,290	1,416				69,666	13	1,026	926
4,620	4,950	165				47,932	9	412	504
1,579,972	361,550	20,840	156,572	82,514	732,378	2,339,116	443	76	77,762
10,784	450	500				50,477	9	2,957	2,600
121,467.4	30,886	10,032	5,016			209,086.04	39	3,166.04	7,805
9,240	1,860	2,660				27,652	5	2,371	2,711
217,659	88,483		7,894	6,237	82,896	385,960	73	520	13,561
5,425	1,188	400	2125			39,313	7	2,353	1,521
5,688	1,126					58,324	11	244	491
95,160	29,684	525	4,650	250	24	177,796	35	3,556	8,688
28,641	2,100					57,632	10	4,832	1,091
7,744	1,856	768		192		61,172.5	11	3,092.5	1,821
59,461	37,227	9,591	7,120			150,558	28	2,718	14,957
						99,660	18	4,620	1,033
89,926	17,181	5,239	823	252		124,608	23	3,168	
46,838	7,923					123,590	23	2,150	5,110
38,215	2,806	5,071	15,115			61,802	11	3,722	4,815
45,868	10,958	3,100	6,160			70,220	13	1,580	9,134
3,260,139.8	858,659	94,703	229,405	104,078	44,500	6,656,883.39	1,261	582.39	295,429.95

* 3 1/2" pipe.
 † Includes 660' of 5" pipe.
 ‡ Includes 5,075' of 20" and 3,461' of 24".
 § Includes 247' of 24" pipe.

ALL CLASSES. GAS DISTRIBUTION

Italic figures denote decreases.

ME

LOCATION.	NAME OF COMPANY.	SIZE OF METERS—						
		3 and less.	5	10	20	30	45	60
Antigo.....	Antigo Gas Co.....	3	232	9	.....	1	.....	.....
Appleton.....	Wis. Tr. Lt. Ht. & Power Co.	1,085	3,422	77	12	3	.....	1
Ashland.....	Ashland Lt. Pr. & St. Ry. Co.	923	.....	.....	.....	.....	.....	.....
Baraboo.....	Baraboo Gas & Elec. Co.....	447	185	5	1	.....	.....	.....
Beaver Dam.....	Beaver Dam Fuel & Lt. Co.....	.....	611	13	5	.....	.....	1
Beloit.....	Beloit W. Gas & Elec. Co.....	96	2,046	32	9	12	.....	2
Berlin.....	Berlin Public Service Co.....	.....	655	3	.....	.....	.....	.....
Burlington.....	Citizen's Gas Co.....	.....	585	5	.....	.....	.....	.....
Chip'wa Falls.	Chip. Falls Ry. Lt. & Pr. Co.	383	322	15	10	1	1	1
Eau Claire.....	Eau Claire Gas Lt. Co.....	1,105	1,593	53	17	.....	3	.....
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.	282	2,573	28	25	8	2	1
Ft. Atkinson.....	Ft. Atkinson Gas Co.....	21	233	4	2	1	.....	2
Green Bay.....	Green Bay Gas & Elec. Co.....	2,075	1,322	49	16	1	3	.....
Hudson.....	St. Croix Gas Co.....	.....	.....	231	.....	.....	.....	.....
Hurley.....	Hurley Gas Co.....	100	375	34	5	.....	1	.....
Janesville.....	New Gas Light Co.....	461	1,592	41	20	9	9	.....
Kenosha.....	Kenosha Gas & Elec. Co.....	79	3,522	28	14	8	4	1
La Crosse.....	La Crosse Gas & Elec. Co.....	622	2,955	35	19	3	4	1
Madison.....	Madison Gas & Elec. Co.....	1,094	4,206	106	34	29	22	10
Manitowoc.....	Manitowoc Gas Co.....	805	1,224	43	10	2	13	2
Marinette.....	Men. & Mari. Lt. & Tr. Co.....	162	467	17	5	1	1	1
Menomonie.....	Menomonie Gas Co.....	322	126	5	4	.....	.....	.....
Milwaukee.....	Milwaukee Gas Lt. Co.....	1,386	76,236	2,352	821	448	352	238
Monroe.....	Monroe Lt. & Fuel Co.....	1	561	30	9	3	1	.....
Oshkosh.....	Oshkosh Gas Light Co.....	471	5,766	46	17	19	9	4
Platteville.....	Platteville Gas Co.....	9	252	9	1	.....	.....	.....
Portage.....	Portage American Gas Co.....	245	925	7	1	6	.....	.....
Racine.....	Racine Gas Lt. Co.....	3,190	7,784	107	61	83	27	26
Rhineland.....	Oneida Gas Co.....	.....	.....	.....	.....	.....	.....	.....
Ripon.....	Ripon Lt. & W. Co.....	444	5	8	2	1	.....	.....
Sheboygan.....	Sheboygan Gas Lt. Co.....	488	2,589	100	15	.....	11	.....
Stevens Point.	Stevens Pt. Ltg. Co.....	750	177	13	5	.....	.....	.....
Stoughton.....	Stoughton Lt. & Fuel Co.....	142	579	26	2	6	8	.....
Superior.....	Superior W. Lt. & Pr. Co.....	763	2,498	47	10	14	4	9
Watertown.....	Watertown Gas & Elec. Co.....	863	663	40	11	.....	.....	3
Waukesha.....	Waukesha Gas & El. Co.....	287	1,415	42	14	1	3	.....
Wausau.....	Wausau Gas Co.....	164	1,353	42	23	10	.....	1
Wauwatosa.....	Wauwatosa Gas Co.....	.....	600	23	3	.....	3	1
West Allis.....	West Allis Gas Co.....	.....	1,025	16	6	2	.....	2
Total.....		19,278	130,624	3,741	1,209	672	481	307

¹Includes 267 "5 C" meters.

SYSTEM DATA, 1912—Concluded.

TERS.

LAMP CAPACITY.							Total number of meters.	Total lamp meter capacity.	Increase in number of meters since June 30, 1911.	Increase in lamp meter capacity since June 30, 1911.
80	5a	100	150	200	250	300				
.....							245	1,289	26	262
.....							4,600	21,525	643	1,964
.....							923	2,769	.....	.....
.....							588	2,086	22	636
.....							630	3,345	122	435
.....		1	1				2,199	11,748	263	1,371
.....							658	3,305	19	95
.....							590	2,975	38	255
.....							733	3,244	41	818
.....	2						2,773	12,445	68	363
.....		2					2,922	15,081	112	1,042
.....							263	1,458	30	150
.....							3,466	13,810	47	481
.....							231	2,310	34	.....
.....							515	2,660	84	461
.....	1650	1					2,783	10,928	40	2,958
.....		4	3	2	1		3,666	20,387	1,197	4,200
.....		1					3,640	17,801	173	616
.....		7	1				5,510	29,362	416	2,138
.....					2		2,101	10,430	73	385
.....							654	3,226	40	239
.....							457	1,726	39	279
.....	84	256	68	18	24	1	82,098	491,038	261	4,191
.....							605	3,423	78	390
.....		3				2	6,337	33,158	156	120
.....							271	1,599	39	.....
.....							1,184	5,630	40	270
.....	4		32		2		11,316	59,965	423	467
.....							347	1,507	82	325
.....							460	16,384	7	14,897
.....	1		1				3,205	16,384	214	1,438
.....							945	3,365	39	.....
.....							763	4,161	87	878
.....		5	1				3,351	17,419	225	600
.....	1						1,581	6,784	293	773
.....		4				1	1,767	9,501	36	249
.....							1,593	8,497	123	1,311
.....	1		1				632	3,715	55	330
.....	1	23	1	1	1		1,058	6,115	132	780
94	709	130	26	29	4	6	157,660	882,555	281	24,243

²Equitable No. 6 lamps.

ALL CLASSES. RATIO OF OPERATING EXPENSES
(Excluding Gasoline)

LOCATION.	NAME OF COMPANY.	PERCENT			
		Production.	Distribution.	Municipal contract lighting.	Commercial.
Antigo	Antigo Gas Co.	45.59	6.77	.....	8.12
Appleton.....	Wis. Tr. Lt. Ht. & Pr. Co.	54.64	8.01	.....	4.75
Ashland.....	Ashland Lt. Pr. & St. Ry. Co.	59.76	5.86	.....	4.26
Baraboo.....	Baraboo Gas & El. Co.	77.58	1.59	.....	4.98
Beaver Dam..	Beaver Dam Fuel & Lt. Co.	65.69	6.40	.....	5.98
Beloit	Beloit W. Gas & El. Co.	67.28	9.61	.....	1.60
Berlin.....	Berlin Public Service Co.	66.94	4.83	.....	.71
Burlington...	Citizens Gas Co.	60.27	4.21	.....	.14
Chip. Falls...	Chip. Falls Ry. Lt. & Pr. Co.	53.51	7.88	.....	.82
Eau Claire...	Eau Claire Gas Lt. Co.	66.52	6.72	.....	4.30
Fond du Lac..	Eastern Wis. Ry. & Lt. Co.	70.18	9.53	.....	4.47
Ft. Atkinson..	Ft. Atkinson Gas Co.	71.08	3.10	.....	1.95
Green Bay....	Green Bay Gas & El. Co.	67.34	10.91	.....	4.54
Hudson	St. Croix Gas Co.	62.38	10.16	.....	4.08
Hurley	Hurley Gas Co.	51.52	14.99	.....	12.54
Janesville ...	New Gas Light Co.	48.12	8.85	.....	19.83
Kenosha.....	Kenosha Gas. & El. Co.	57.18	11.16	.....	9.02
La Crosse....	La Crosse Gas & El. Co.	74.71	2.70	.....	1.47
Madison	Madison Gas & El. Co.	51.13	16.48	.....	7.53
Manitowoc....	Manitowoc Gas Co.	66.19	2.90	.....	1.32
Marinette....	Menom. & Mar'n'te Lt.&Tr.Co.	61.42	4.93	.....	7.52
Menomonie...	Menomonie Gas Co.	50.28	9.22	.....	10.86
Milwaukee....	Milw. Gas Lt. Co.	45.73	13.89	.41	9.64
Monroe	Monroe Lt. & Fuel Co.	62.13	9.95	.....	.64
Oshkosh	Oshkosh Gas Lt. Co.	69.87	4.36	.....	2.35
Platteville...	Platteville Gas Co.	58.19	5.58	.....	5.08
Portage.....	P. American Gas Co.	68.13	5.74	3.10	2.28
Racine	Racine Gas Lt. Co.	67.79	8.88	.....	6.04
Rhinelanders.	Oneida Gas Co.	42.64	.....	.....	.....
Ripon	Ripon Lt. & Water Co.	54.14	9.42	.....	6.22
Sheboygan ...	Sheboygan Gas Lt. Co.	61.09	6.60	.....	7.19
Stevens Pt. ...	Stevens Pt. Ltg. Co.	63.66	5.66	.....	7.97
Stoughton ...	Stoughton Lt. & Fuel Co.	63.82	4.81	.....	7.43
Superior	Superior W. Lt. & Pr. Co.	50.95	13.92	.....	11.87
Watertown ...	Watertown Gas & El. Co.	64.79	4.29	2.27	5.05
Waukesha ...	Waukesha Gas & El. Co.	72.51	6.77	.....	4.26
Wausau.....	Wausau Gas Co.	69.91	7.27	.....	3.62
Wauwatosa ...	Wauwatosa Gas Co.	85.40	.....	.....	.....
West Allis ...	West Allis Gas Co.	87.56	.....	.....	.37
	Total.....	54.92	10.97	.25	7.55

AND EARNINGS, YEAR ENDING JUNE 30, 1912.
and Carbide Process.)

DIVISION OF OPERATING EXPENSES.						Percentage of operating expenses to total operating revenues.
General.	Undis-tributed.	Total of foregoing.	Deprecia-tion.	Taxes.	Total operating expenses.	
31.35	.....	91.83	.....	8.17	100.00	139.64
7.57	5.24	80.21	14.15	5.64	100.00	74.79
22.47	2.09	94.44	.....	5.56	100.00	80.56
10.13	1.03	95.31	.....	4.69	100.00	93.28
17.58	1.08	96.73	.....	3.27	100.00	67.50
13.05	.70	92.24	1.48	6.28	100.00	68.48
11.18	1.12	84.7	12.94	2.28	100.00	86.16
16.01	1.83	82.4	15.14	2.40	100.00	74.24
10.64	1.99	74.8a	13.26	11.00	100.00	84.60
12.14	1.00	90.68	.....	9.32	100.00	65.38
9.53	2.03	95.74	.....	4.26	100.00	75.10
18.14	.56	94.83	.....	5.17	100.00	85.06
9.61	2.88	95.28	.....	4.72	100.00	83.81
22.86	.52	100.00	.....	.....	100.00	99.37
18.19	.99	98.23	.....	1.77	100.00	100.04
9.30	1.67	87.77	5.99	6.24	100.00	66.82
7.69	3.37	88.42	8.17	3.41	100.00	78.33
4.97	2.70	86.55	7.60	5.85	100.00	80.01
10.62	.....	85.76	8.99	5.25	100.00	70.39
19.56	2.50	92.47	.21	7.32	100.00	72.75
5.07	3.64	82.58	9.12	8.30	100.00	84.56
21.95	.69	93.00	.....	7.00	100.00	92.71
5.14	.....	74.81	12.32	12.87	100.00	63.34
23.89	.48	97.09	.....	2.91	100.00	68.34
14.55	4.50	95.63	.....	4.37	100.00	73.59
11.74	4.57	85.16	11.98	2.86	100.00	105.39
14.44	.76	94.45	3.47	2.08	100.00	70.71
6.00	3.30	92.01	.60	7.29	100.00	69.87
41.73	1.28	85.65	6.21	8.14	100.00	85.57
13.93	1.43	85.14	11.15	3.71	100.00	89.42
13.82	2.31	91.01	.....	8.99	100.00	68.29
14.04	4.18	95.51	.....	4.49	100.00	87.56
18.45	.27	94.78	.....	5.22	100.00	57.49
7.30	.....	84.04	10.90	5.06	100.00	75.41
7.83	3.51	87.74	9.71	2.55	100.00	86.12
8.06	.69	92.29	4.55	3.16	100.00	73.57
12:07	1.23	94.10	.....	5.90	100.0	82.10
.....	.....	85.40	12.59	2.01	100.00	78.98
.....	.....	87.93	7.50	4.57	100.00	77.89
7.68	1.16	82.53	8.33	9.14	100.00	68.66

Financial and Operating Statistics

CLASS A. INCOME ACCOUNT.

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	OPERATING ACCOUNT.			Non-operating revenue.	Gross income.
		Total revenue.	Total expenses.	Net revenue.		
	<i>Private.</i>					
Ashland.....	Ashland Water Co.....	\$54,361 98	\$36,319 40	\$18,042 58	\$489 53	\$18,532 11
Beloit.....	Beloit W. Gas & El. Co....	46,545 39	24,022 01	22,523 38	123 92	22,647 30
Chipp. Falls.....	Chipp. Val. Ry. Lt. & Pr. Co.	29,709 57	17,046 13	12,663 44	130 95	12,794 39
Green Bay.....	Green Bay W. Co.....	71,665 58	39,445 37	32,220 21	.....	32,220 21
Janesville.....	Janesville W. Co.....	46,405 76	24,623 16	21,782 60	53 46	21,836 06
Marinette.....	City Water Co.....	47,235 32	24,880 22	22,355 10	166 62	22,521 72
Merrill.....	City W. Wks. Co.....	24,173 23	16,715 57	7,457 66	20 91	7,436 75
Oshkosh.....	Oshkosh W. Wks. Co.....	78,400 40	38,242 17	40,158 23	691 34	40,849 57
Racine.....	Racine Water Co.....	124,017 87	57,729 44	66,288 43	10,586 27	76,874 70
Superior.....	Superior W. Lt. & Pr. Co..	112,679 05	54,542 35	58,136 70	1,669 29	59,805 99
	Total.....	\$635,194 15	\$333,565 82	\$301,628 33	\$13,890 47	\$315,518 80
	<i>Municipal.</i>					
Appleton.....	Mun. Wat. Wrks Plant ⁽¹⁾	\$15,603 30	\$11,360 13	\$4,243 17	.....	\$4,243 17
Eau Claire.....	" " " " (2)	26,980 93	12,381 08	14,599 85	.....	14,599 85
Fond du Lac.....	" " " " (3)	49,289 72	23,597 35	25,692 37	\$11 65	25,704 02
Kenosha.....	" " " " (4)	43,818 83	20,906 78	22,912 05	120 05	22,792 00
La Crosse.....	" " " " (5)	41,843 09	23,093 07	18,750 02	368 24	19,118 26
Madison.....	" " " " (6)	54,429 80	42,717 84	11,711 96	1,181 29	12,893 25
Manitowoc.....	" " " " (7)	19,257 14	10,522 63	8,734 51	1,570 28	10,304 79
Milwaukee.....	" " " " (8)	991,848 79	309,174 37	682,674 42	7,425 88	690,100 30
Sheboygan.....	" " " " (9)	88,194 28	35,178 83	53,015 45	2,944 62	55,960 07
Watertown.....	" " " " (10)	21,457 71	11,386 60	10,071 11	.....	10,071 11
Waukesha.....	" " " " (11)	23,649 72	24,200 48	550 76	61 89	488 87
Wausau.....	" " " " (12)	30,501 03	13,962 84	16,538 19	.....	16,538 19
	Total.....	1,406,874 34	\$538,482 00	\$868,392 34	\$13,443 80	\$881,836 14

¹Report covers 7 months ending June 30, 1912.²No interest on funded debt reported; this amount paid by city.³Plant operated under private management by the Fond du Lac W. Co. from June 30, 1911, to Dec. 1, 1911.

of Public Utilities.—D. Water.

YEAR ENDING JUNE 30, 1912.

DEDUCTION FROM GROSS INCOME.				Net income.	DISPOSITION OF NET INCOME.			Surplus.
Interest on funded debt and real estate mortgages.	Interest on floating debt.	Miscellaneous deductions.	Total.		Dividends.	Other payments from net income.	Total.	
\$13,380 00	\$211 40		\$13,591 40	\$4,940 71	\$7,500 00		\$7,500 00	\$2,559 29
12,415 75	6,309 13		18,724 88	3,922 42	4,239 58		4,239 58	317 16
8,146 69			8,146 69	4,647 70	9,333 33		9,333 33	4,685 63
24,000 00	2,758 50		26,758 50	5,461 71	6,069 00		6,069 00	607 29
8,712 50			8,712 50	13,123 56	14,000 00		14,000 00	876 44
18,200 00	1,044 09	\$333 33	19,577 42	2,944 30				2,944 30
9,950 00	1,099 87	250 00	11,299 87	3,863 12				3,863 12
21,100 00	275 65		21,375 65	19,473 92	4,740 00		4,740 00	14,733 92
49,260 00	3,390 14	23,370 00	76,020 14	854 56	4,000 00		4,000 00	3,145 44
39,442 48		8,348 85	47,791 33	12,014 66	10,343 00		10,343 00	1,671 66
\$204,607 42	\$15,088 78	\$32,302 18	\$251,998 38	\$63,520 42	\$60,224 91		\$60,224 91	\$3,295 51
\$4,621 88			\$4,621 88	\$378 71				\$378 71
(²)				14,599 85				14,599 85
11,315 66		\$4,850 09	16,165 75	9,538 27		\$3,760 75	\$3,760 75	5,777 52
				22,792 00				22,792 00
11,126 66			11,126 66	7,991 60		8,858 98	8,858 98	867 38
				12,893 25				12,893 25
3,067 66			3,067 66	7,237 13				7,237 13
2,750 00			2,750 00	687,350 30		687,350 30	687,350 30	
14,266 66		249 47	14,516 13	41,443 94				41,443 94
		5,427 77	5,427 77	4,643 34				4,643 34
1,637 50		1,200 00	2,837 50	3,326 37				3,326 37
	\$523 00		523 00	16,015 19				16,015 19
\$48,786 02	\$523 00	\$11,727 33	\$61,036 35	\$20,799 79		\$699,970 03	\$699,970 03	\$120,829 76

⁴ Report covers 9 months ending June 30, 1912.

⁵ Includes item \$487,350.30, transferred to unreserved proprietary interest.

CLASS B. INCOME ACCOUNT.

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	OPERATING ACCOUNT.			Non-operating revenues.	Gross income.
		Total revenues.	Total expenses.	Net revenue.		
<i>Private.</i>						
Antigo	Antigo Water Co.	\$24,894 44	\$9,790 91	\$15,103 53	.....	\$15,103 53
Beaver Dam.....	Beaver Dam Water Co...	19,567 00	14,779 97	4,787 03	.....	4,787 03
Mellen	Peoples W. & Lt. Co. ¹ ...	2,663 66	190 78	2,472 88	.....	2,472 88
Menomonie.....	Menomonie W. Wks. Co..	14,457 80	7,069 46	7,388 34	.....	7,388 34
Oconto.....	Oconto City W. Sup. Co..	18,569 36	11,334 73	7,634 63	\$50 00	7,684 63
Ripon.....	Ripon Lt. & Water Co...	14,395 82	10,348 09	4,047 73	234 27	4,282 00
Stevens Point.....	Stevens Pt. Water Co...	21,190 00	11,867 29	9,322 71	.....	9,322 71
Washburn.....	Washburn W. Wks. Co...	13,851 87	8,256 13	5,595 74	11 74	5,607 48
Whitewater.....	Whitewater W. Wks. Co.	10,855 65	5,473 98	5,381 67	10 41	5,392 08
Total.....		\$140,845 60	\$79,111 34	\$61,734 26	\$306 42	\$62,040 68
<i>Municipal.</i>						
Raraboo.....	Mun. Water Wks. Plant	\$17,882 48	\$5,860 09	\$12,022 39	\$234 90	\$12,257 29
Berlin.....	" " " "	12,833 74	4,251 99	8,581 75	17 00	8,598 75
Burlington.....	" " " "	5,228 91	4,891 29	357 62	.....	337 62
Columbus.....	" " " "	6,293 44	3,074 33	3,219 11	66 15	3,152 96
De Pere.....	" " " "	10,055 09	4,027 44	6,027 65	.....	6,027 65
Edgerton.....	" " " "	6,976 35	3,160 33	3,816 02	.....	3,816 02
Fort Atkinson.....	" " " "	9,510 44	5,083 20	4,427 24	471 29	4,898 53
Grand Rapids.....	" " " "	10,260 01	14,031 21	3,771 20	.....	3,771 20
Kaukauna.....	" " " "	6,408 94	3,698 46	2,710 48	.....	2,710 48
Lake Geneva.....	" " " "	12,118 94	8,932 34	3,186 60	222 54	3,409 14
Lancaster.....	" " " "	4,978 28	4,346 40	631 79	.....	631 79
Marshfield.....	" " " "	16,479 22	7,711 98	8,767 24	139 50	8,906 74
Monroe.....	" " " "	16,435 37	8,374 21	8,061 16	.....	8,061 16
Neenah.....	" " " "	14,903 05	12,625 17	2,277 88	3,130 46	5,408 34
New London.....	" " " "	3,924 15	2,587 42	1,336 73	.....	1,336 73
New Richmond.....	" " " "	4,538 48	3,864 92	673 56	.....	673 56
Oconomowoc.....	" " " "	3,727 22	6,243 00	2,515 78	4,160 00	1,644 22
Platteville.....	" " " "	11,767 44	5,938 76	5,828 68	1,000 00	6,828 68
Portage.....	" " " "	10,075 70	7,583 61	2,492 09	372 86	2,864 95
Pt. Washington.....	" " " "	7,163 06	3,286 65	3,876 41	172 82	4,049 23
Rhineland.....	" " " "	14,208 59	5,225 39	8,983 20	18,000 00	26,983 20
Richland Center.....	" " " "	7,168 75	4,533 90	2,634 85	.....	2,634 85
River Falls.....	" " " "	5,423 44	2,800 05	2,623 39	2,536 94	5,160 33
Shawano.....	" " " "	4,141 84	1,975 62	2,166 22	132 87	2,299 09
So. Milwaukee.....	" " " "	10,066 23	13,555 64	3,489 41	.....	3,489 41
Sparta.....	" " " "	9,736 91	7,843 34	1,893 57	2,642 50	4,536 07
Stoughton.....	" " " "	10,456 44	8,644 74	1,811 70	.....	1,811 70
Sturgeon Bay.....	" " " "	2,046 14	4,579 51	2,533 37	3,078 87	545 50
Tomahawk.....	" " " "	5,040 14	4,234 26	805 88	21 00	826 88
Two Rivers.....	" " " "	8,671 32	2,260 80	6,410 52	.....	6,410 52
Waupaca.....	" " " "	3,689 53	2,237 37	1,452 16	3,952 75	5,404 91
West Allis.....	" " " "	15,434 05	11,788 02	3,646 03	231 79	3,877 82
Total.....		\$287,643 69	\$189,251 53	\$98,392 16	\$40,451 94	\$138,844 10

¹ Report for 7 months only.

YEAR ENDING JUNE 30, 1912.

DEDUCTIONS FROM GROSS INCOME.				Net income.	DISPOSITION OF NET INCOME.			Surplus.
Interest on funded debt and real estate mortgages.	Interest on floating debt.	Miscellaneous deductions.	Total.		Dividends.	Other payments from net income.	Total.	
\$6,750 00	\$2,471 36		\$9,221 36	\$5,882 17			\$5,882 17	
3,030 00			3,030 00	1,757 03			1,757 03	
5,693 13			5,693 13	2,472 88			2,472 88	
	810 36	\$111 60	921 96	1,695 21			1,695 21	
2,860 00	338 93	286 00	3,484 93	797 07	\$1,184 00	\$1,184 00	356 93	
5,000 00			5,000 00	4,322 71	2,400 00	2,400 00	1,622 71	
4,680 00	360 00		5,040 00	567 48			567 48	
4,410 00			4,410 00	682 08			682 08	
\$32,423 13	\$3,980 65	\$397 60	\$36,801 28	\$25,239 30	\$3,584 00	\$3,584 00	\$21,655 30	
\$3,880 00			\$3,880 00	\$8,377 29			\$8,377 29	
1,418 33			1,418 33	7,150 42			7,150 42	
700 00			700 00	362 38			362 38	
1,500 00			1,500 00	1,652 96			1,652 96	
2,617 00			2,617 00	3,410 65			3,410 65	
1,212 50		\$1,000 00	2,212 50	1,603 52			1,603 52	
1,100 04		2,000 04	3,100 08	1,798 45			1,798 45	
3,290 00			3,290 00	7,061 20			7,061 20	
				2,710 48			2,710 48	
				3,409 14			3,409 14	
450 00			450 00	181 79			181 79	
5,750 00			5,750 00	3,156 74	\$2,250 00	\$2,250 00	906 74	
3,404 04		3,500 00	6,904 04	1,157 12			1,157 12	
2,800 00			2,800 00	2,608 34			2,608 34	
				1,336 73			1,336 73	
210 00			210 00	463 56			463 56	
1,660 00			1,660 00	75 78			75 78	
		6,143 61	6,143 61	685 07			685 07	
875 00			875 00	1,889 95			1,889 95	
		345 60	345 60	3,703 63			3,703 63	
2,520 83			2,520 83	24,462 37			24,462 37	
				2,634 85			2,634 85	
446 94			446 94	4,713 39	4,713 39	4,713 39	1,948 59	
350 50			350 50	1,948 59			1,948 59	
3,975 00	\$107 60		4,082 60	7,572 01			7,572 01	
1,142 50			1,142 50	3,393 57	1,500 00	1,500 00	1,893 57	
				1,811 70			1,811 70	
445 50		100 00	545 50	826 88			826 88	
1,681 35			1,681 35	4,729 17			4,729 17	
2,638 00		86 95	2,724 95	2,679 96	2,700 00	2,700 00	20 04	
2,275 00			2,275 00	1,602 82			1,602 82	
\$46,342 53	\$107 60	\$13,176 20	\$59,626 33	\$79,217 77		\$11,163 39	\$68,054 38	

Italic figures denote deficits.

CLASS C. INCOME ACCOUNT

LOCATION.	NAME OF COMPANY.	OPERATING ACCOUNT.			Non-operating revenues.	Gross income.
		Total revenue.	Total expenses.	Net revenue.		
<i>Private.</i>						
Bangor.....	Hussa Bros.....	\$497 75	\$497 75	.....	.....	.....
Hillsboro.....	Hillsboro City Water Wks.	1,413 50	1,114 27	\$299 23	.....	\$299 23
Hurley.....	Hurley Water Co ¹	47,378 68	25,339 25	22,039 43	.....	22,039 43
Iron River.....	I. R. W. Lt. & Pr. Co.....	6,534 80	4,707 15	1,827 65	.....	1,827 65
Phillips.....	Phillips Lt. W. H. & P. Co.	4,775 60	4,014 78	760 82	.....	760 82
Union Grove.....	Union Grove Water Wks.	1,160 00	560 00	600 00	.....	600 00
	Total.....	\$61,760 33	\$36,233 20	\$25,527 13	.....	\$25,527 13
<i>Municipal.</i>						
Algoma.....	Mun. Water Works Plant	\$2,724 28	\$4,069 80	\$1,345 52	.....	\$1,345 52
Alma Center.....	" " " "	211 00	85 00	126 00	.....	126 00
Arcadia.....	" " " "	1,984 17	1,671 80	312 37	.....	312 37
Baldwin.....	" " " "	701 62	771 91	70 29	.....	70 29
Barron.....	" " " "	3,261 85	1,475 62	1,786 23	.....	1,786 23
Bayfield.....	" " " "	5,589 33	3,350 68	2,229 65	.....	2,229 65
Belmont.....	" " " "	842 89	956 62	113 73	.....	113 73
Benton.....	" " " "	588 40	2,031 71	1,443 31	.....	1,443 31
Blair.....	" " " "	899 31	451 24	448 07	.....	448 07
Blanchardville.....	" " " "	977 85	741 10	236 75	.....	236 75
Bloomer.....	" " " "	860 19	721 00	139 19	.....	139 19
Brodhead.....	" " " "	1,094 35	1,503 07	408 72	.....	408 72
Bruce.....	" " " "	520 20	1,562 02	1,041 82	.....	1,041 82
Cashton.....	" " " "	1,615 00	1,474 91	140 09	.....	140 09
Cassville.....	" " " "	368 28	1,056 00	687 72	.....	687 72
Clinton.....	" " " "	1,886 16	1,319 45	566 71	.....	566 71
Cumberland.....	" " " "	2,437 51	1,596 58	840 93	.....	840 93
Darlington.....	" " " "	4,253 98	8,585 08	4,331 10	.....	4,331 10
Deerfield.....	" " " "	206 85	173 37	33 48	.....	33 48
Dodgeville.....	" " " "	2,465 75	2,804 90	339 15	\$1,139 15	800 00
Elkhart Lake.....	" " " "	1,341 63	1,082 43	259 20	.....	259 20
Elkhorn.....	" " " "	7,519 21	6,472 05	1,047 16	132 22	1,179 38
Ellsworth.....	" " " "	1,408 59	891 60	516 99	.....	516 99
Elroy.....	" " " "	4,617 16	4,107 26	509 90	.....	509 90
Evansville.....	" " " "	4,078 34	8,834 84	4,756 50	5,039 85	283 35
Fennimore.....	" " " "	1,438 00	1,375 00	63 00	.....	63 00
Glenwood.....	" " " "	1,007 60	897 98	109 62	.....	109 62
Glidden.....	" " " "	864 15	509 50	354 65	.....	354 65
Jefferson.....	" " " "	6,195 66	3,792 78	2,402 88	.....	2,402 88
Kiel.....	" " " "	3,780 66	1,137 49	2,643 17	.....	2,643 17
Kilbourn.....	" " " "	5,579 95	5,057 90	522 05	.....	522 05
Lake Mills.....	" " " "	3,142 56	3,217 92	75 36	.....	75 36
Lodi.....	" " " "	2,355 89	1,729 99	625 90	.....	625 90
Loyal.....	" " " "	218 57	1,298 61	1,080 04	.....	1,080 04
Mauston.....	" " " "	1,562 61	1,587 71	25 10	.....	25 10
Mayville.....	" " " "	3,951 63	4,242 69	291 06	439 87	148 81
Mazomanie.....	" " " "	492 79	486 66	6 13	.....	6 13
Medford.....	" " " "	2,715 33	1,030 63	1,684 70	.....	1,684 70
Menasha.....	" " " "	8,477 97	1,368 50	7,109 47	.....	7,109 47
Merrillan.....	" " " "	753 26	355 15	398 11	.....	398 11
Mondovi.....	" " " "	1,141 13	586 00	555 13	.....	555 13
Neillsville.....	" " " "	2,221 95	2,468 41	246 46	.....	246 46
No. Freedom.....	" " " "	605 77	819 02	213 25	680 00	466 75
No. Milwaukee.....	" " " "	8,346 94	3,124 58	5,222 36	.....	5,222 36
Onalaska.....	" " " "	1,169 13	1,667 39	498 26	.....	498 26

¹Includes Wisconsin and Michigan properties.

FOR YEAR ENDING JUNE 30, 1912.

DEDUCTIONS FROM GROSS INCOME.				Net income.	Deduct dividends.	Surplus.
Interest on funded debt and real estate mort- gages.	Interest on floating debt.	Miscella- neous de- ductions.	Total.			
				\$299 23		\$299 23
\$10,000 99			\$10,000 99	12,038 44		12,038 44
546 00	\$224 00		770 00	1,057 65	\$448 00	609 65
750 00			750 00	10 82		10 82
				600 00		600 00
\$11,296 99	\$224 00		\$11,520 99	\$14,006 14	\$448 00	\$13,558 14
		\$500 00	\$1,200 00	\$2,545 52		\$2,545 52
\$700 00			280 00	154 00		154 00
280 00				312 37	\$880 00	567 63
			161 50	70 29		70 29
161 50				1,624 73		1,624 73
				2,229 65		2,229 65
245 50			245 50	359 23		359 23
				1,443 31		1,443 31
				448 07	448 07	
				236 75		236 75
420 00			420 00	280 81		280 81
				408 72		408 72
54 89			54 89	1,041 82		1,041 82
				85 20		85 20
				687 72		687 72
62 09			62 09	566 71		566 71
				778 84		778 84
105 00			105 00	4,331 10		4,331 10
				71 52		71 52
				800 00		800 00
				259 20		259 20
450 00		750 00	1,200 00	1,179 38		1,179 38
				683 01		683 01
1,605 60			1,605 60	509 90		509 90
				1,322 25		1,322 25
				63 00		63 00
360 00			360 00	109 62		109 62
1,218 00	\$24 74		1,242 74	5 35		5 35
				1,160 14		1,160 14
				2,643 17		2,643 17
	160 00		160 00	362 05		362 05
				75 36		75 36
				625 90		625 90
				1,080 04		1,080 04
				25 10		25 10
				148 81		148 81
				6 13		6 13
1,500 00			1,500 00	184 70		184 70
1,687 50			1,687 50	5,421 97		5,421 97
280 00			280 00	118 11		118 11
434 00			434 00	121 13		121 13
				246 46		246 46
200 00			200 00	266 75		266 75
1,150 00			1,150 00	4,072 36	2,000 00	2,072 36
				498 26		498 26

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	OPERATING ACCOUNT.			Non-operating revenues.	Gross income.
		Total revenue.	Total expenses.	Net revenue.		
<i>Municipal—Continued.</i>						
Park Falls.....	Mun. Water Works Plant ¹	\$573 90	\$870 50	\$296 60	.....	\$296 60
Plymouth.....	" " " "	11,607 67	11,481 24	126 43	.....	126 43
Prairie du Chien..	" " " "	1,017 83	2,645 35	1,627 52	.....	1,627 52
Shell Lake.....	" " " "	2,729 56	2,583 11	146 45	.....	146 45
Shullsburg.....	" " " "	1,317 70	1,320 60	2 90	.....	2 90
Spring Valley ...	" " " "	261 00	379 44	118 44	.....	118 44
Stanley.....	" " " "	1,225 40	3,751 03	2,525 63	1,500 00	1,025 63
St. Croix Falls ...	" " " "	955 79	955 79	.....	.....	.....
Sun Prairie.....	" " " "	2,715 98	2,388 93	327 05	.....	327 05
Thorp.....	" " " "	1,202 32	1,007 59	194 73	.....	194 73
Viroqua.....	" " " "	3,969 03	3,710 66	258 37	.....	258 37
Waterloo.....	" " " "	575 53	262 34	313 19	.....	313 19
Waupun.....	" " " "	6,253 50	3,728 60	2,524 90	.....	2,524 90
Wauwatosa.....	" " " "	5,907 41	3,468 41	2,439 00	.....	2,439 00
West Bend.....	" " " "	4,695 22	3,264 51	1,430 71	27 97	1,458 68
Westby.....	" " " "	1,699 32	1,260 26	439 06	.....	439 06
Whitehall.....	" " " "	1,679 85	1,903 69	223 84	2 00	221 84
Total.....		\$156,862 46	\$139,535 00	\$17,327 46	\$8,961 06	\$26,288 52

¹ Report covers 1 year and 3 months.

CLASS A. DETAILED OPERATING REVENUES

LOCATION.	NAME OF COMPANY.	Earnings from commercial sales.	Earnings from industrial sales.
<i>Private.</i>			
Ashland.....	Ashland Water Co.....	\$29,897 46	\$9,119 55
Beloit.....	Beloit W. Gas & El. Co.....	32,791 39	.....
Chp. Falls.....	Chp. Valley Ry. Lt. & Pr. Co..	29,617 47	.....
Green Bay.....	Green Bay Water Co.....	52,208 72	.....
Janesville.....	Janesville Water Co.....	28,737 68	9,137 35
Marinette.....	City Water Co.....	30,870 07	5,250 97
Merrill.....	City Water Works Co.....	15,374 28	1,151 10
Oshkosh.....	Oshkosh W. Wks. Co.....	56,422 50	.....
Racine.....	Racine Water Co.....	74,217 60	31,152 14
Superior.....	Superior W. Lt. & Pr. Co.....	69,908 12	13,086 83
Total.....		\$411,045 29	\$68,897 94
<i>Municipal.</i>			
Appleton.....	Mun. Water Works Plant ²	\$15,603 30	.....
Eau Claire.....	" " " ".....	26,295 03	.....
Fond du Lac.....	" " " ".....	23,215 51	\$5,009 30
Kenosha.....	" " " ".....	29,121 66	12,038 92
La Crosse.....	" " " ".....	30,308 33	11,386 83
Madison.....	" " " ".....	45,854 40	5,683 94
Manitowoc.....	" " " ".....	9,380 70	6,647 67
Milwaukee.....	" " " ".....	367,162 43	468,248 66
Sheboygan.....	" " " ".....	71,956 61	.....
Watertown.....	" " " ".....	18,497 76	1,422 47
Waukesha.....	" " " ".....	11,181 04	3,831 07
Wausau.....	" " " ".....	27,094 70	2,931 33
Total.....		\$675,671 47	\$517,200 19

¹ Includes \$1,250 charged against city of Marinette for interest.² Report covers 7 months ending June 30, 1912.

STATISTICS—WATER UTILITIES.

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ACCOUNT, 1912.—Concluded.

DEDUCTIONS FROM GROSS INCOME.				Net income.	Deduct dividends.	Surplus.
Interest on funded debt and real estate mortgages.	Interest on floating debt.	Miscellaneous deductions.	Total.			
\$425 00			\$425 00	\$721 60		\$721 60
1,559 99	\$218 75	\$1,566 66	3,345 40	3,218 97		3,218 97
960 00			960 00	2,587 52		2,587 52
				146 45		146 45
				2 90		2 90
				118 44		118 44
				1,025 63		1,025 63
550 00			550 00	550 00		550 00
17 50			17 50	309 55	\$500 00	190 45
				194 73		194 73
				258 37		258 37
				313 19		313 19
				2,524 90		2,524 90
				2,439 00		2,439 00
1,250 00	62 08		1,312 08	146 60		146 60
100 00			100 00	339 06		339 06
1,260 00			1,260 00	1,481 84		1,481 84
\$17,036 57	\$465 57	\$2,816 66	\$20,318 80	\$5,969 72	\$3,828 07	\$2,141 65

FOR YEAR ENDING JUNE 30, 1912.

Earnings from mun. hydrant rentals.	Earnings from sales for street sprinkling.	Earnings from sales to mun. departments.	Miscellaneous earnings from operation.	Total operating revenues.
\$15,097 50	\$202 47	\$45 00		\$54,361 98
13,009 67	265 45	289 55	\$189 33	46,545 39
8,715 10	377 00			29,709 57
16,528 64	1,231 47		1,696 75	71,665 58
7,389 58	510 00	328 50	302 65	46,405 76
9,249 01	80 00		1,785 27	47,235 32
7,335 00	225 00		87 85	24,173 23
17,902 75	2,900 00		1,175 15	78,400 40
15,328 20	2,417 86		902 07	124,017 87
29,684 10			902 07	112,679 05
\$140,239 55	\$8,209 25	\$663 05	\$6,139 07	\$635,194 15
				\$15,603 30
\$14,685 50	\$4,235 34	\$1,257 27	\$685 90	26,980 93
2,429 00	75 00		886 80	49,289 72
			154 25	43,818 83
			147 93	41,843 09
		1,602 75		54,429 80
3,180 00		48 77	1,288 71	19,257 14
24,820 00	45,512 80	83,818 85	2,286 05	991,848 79
13,652 02	1,811 47		774 18	88,194 28
	650 67	568 00	318 81	21,457 71
6,930 00	459 50	406 00	842 11	23,649 72
	475 00			30,501 03
\$65,696 52	\$53,219 78	\$87,701 64	\$7,384 74	\$1,406,874 34

^aReport covers 9 months ending June 30, 1912.

CLASS B. DETAILED OPERATING REVENUES

LOCATION.	NAME OF COMPANY.	Earnings from commercial sales.	Earnings from industrial sales.
	<i>Private.</i>		
Antigo.....	Antigo Water Co.....	\$14,446 87	.....
Beaver Dam.....	Beaver Dam Water Co.....	11,459 00	\$734 41
Mellen.....	Peoples Water & Lt. Co. ²	1,801 98	.....
Menomonie.....	Menomonie Water Works Co.....	8,764 67	.....
Oconto.....	Oconto City W. Supply Co. ³	9,319 68	.....
Ripon.....	Ripon Lt. & W. Co.....	6,936 06	707 96
Stevens Point.....	Stevens Point Water Co.....	15,130 00	.....
Washburn.....	Washburn Water Works Co.....	8,476 87	.....
Whitewater.....	Whitewater Water Works Co.....	5,125 29	1,067 55
	Total.....	\$81,460 42	\$2,509 92
	<i>Municipal.</i>		
Baraboo.....	Mun. Water Works Plant.....	\$8,973 70	\$4,778 10
Berlin.....	" " " ".....	5,593 52	.....
Burlington.....	" " " ".....	4,492 91	.....
Columbus.....	" " " ".....	3,625 03	552 41
DePere.....	" " " ".....	5,508 84	.....
Edgerton.....	" " " ".....	3,994 87	502 85
Fort Atkinson.....	" " " ".....	6,659 13	.....
Grand Rapids.....	" " " ".....	8,614 73	1,582 44
Kaukauna.....	" " " ".....	3,382 46	756 48
Lake Geneva.....	" " " ".....	7,515 55	297 78
Lancaster.....	" " " ".....	4,571 83	406 45
Marshfield.....	" " " ".....	5,098 27	5,330 82
Monroe.....	" " " ".....	7,419 03	2,139 94
Neenah.....	" " " ".....	6,777 47	513 94
New London.....	" " " ".....	1,652 03	.....
New Richmond.....	" " " ".....	2,148 48	1,230 00
Oconomowoc.....	" " " ".....	3,362 82	.....
Platteville.....	" " " ".....	7,386 59	638 31
Portage.....	" " " ".....	10,075 70	.....
Pt. Washington.....	" " " ".....	4,373 06	.....
Rhineland.....	" " " ".....	6,362 17	1,526 42
Richland Ctr.....	" " " ".....	4,038 75	.....
River Falls.....	" " " ".....	3,288 44	.....
Shawano.....	" " " ".....	1,971 84	.....
So. Milwaukee.....	" " " ".....	6,705 52	2,667 30
Sparta.....	" " " ".....	3,286 46	3,523 16
Stoughton.....	" " " ".....	6,191 14	.....
Sturgeon Bay.....	" " " ".....	996 14	.....
Tomahawk.....	" " " ".....	3,562 14	286 00
Two Rivers.....	" " " ".....	5,206 32	.....
Waupaca.....	" " " ".....	2,373 08	1,316 45
West Allis.....	" " " ".....	10,941 82	.....
	Total.....	\$166,149 84	\$28,048 85

¹ Includes \$3,239.73 earnings for Jan. 1 to July 1, 1911.² Report for 7 months only.

FOR YEAR ENDING JUNE 30, 1912.

Earnings from municipal hydrant rentals.	Earnings from sales for street sprinkling.	Earnings from sales to municipal departments.	Miscellaneous earnings from operation.	Total operating revenues.
\$9,877 00	\$458 33		\$112 24	\$24,894 44
6,939 69	275 00		158 90	\$19,567 00
861 68				2,663 66
5,693 13				14,457 80
9,409 73	186 75	\$53 20		18,969 36
6,170 50	517 69		63 61	14,395 82
6,060 00				21,190 00
5,300 00	75 00			13,851 87
4,165 00	236 00	163 66	98 15	10,855 65
\$54,476 73	\$1,748 77	\$216 86	\$432 90	\$140,845 60
\$4,080 00			\$50 68	\$17,882 48
4,800 00	\$200 00	\$2,240 22		12,833 74
	386 10		349 90	5,228 91
1,920 00	100 00	96 00		6,293 44
4,500 00	46 25			10,055 09
2,000 00	100 00	281 23	97 40	6,976 35
2,810 00	26 31		15 00	9,510 44
			62 84	10,260 01
1,900 00		20 00	350 00	6,408 94
4,159 60	116 60		29 41	12,118 94
				4,978 28
5,774 76	190 00	85 37		16,479 22
6,870 00			6 40	16,435 37
5,250 00	300 00	808 32	1,253 32	14,903 05
2,100 00	167 12	5 00		3,924 15
1,160 00				4,538 48
	350 00	14 40		3,727 22
3,035 00	169 36	335 88	202 30	11,767 44
				10,075 70
2,790 00				7,163 06
6,320 00				14,208 50
3,000 00	130 00			7,168 75
2,100 00	35 00			5,423 44
2,160 00			10 00	4,141 84
	560 91		132 50	10,066 23
2,280 00	152 46	326 76	168 07	9,736 91
3,900 00	112 45	252 85		10,456 44
900 00	150 00			2,046 14
1,025 00		167 00		5,040 14
3,465 00				8,671 32
				3,689 53
188 33	152 00	1,500 00	2,651 90	15,434 05
\$78,487 69	\$3,444 56	\$6,133 03	\$5,379 72	\$287,643 69

^a Includes industrial sales with also an amount of \$6,192.58 credited back to consumer by order of Railroad Commission.

CLASS C. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	Earnings from commercial sales.
<i>Private.</i>		
Bangor.....	Hussa Brothers.....	\$365 35
Hillsboro.....	Hillsboro City Water Works.....	1,045 00
Hurley.....	Hurley Water Co ¹	24,124 81
Iron River.....	Iron River W. Lt. & Pr. Co.....	372 00
Phillips.....	Phillips Lt. W. Ht. & Pr. Co.....	2,535 60
Union Grove.....	Union Grove Water Works	820 00
Total		\$29,262 76
<i>Municipal.</i>		
Algoma.....	Municipal Water Works Plant	\$1,897 86
Alma Center.....	" " " "	211 00
Arcadia.....	" " " "	1,104 17
Baldwin.....	" " " "	701 62
Barron.....	" " " "	1,869 85
Bayfield.....	" " " "	4,074 23
Belmont.....	" " " "	422 89
Benton.....	" " " "	588 40
Blair.....	" " " "	749 31
Blanchardville.....	" " " "	177 85
Bloomer.....	" " " "	729 29
Brodhead.....	" " " "	120 20
Bruce.....	" " " "	1,350 00
Cashton.....	" " " "	368 28
Cassville.....	" " " "	
Clinton.....	" " " "	880 56
Cumberland.....	" " " "	1,297 51
Darlington.....	" " " "	4,253 98
Deerfield.....	" " " "	206 85
Dodgeville.....	" " " "	1,105 75
Elkhart Lake.....	" " " "	742 13
Elkhorn.....	" " " "	4,639 99
Ellsworth.....	" " " "	1,102 60
Elroy.....	" " " "	3,137 16
Evansville.....	" " " "	1,954 26
Fennimore.....	" " " "	1,438 00
Glenwood.....	" " " "	1,005 60
Glidden.....	" " " "	864 15
Jefferson.....	" " " "	3,116 39
Kiel.....	" " " "	1,126 33
Kilbourn.....	" " " "	3,093 15
Lake Mills.....	" " " "	1,769 70
Lodi.....	" " " "	1,375 89
Loyal.....	" " " "	218 57
Mauston.....	" " " "	1,467 36
Mayville.....	" " " "	2,841 27
Mazomanie.....	" " " "	152 79
Medford.....	" " " "	746 66
Menasha.....	" " " "	2,954 69
Merrillan.....	" " " "	373 26
Mondovi.....	" " " "	933 72
Neillsville.....	" " " "	2,171 95
No. Freedom.....	" " " "	473 77
No. Milwaukee.....	" " " "	3,113 04
Onalaska.....	" " " "	1,169 13

¹Includes Wisconsin and Michigan properties.

REVENUES. FOR YEAR ENDING JUNE 30, 1912.

Earnings from industrial sales.	Earnings from municipal hydrant rentals.	Earnings from sales for street sprinkling.	Earnings from sales to municipal departments.	Miscellaneous earnings from operation.	Total operating revenues.
	\$100 00	\$32 40			\$497 75
\$138 50	200 00	30 00			1,415 50
7,294 32	15,555 93		\$405 62		47,378 68
607 92	3,100 00		60 00	\$2,394 88	6,534 80
	2,240 00				4,775 60
	340 00				1,160 00
\$8,040 74	\$21,535 93	\$62 40	\$463 62	\$2,394 88	\$61,760 33
	\$760 52	\$24 00		\$41 90	\$2,724 28
	560 00	320 00			211 00
	1,392 00				1,984 17
	1,250 00			265 10	701 62
	320 00			100 00	3,261 85
	150 00				5,589 33
	800 00				842 89
\$330 00	105 00		\$22 60		588 40
363 35	731 00				899 31
	400 00				977 85
	165 00		100 00		860 19
					1,094 35
80 00	900 00	25 60			520 20
	1,140 00				1,615 00
					368 28
80 00	1,280 00				1,886 16
49 50	550 00				2,437 51
49 93	2,879 22	37 37	218 69		4,253 98
74 08	2,000 00	50 00	400 00	1,080 00	206 85
					2,465 75
		2 00			1,341 63
385 53	2,593 74	100 00			7,519 21
2,500 00			110 00		1,408 59
	1,560 00	626 80			4,617 16
	1,339 96				4,078 34
	980 00				1,438 00
		24 00			1,007 60
					864 15
22 39		238 91	300 00		6,195 66
	340 00			44 33	3,780 66
116 90	1,620 00	75 00			5,579 95
1,643 28	3,880 00			32 90	3,142 56
	180 00				2,355 89
		56 00			218 57
		50 00	151 41		1,562 61
	132 00			71 25	3,951 63
	4,818 30			829 72	492 79
				146 87	2,715 33
					8,477 97
					753 26
					1,141 13
					2,221 95
					605 77
				415 00	8,346 94
					1,169 13

CLASS C. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	Earnings from com- mercial sales.
<i>Municipal—Continued.</i>		
Park Falls.....	Municipal Water Works Plant	\$573 90
Plymouth.....	" " " "	5,666 23
Prarie du Chien.....	" " " "	1,017 83
Shell Lake.....	" " " "	2,053 56
Shullsburg.....	" " " "	1,267 70
Spring Valley.....	" " " "	261 00
Stanley.....	" " " "	1,189 75
St. Croix Falls.....	" " " "	412 08
Sun Prairie.....	" " " "	1,254 95
Thorp.....	" " " "	536 33
Viroqua.....	" " " "	3,313 93
Waterloo.....	" " " "	574 85
Waupun.....	" " " "	3,993 50
Wauwatosa.....	" " " "	4,805 87
West Bend.....	" " " "	1,267 98
Westby.....	" " " "	575 53
Whitehall.....	" " " " .....	.....
	Total.....	\$93,056 75

¹Report covers one year and 3 months.

REVENUES, 1912—Concluded.

Earnings from industrial sales.	Earnings from municipal hydrant rentals.	Earnings from sales for street sprinkling.	Earnings from sales to municipal departments.	Miscellaneous earnings from operation.	Total operating revenues.
					\$573 90
\$4,962 50		\$50 00	\$1 50	\$927 44	\$11,607 67
	\$476 00			\$200 00	1,017 83
15 00		35 00			2,729 56
					1,317 70
				35 65	261 00
	543 71				1,225 40
175 33	1,140 00	75 00		70 70	955 79
	390 00	269 99	6 00		2,715 98
					1,202 32
387 35	180 00	60 00		27 75	3,969 03
	1,010 00	95 00			1,679 85
	1,960 00	300 00		418 05	6,253 50
54 96		628 53			5,907 41
361 65	880 00		2,185 59		4,695 22
				200 00	1,699 32
1,499 32					575 53
\$12,824 37	\$39,406 45	\$3,143 20	\$3,525 03	\$4,906 66	\$156,862 46

CLASS A. DETAILED OPERATING EXPENSES
PUMPING—

LOCATION.	NAME OF COMPANY.	OPERA			
		Superin- tendence.	Pump labor.	Miscel- laneous labor.	Steam generated.
<i>Private.</i>					
Ashland.....	Ashland Water Co.....	\$39 75	\$1,315 75	\$217 20	\$5,386 21
Beloit.....	Beloit W. Gas & El. Co.....	503 98	1,135 79		3,137 54
Chip. Falls.....	Chip. Valley Ry. Lt. & Pr.Co.	43 35	27 08		95 25
Green Bay.....	Green Bay Water Co.....		1,916 70		9,259 84
Janesville.....	Janesville Water Co.....	792 01	1,015 00		7,385 93
Marinette.....	City Water Co.....		1,605 70	74 32	4,770 38
Merrill.....	City W. Wks. Co.....	1,395 42	13 63		5,440 83
Oshkosh.....	Oshkosh W. Wks. Co.....		2,696 07		10,118 31
Racine.....	Racine Water Co.....		2,121 21	216 17	8,209 76
Superior.....	Superior W. Lt. & Pr. Co.....	1,560 00	3,585 10	1,185 95	6,578 68
	Total.....	\$4,337 51	\$15,432 03	\$1,693 64	\$60,382 73
<i>Municipal.</i>					
Appleton.....	Mun. Water Works Plant (1)		\$328 74		\$3,632 67
Fond du Lac.....	" " " "	\$1,625 00	2,510 00	\$36 90	4,713 45
Kenosha.....	" " " "	625 00	2,235 00		9,406 73
La Crosse.....	" " " "	1,200 00	1,800 00		9,897 41
Madison.....	" " " "	1,317 00	5,967 71		16,926 46
Manitowoc.....	" " " " (2)	730 00		145 00	4,067 66
Milwaukee.....	" " " " (3)	300 00	4,764 08	1,210 53	8,378 67
Milwaukee.....	" " " " (4)	2,899 96	18,601 12	5,307 16	62,475 02
Sheboygan.....	" " " "		2,400 00		8,547 67
Watertown.....	" " " "	1,108 30	2,295 00		3,920 03
Waukesha.....	" " " "		1,170 35		10,713 65
Wausau.....	" " " "		2,800 00		6,776 29
	Total.....	\$9,805 26	\$44,872 00	\$6,699 59	\$149,455 71

¹Report covers 7 months ending June 30, 1912.²Report covers 9 months ending June 30, 1912.

FOR YEAR ENDING JUNE 30, 1912.
STEAM POWER.

TION.			MAINTENANCE.					Total steam power pumping.
Lubri- cants.	Miscel- laneous pumping station and puri- fying sup- plies and expenses.	Total operation.	Steam power pumping equip- ment.	Source of supply.	Collection aqueduct intakes and sup- ply mains.	Purifying equip- ment, buildings, fixtures and grounds.	Total main- tenance.	
\$169 10	\$456 69	\$7,584 70	\$472 59	.....	\$2,653 54	\$2,088 16	\$5,214 29	\$12,798 99
.....	475 12	5,255 43	150 80	.....	.....	43 53	194 33	5,449 76
.....	.....	165 68	12 61	.....	33 56	1 04	47 21	212 89
183 38	233 96	11,593 88	36 27	\$600 82	31 17	230 75	869 01	12,492 89
90 03	91 17	9,374 14	33 99	.....	.....	442 48	476 67	9,850 61
69 76	1,920 82	8,440 98	56 84	.....	1,949 58	594 06	2,660 48	11,041 46
92 08	1,271 60	8,213 56	115 32	.....	69 11	342 42	526 85	8,740 41
278 47	2,838 01	15,930 86	1,089 30	.....	19 35	188 40	1,297 05	17,227 91
190 31	396 40	11,133 85	112 68	.....	155 51	462 15	670 34	11,804 19
343 40	1,712 91	14,966 04	660 00	265 00	75 00	465 03	1,465 00	16,431 04
\$1,416 53	\$9,396 68	\$92,659 12	\$2,740 40	\$865 82	\$4,986 82	\$4,797 99	\$13,391 03	\$103,050 15
.....
\$85 01	\$69 80	\$4,116 22	\$1,406 59	.....	.....	\$126 36	\$1,532 65	\$5,649 17
278 97	249 42	9,413 74	109 69	.....	.....	3 65	113 34	9,527 08
152 76	529 46	12,948 95	359 37	.....	\$40 50	.....	399 87	13,348 82
215 07	775 50	13,887 98	547 03	.....	1,860 84	18 82	2,426 69	16,314 67
600 56	875 67	25,687 40	.....	.....	.....	.....	.....	25,687 40
48 99	211 08	5,202 73	308 36	\$500 00	.....	467 74	1,276 10	6,478 83
153 22	606 01	15,412 51	617 55	12 77	.....	8 95	639 27	16,051 78
371 36	1,975 00	91,629 62	5,130 16	.....	229 76	787 34	6,147 26	97,776 88
109 23	643 31	11,700 21	1,067 38	.....	34 26	111 23	1,212 87	12,913 08
246 25	29 35	7,598 93	30 90	.....	.....	49 04	79 94	7,678 87
.....	475 98	12,359 98	996 19	9 00	.....	411 99	1,417 18	13,777 16
221 94	46 85	9,845 08	303 36	.....	.....	.....	303 36	10,148 44
\$2,483 36	\$6,487 43	\$219,803 35	\$10,876 58	\$521 77	\$2,165 36	\$1,985 12	\$15,548 83	\$235,352 18

³High service station.
⁴North Point pumping station.

REPORT OF THE RAILROAD COMMISSION.

CLASS A. DETAILED OPERATING
PUMPING—

LOCATION.	NAME OF COMPANY.	OPER				
		Superintendence.	Hydraulic pump labor.	Miscellaneous labor.	Hydraulic power purchased.	Lubricants.
	<i>Private.</i>					
Beloit.....	Beloit W. Gas & El. Co.....					
	Total.....					
	<i>Municipal.</i>					
Appleton.....	Mun. Water Wks. Pl ^{nt}		\$328 74		\$1,875 00	\$83 51
Eau Claire.....		\$600 00	1,680 00	\$499 12		89 92
	Total.....	\$630 00	\$2,008 74	\$499 12	\$1,875 00	\$173 43

PUMPING—

LOCATION.	NAME OF COMPANY.	OPER				
		Superintendence.	Pump labor.	Miscellaneous labor.	Electric current purchased.	Lubricants.
	<i>Private.</i>					
Beloit.....	Beloit Water, G. & E. Co.....				\$7,402 32	
Chippewa Falls...	Ch. Val. Ry. Lt. & P. Co.....	\$86 70	\$563 93	\$4 43	6,000 28	\$10 75
Green Bay.....	Green Bay Water Co.....		684 55		3,083 35	76 98
	Total.....	\$86 70	\$1,248 48	\$4 43	\$16,485 95	\$87 73
	<i>Municipal.</i>					
Eau Claire.....	Mun. Water Wks. Pl ^{nt}	\$600 00	\$540 00		\$140 00	
Fond du Lac.....	" " " ".....		1,298 20		4,871 65	\$35 41
Madison.....	" " " ".....				466 60	
Waukesha.....	" " " ".....				632 86	
Wausau.....	" " " ".....		32 26		258 00	
	Total.....	\$600 00	\$1,870 46		\$6,369 11	\$35 41

¹ Report covers 7 months ending June 30, 1912.

EXPENSES, 1912—Continued.
HYDRAULIC POWER.

OPERATION.		MAINTENANCE.							Total hydraulic power pumping.
Miscellaneous pumping station supplies and expenses.	Total operation.	Dams, canals and flumes.	Turbines and water wheels.	Hydraulic power pumping and auxiliary equipment.	Source of supply.	Purifying equipment buildings, fixtures and grounds.	Pumping station buildings, fixtures and grounds.	Total maintenance.	
		\$45 00	\$29 99					\$74 99	\$74 99
		\$45 00	\$29 99					\$74 99	\$74 99
\$5 94	\$2,293 19		\$514 08	\$48 88				\$562 96	\$2,856 15
746 74	3,615 78		182 87	49 13				182 00	3,797 78
\$752 68	\$5,908 97		\$646 95	\$98 01				\$744 96	\$6,653 93

ELECTRIC POWER.

OPERATION.		MAINTENANCE.						Total electric power pumping.
Miscellaneous pumping station supplies and expenses.	Total operation.	Electric power pumping and auxiliary equipment.	Source of supply.	Collecting aqueducts, intakes and supply mains.	Purifying equipment buildings, fixtures and grounds.	Station buildings, fixtures and grounds.	Total maintenance.	
	\$7,402 32							\$7,402 32
\$151 34	6,817 43	\$239 53		\$84 63		\$175 85	\$500 01	7,317 44
41 72	3,886 60	608 91					608 91	4,495 51
\$193 06	\$18,106 35	\$848 44		\$84 63		\$175 85	\$1,108 92	\$19,215 27
\$232 92	\$1,512 92	\$30 04		\$25 47		\$329 82	\$385 33	\$1,898 25
35 15	6,240 41	499 71				91 72	591 43	6,831 84
	466 60	131 94					131 94	598 54
	632 86							632 86
30 29	320 55	18 00				147 44	165 44	485 99
\$298 36	\$9,173 34	\$679 69		\$25 47		\$568 98	\$1,274 14	\$10,447 48

CLASS A. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	Total pumping.			
			Labor removing and resetting meters.	Street department labor.	Meter and fittings department labor.
<i>Private.</i>					
Ashland.....	Ashland Water Co.....	\$12,798 99	\$20 20	\$265 21	.....
Beloit.....	Beloit W. Gas & El. Co....	12,927 07	212 02	302 29	.....
Chippewa Falls..	Chipp. Val. Ry. Lt. & P. Co	7,530 33	47 77	10 48	.....
Green Bay.....	Green Bay Water Co.....	16,988 40	167 18	.....	.....
Janesville.....	Janesville Water Co.....	9,850 61	.....	1,652 66	.....
Marinette.....	City Water Co.....	11,041 46	.....	39 17	.....
Merrill.....	City Water Works Co.....	8,740 41	.....	11 88	.....
Oshkosh.....	Oshkosh Water Wks. Co..	17,227 91	.....	1,640 44	.....
Racine.....	Racine Water Co.....	11,804 19	.....	53 09	.....
Superior.....	Superior W. Lt. & Pr. Co..	16,431 04	1,288 31	1,645 65	.....
	Total.....	\$125,340 41	\$1,735 48	\$5,620 87	.....
<i>Municipal.</i>					
Appleton.....	Mun. Water Wks. Plant ² .	\$8,505 32	\$29 00	\$341 02	.....
Fau Claire.....	" " " "	5,696 03	.....	24 50	\$9 00
Fond du Lac.....	" " " "	16,358 92	374 54	64 90	125 00
Kenosha.....	" " " "	13,348 82	.....	410 40	.....
La Crosse.....	" " " "	16,314 67	.....	1,648 48	.....
Madison.....	" " " "	26,285 94	585 43	421 43	147 14
Manitowoc.....	" " " "	6,478 83	.....	294 45	.....
Milwaukee.....	" " " "	113,828 66	5,388 38	15,883 93	12,521 85
Sho-boygan.....	" " " "	12,913 08	51 00	42 40	.....
Watertown.....	" " " "	7,678 87	.....	.....	.....
Waukesha.....	" " " "	14,410 02	.....	.....	418 60
Wausau.....	" " " "	10,634 43	.....	.....	.....
	Total.....	\$252,453 59	\$6,428 35	\$19,131 51	\$13,221 59

¹ Rent.² Report covers 7 months ending June 30, 1912.

EXPENSES, 1912—Continued.

DISTRIBUTION.						
OPERATION.				MAINTENANCE.		
Customers' premises expenses.	Street department supplies and expenses.	Meters and fittings department supplies and expenses.	Total operation.	Reservoirs, tanks and standpipe.	Distribution and transmission mains.	Services.
\$229 65	\$105 39	.....	\$620 45	.....	\$184 84	\$1,098 15
.....	.....	.....	514 31	.....	310 40	599 77
221 54	2 60	.....	282 39	\$6 53	124 63	3 92
462 36	.....	.....	629 54	123 95	1,725 56	1,678 12
.....	428 13	.....	2,080 79	11 65	86 11	79 61
.....	.....	.....	39 17	.....	437 87	131 69
.....	.....	.....	11 88	.....	222 81	106 80
.....	1,267 41	\$60 00	2,967 85	.....	.....	.....
.....	.....	.....	53 09	154 50	1,636 67	590 55
149 61	523 22	.....	3,606 79	.....	850 00	1,125 00
\$1,063 16	\$2,326 75	\$60 00	\$10,806 26	\$296 63	\$5,578 89	\$5,413 61
.....
.....	\$118 82	\$70 77	\$559 61	.....	\$798 59	\$35 49
\$326 16	1,106 25	29 64	1,495 55	\$4 79	460 17	157 19
145 00	59 18	108 85	377 47	938 39	293 91	435 60
.....	.....	621 73	1,032 13	.....	2,107 21	603 84
.....	201 60	30 00	1,880 08	.....	1,359 66	152 32
.....
59 86	328 62	5 25	1,547 73	338 83	457 84	583 92
.....	938 86	693 70	1,927 01	.....	32 00	.....
7,611 36	.....	2,597 96	44,003 48	3,176 07	5,694 27	.....
137 05	307 25	26 77	564 47	11 63	2,145 37	.....
.....	.....	899 25	899 25	152 34	185 51	833 59
.....	.....	.....	418 60	.....	3,062 51	2,350 45
.....	84 75	.....	184 75	.....	1,040 68	399 02
\$8,279 43	\$3,145 33	\$5,083 92	\$55,290 13	\$4,622 05	\$17,637 72	\$5,551 42

^aReport covers 9 months ending June 30, 1912.

CLASS A. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	DISTRIBUTION—Concluded.				Total distribution.
		MAINTENANCE—Concluded.				
		Hydrants.	Meters.	Fire, cisterns, basins, fountains and troughs.	Total maintenance.	
<i>Private.</i>						
Ashland.....	Ashland Water Co.....	\$209 58	\$250 75	.....	\$1,743 32	\$2,363 77
Beloit.....	Beloit W. Gas & El. Co.....	376 73	62 78	.....	1,249 68	1,863 99
Chippewa Falls.	Chip. Val. Ry. Pt. & Pr. Co..	262 08	30 88	.....	428 04	710 43
Green Bay.....	Green Bay Water Co.....	568 18	216 21	\$33 13	4,345 15	4,974 69
Janesville.....	Janesville Water Co.....	96 13	.....	98 24	371 74	2,452 53
Marinette.....	City Water Co.....	148 04	134 33	.....	851 93	891 10
Merrill.....	City Water Works Co.....	118 74	30 26	.....	478 61	490 49
Oshkosh.....	Oshkosh Water Wks. Co.....	.....	.....	.....	.....	2,967 85
Racine.....	Racine Water Co.....	1,356 73	672 61	.....	4,411 06	4,464 15
Superior.....	Superior W. Lt. & Pr. Co.....	530 00	1,875 00	.....	4,380 00	7,986 79
	Total.....	\$3,666 21	\$3,272 82	\$131 37	\$18,359 53	\$29,165 79
<i>Municipal.</i>						
Appleton.....	Mun. Water Works Plant (2)	\$67 40	.....	.....	\$901 48	\$1,461 09
Eau Claire.....	" " " "	1,177 56	\$269 52	219 15	2,288 38	3,783 93
Fond du Lac.....	" " " "	88 10	450 62	.....	2,206 62	3,084 09
Kenosha.....	" " " "	252 55	525 12	.....	3,488 72	4,520 85
La Crosse.....	" " " "	556 63	1,079 70	143 87	3,292 18	5,172 26
Madison.....	" " " "	639 27	1,128 40	22 90	3,171 16	4,718 89
Manitowoc.....	" " " " (3)	.....	.....	.....	32 00	1,959 01
Milwaukee.....	" " " "	3,381 56	.....	46,098 63	18,350 53	62,354 01
Sheboygan.....	" " " "	82 09	142 32	.....	2,381 41	2,945 88
Watertown.....	" " " "	8 50	44 73	.....	1,224 67	2,123 92
Waukesha.....	" " " "	51 08	1,369 19	.....	6,833 23	7,251 83
Wausau.....	" " " "	211 03	.....	8 04	1,658 77	1,743 52
	Total.....	\$6,515 77	\$5,009 60	\$6,492 59	\$45,829 15	\$101,119 28

¹Includes collection salaries and commissions.

²Report covers 7 months ending June 30, 1912.

EXPENSES, 1912—Continued.

COMMERCIAL.

Collection, salaries and commissions.	Reading meters and delivering bills.	Collection supplies and expenses.	Uncollectable accounts, (reserve charge).	Promotion of business expenses.	Total commercial.
\$1,057 30	\$189 65		\$16 55	\$10 00	\$1,273 50
	160 04			94 33	254 37
	3 49	\$0 30	60 00	50	64 29
	266 46	117 87	145 29		529 62
792 34	53 32	30 12			875 78
1,489 56	112 10			29 43	1,631 09
633 68	4 82				638 50
2,379 39	482 32				2,861 71
1,950 59	994 23	1,047 07	300 00	245 50	4,537 39
\$8,302 86	\$2,266 43	\$1,195 36	\$521 84	\$379 76	\$12,666 25
	\$319 00				\$319 00
\$784 15	249 00	\$487 59	\$26 35		1,547 09
246 00	336 00	276 65	152 17	\$137 31	1,148 13
	1,243 75	164 39			1,408 14
125 00	270 00				395 00
1,813 22	1,069 10	216 20			3,098 52
	108 50	18 50			127 00
21,304 09	27,764 23	7,347 83			56,416 15
108 00	257 47				365 47
	522 00	67 85			589 85
				278 81	278 81
\$24,380 46	\$32,139 05	\$8,579 01	\$178 52	\$416 12	\$65,693 16

³ Report covers 9 months ending June 30, 1912.

⁴ Expense of operation and maintenance of investment properties, parks, etc.

CLASS A. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	GEN				
		OPER				
		Salaries of general officers.	Salaries of general office clerks.	General office rent.	Miscellaneous general office supplies and expenses.	Law expenses, general.
<i>Private.</i>						
Ashland	Ashland Water Co..	\$4,378 08	\$1,023 65	\$557 22	\$272 25	.....
Beloit	Beloit W. G. & E. Co.	1,912 17	1,707 88	298 00	479 62	\$224 01
Chippewa Falls	Ch. V. Ry. Lt. & P. Co.	399 96	578 26	117 00	232 69	112 00
Green Bay	Green Bay W. Co....	3,658 33	1,483 30	.....	172 60	32 25
Janesville	Janesville W. Co. ..	4,800 00	1,582 99	600 00	260 39	250 00
Marinette.....	City Water Co.....	1,676 36	.....	.....	504 75	372 39
Merrill.....	City W. Works Co....	1,584 76	.....	.....	192 21	105 70
Oshkosh.....	Oshkosh W. Wks. Co..	5,740 00	1,516 66	404 26	341 22	235 31
Racine.....	Racine Water Co....	11,259 59	.....	693 00	1,469 18	1,410 96
Superior.....	Sup. W. Lt. & Pr. Co.	3,600 00	650 04	520 00	191 11	574 21
	Total	\$39,009 25	\$8,542 78	\$3,189 48	\$4,116 02	\$3,316 83
<i>Municipal.</i>						
Appleton.....	Mun. W. Wks. Pl't ¹ .	\$666 08	.....	.....	.....	.....
Eau Claire.....	" " " "	600 00	\$75 00	.....	\$95 55	.....
Fond du Lac.....	" " " "	1,458 33	1,294 35	\$60 00	62 13	.....
Kenosha.....	" " " "	.....	930 00	.....	496 51	.....
La Crosse.....	" " " "	536 38	.....	.....	50	.....
Madison.....	" " " "	.....	647 18	.....	215 05	.....
Manitowoc.....	" " " "	.....	399 40	135 00	32 29	.....
Milwaukee.....	" " " "	6,174 15	4,418 43	344 40	1,009 50	.....
Sheboygan.....	" " " "	1,500 00	986 00	60 00	121 13	\$1 50
Watertown.....	" " " "	305 00	485 00	.....	167 86	.....
Waukesha.....	" " " "	1,350 00	360 00	.....	186 47	.....
Wausau.....	" " " "	.....	800 00	.....	171 85	.....
	Total	\$12,589 94	\$10,395 36	\$599 40	\$2,558 84	\$1 50

¹ Report covers 7 months ending June 30, 1912.

² Report covers 9 months ending June 30, 1912.

EXPENSES, 1912—Continued.

ERAL.						UNDISTRIBUTED.		
OPERATION.			MAINTENANCE.					
Miscellaneous general expenses.	Railroad Commission expenses.	Total operation.	General office equipment.	General office buildings, fixtures and grounds.	Total maintenance.	Total general.	Injuries and damages.	Insurance.
\$49 63		\$6,280 83	\$2 50		\$2 50	\$6,283 33	\$50 00	\$123 75
487 49		5,109 17				5,109 17		56 69
39 21		1,479 12		\$0 50	50	1,479 62		78 20
1,065 22	\$58 64	6,470 34		98 43	98 43	6,568 77	814 93	691 03
	7 20	7,500 58				7,500 58	296 10	106 10
36 56	675 23	3,265 29		7 55	7 55	3,272 84	13 90	22 77
15 00		1,897 67		5 25	5 25	1,902 92	12 50	9 83
351 21		8,588 66				8,588 66		125 30
74 60	3,178 72	18,086 05				18,086 05	1 90	10 50
736 03		6,271 39				6,271 39		
\$2,854 95	\$3,919 79	\$64,949 10	\$2 50	\$111 73	\$114 23	\$65,063 33	\$1,189 33	\$1,224 17
\$230 54		\$896 62				\$896 62		
63 35		833 90	\$121 42		\$121 42	955 32		\$166 95
14 22		2,889 03	12 18		12 18	2,901 21		70 00
		1,426 51				1,426 51	\$31 25	7 50
325 60		862 48				862 48	60 35	
611 60		1,473 83				1,473 83		65 25
		566 69	58 34		58 34	625 03		123 75
6,200 84	\$4,723 82	22,871 14	13 68		13 68	22,884 82		106 68
179 62		2,848 25				2,848 25	85 00	70 57
365 20		1,323 06				1,323 06	150 00	80 00
52 31		1,948 78				1,948 78		
18 25		990 10				990 10	110 09	
\$8,061 53	\$4,723 82	\$38,930 39	\$205 62		\$205 62	\$39,136 01	\$436 69	\$690 70

³ Includes superintendence.

CLASS A. DETAILED

LOCATION.	NAME OF COMPANY.	UNDISTRIBUTED—Concluded.				Total pumping.
		Stationery and printing.	Stores department expenses.	Utility equipment expenses.	Total undistributed.	
<i>Private.</i>						
Ashland.....	Ashland Water Co. ..	\$285 83	.....	\$633 14	\$1,092 72	\$12,798 99
Beloit.....	Beloit W. Gas & E. Co.	122 72	.....	.....	179 41	12,927 07
Chp. Falls.....	C. V. Ry. Lt. & Pr. Co.	118 61	.....	.....	196 81	7,530 33
Green Bay.....	Green Bay Water Co.	334 68	\$0 60	649 92	2,491 16	16,988 40
Janesville.....	Janesville Water Co.	104 98	.....	.....	507 18	9,850 61
Marinette.....	City Water Co.....	.....	.....	.....	36 67	11,041 46
Merrill.....	City Water Works Co.	.....	.....	.....	22 33	8,740 41
Oshkosh.....	Oshkosh W. Wks. Co.	71 55	.....	.....	196 85	17,227 91
Racine.....	Racine Water Co.....	.....	.....	.....	12 40	11,804 19
Superior.....	Sup. W. Lt. & Pr. Co.	.....	.....	.....	.....	16,431 04
	Total.....	\$1,038 37	\$0 60	\$1,283 06	\$4,735 53	\$125,340 41
<i>Municipal.</i>						
Appleton.....	Mun. W. Wks. Plant ¹	\$178 10	.....	.....	\$178 10	\$8,505 32
Eau Claire.....	" " " "	.....	\$6 00	\$225 76	398 71	5,696 03
Fond du Lac.....	" " " "	23 25	.....	11 75	105 00	16,358 92
Kenosha.....	" " " "	163 71	.....	.....	202 46	13,348 82
La Crosse.....	" " " "	.....	.....	288 31	348 66	16,314 67
Madison.....	" " " "	.....	.....	352 13	417 38	26,285 94
Manitowoc.....	" " " "	.....	.....	131 88	255 63	6,478 83
Milwaukee.....	" " " "	1,700 58	\$6,593 56	6,949 43	15,350 25	113,828 66
Sheboygan.....	" " " "	206 01	.....	946 13	1,307 71	12,613 08
Watertown.....	" " " "	30 75	.....	.....	260 75	7,678 87
Waukesha.....	" " " "	.....	.....	.....	.....	14,410 02
Wausau.....	" " " "	.....	34 26	171 63	315 98	10,634 43
	Total.....	\$2,302 40	\$6,633 82	\$9,077 02	\$19,140 63	\$252,453 59

¹Report covers 7 months ending June 30, 1912.

²Report covers 9 months ending June 30, 1912.

OPERATING EXPENSES, 1912—Concluded.

SUMMARY OF OPERATING EXPENSES.

Total distribution.	Total commercial.	Total general.	Total undistributed.	Total of foregoing.	Depreciation.	Taxes.	Total operating expenses.
\$2,363 77	\$1,273 50	\$6,283 33	\$1,092 72	\$23,812 31	\$3,000 00	\$9,507 09	\$36,319 40
1,863 99	254 37	5,109 17	179 41	20,334 01	420 00	3,268 00	24,022 01
710 43	64 29	1,479 62	196 81	9,981 48	2,400 00	4,664 65	17,046 13
4,974 69	529 62	6,568 77	2,491 16	31,552 64	.....	7,892 73	39,445 37
2,452 53	875 78	7,500 58	507 18	21,186 68	.....	3,436 48	24,623 16
891 10	1,631 09	3,272 84	36 67	16,873 16	.....	8,007 06	24,880 22
490 49	638 50	1,902 92	22 33	11,794 65	.....	4,920 92	16,715 57
2,967 85	.....	8,588 66	196 85	28,981 27	.....	9,260 90	38,242 17
4,464 15	2,861 71	18,086 05	12 40	37,228 50	5,190 67	15,310 27	57,729 44
7,986 79	4,537 39	6,271 39	.....	35,226 61	10,000 00	9,315 74	54,542 35
\$29,165 79	\$12,666 25	\$65,063 33	\$4,735 53	\$236,971 31	\$21,010 67	\$75,583 84	\$333,565 82
1,461 09	\$319 00	\$896 62	\$178 10	\$11,360 13	.....	.....	\$11,360 13
3,783 93	1,547 09	955 32	398 71	12,381 08	.....	.....	12,381 08
3,084 09	1,148 13	2,901 21	105 00	23,597 35	.....	.....	23,597 35
4,520 85	1,408 14	1,426 51	202 46	20,906 78	.....	.....	20,906 78
5,172 26	395 00	862 48	348 66	23,093 07	.....	.....	23,093 07
4,718 89	3,098 52	1,473 83	417 38	35,994 56	\$6,671 78	\$51 50	42,717 84
1,959 01	127 00	625 03	255 63	9,445 50	.....	1,077 13	10,522 63
62,354 01	56,416 15	22,884 82	15,350 25	270,833 89	38,340 48	.....	309,174 37
2,945 88	365 47	2,848 25	1,307 71	20,380 39	14,798 44	.....	35,178 83
2,123 92	.....	1,323 06	260 75	11,386 60	.....	.....	11,386 60
7,251 83	589 85	1,948 78	.....	24,200 48	.....	.....	24,200 48
1,745 52	278 81	990 10	315 98	13,962 84	.....	.....	13,962 84
\$101,119 28	\$65,693 16	\$39,136 01	\$19,140 63	\$477,542 67	\$59,810 70	\$1,128 63	\$538,482 00

³Includes item \$2,273.76, operation of water waste survey.

CLASS A. STEAM GENERATION APPORTIONMENT,

LOCATION.	NAME OF COMPANY.	OPERA		
		Operating labor.	Fuel for steam.	Water for steam.
	<i>Private.</i>			
Ashland	Ashland Water Co.	\$1,120 95	\$4,221 65	.....
Beloit	Beloit W. Gas & El. Co.	891 76	2,245 78	.....
Chippewa Falls...	Chip. Val. Ry. Lt. & Pr. Co.	87 75	7 00	.....
Green Bay	Green Bay Water Co.	2,012 77	6,942 12	.....
Janesville	Janesville Water Co.	1,486 00		4,490 61
Marinette	City Water Co.	1,084 80	3,411 39	.....
Merrill	City Water Works Co.		5,129 25	.....
Oshkosh	Oshkosh W. Wks. Co.	1,156 61	8,781 13	.....
Racine	Racine Water Co.	1,689 85	5,619 64	.....
Superior	Superior W. Lt. & Pr. Co.	1,934 95	4,363 88	.....
	Total	\$11,465 44	\$40,721 84	\$4,490 61
	<i>Municipal.</i>			
Appleton	Mun. Water Works Plant ¹	\$657 52	\$2,920 17	.....
Fond du Lac	" " " " " "	966 00	3,477 52	.....
Kenosha	" " " " " "	1,985 91	5,615 44	.....
La Crosse	" " " " " "	3,489 82	6,200 13	.....
Madison	" " " " " "	3,440 47	12,537 23	.....
Manitowoc	" " " " " " ²	1,305 00	2,709 46	.....
Milwaukee	" " " " " " ³	3,297 13	4,644 64	.....
Milwaukee	" " " " " " ⁴	12,454 10	47,818 60	.....
Sheboygan	" " " " " "	1,478 59	6,595 60	.....
Watertown	" " " " " "		3,795 95	.....
Waukesha	" " " " " "	1,170 35		9,301 10
Wausau	" " " " " "	1,800 00	4,910 89	.....
	Total	\$32,044 89	\$101,225 63	\$9,301 10

¹ Report covers 7 months ending June 30, 1912.² Report covers 9 months ending June 30, 1912.

ACCOUNT, YEAR ENDING JUNE 30, 1212.

TION.		MAINTENANCE.				Total cost of steam.
Miscellaneous steam supplies and expenses.	Total operation.	Boiler plant equipment.	Coal and ash handling equipment.	Boiler plant buildings, fixtures and grounds.	Total maintenance.	
\$0 36	\$5,342 96	\$38 09	\$1 65	\$3 51	\$43 25	\$5,386 21
.....	3,137 54	.....	.....	.....	.....	3,137 54
50	95 25	.....	.....	.....	.....	95 25
227 44	9,182 33	42 23	30 60	4 68	77 51	9,259 84
17 03	5,993 64	1,288 76	.....	103 53	1,392 29	7,385 93
216 89	4,713 08	57 30	.....	.....	57 30	4,770 38
84 43	5,213 68	227 15	.....	.....	227 15	5,440 83
128 91	10,066 65	51 66	.....	.....	51 66	10,118 31
181 53	7,491 02	718 74	.....	.....	718 74	8,209 76
34 85	6,333 68	245 00	.....	.....	245 00	6,578 68
\$891 94	\$57,569 83	\$2,668 93	\$32 25	\$111 72	\$2,812 90	\$60,382 73
\$15 98	\$3,593 67	\$39 00	.....	.....	\$39 00	\$3,632 67
176 09	4,619 61	93 84	.....	.....	93 84	4,713 45
3 90	7,605 25	333 48	.....	\$1,468 00	1,801 48	9,406 73
70 92	9,760 87	.....	\$136 54	.....	136 54	9,897 41
2 39	15,980 09	714 80	.....	231 54	946 37	16,926 46
53 20	4,067 66	.....	.....	.....	.....	4,067 66
148 31	8,090 08	288 59	.....	.....	288 59	8,378 67
277 43	60,550 13	1,911 56	.....	13 33	1,924 89	62,475 02
355 72	8,429 91	117 26	.....	50	117 76	8,547 67
100 40	3,896 35	23 68	.....	.....	23 68	3,920 03
.....	10,471 45	242 20	.....	.....	242 20	10,713 65
65 40	6,776 29	.....	.....	.....	.....	6,776 29
\$1,269 74	\$143,841 36	\$3,764 41	\$136 54	\$1,713 40	\$5,614 35	\$149,455 71

³ High service station.

⁴ North Point pumping station.

CLASS B. DETAILED OPERATING
PUMPING—

LOCATION.	NAME OF COMPANY.	OPERATION.				
		Oper- ating labor.	Steam gener- ated.	Steam pur- chas'd.	Pump- ing sta- tion sup- plies and ex- penses.	Total oper- ation.
<i>Private.</i>						
Antigo.....	Antigo Water Co.....	\$1,475 08	\$1,485 10	.....	\$141 73	\$3,101 91
Beaver Dam.....	Beaver Dam W. Co....	660 00	3,221 71	.....	238 21	5,119 92
Menomonee.....	Menomonee W. W. Co..	735 00	3,340 74	.....	144 39	4,220 13
Oconto.....	Ocon. City W. Sup. Co	630 75	3,283 45	.....	172 44	4,086 64
Ripon.....	Ripon Lt. & Water Co	858 60	2,941 60	.....	356 70	4,156 90
Stevens Point..	Stevens Point W. Co..	890 00	6,023 98	.....	337 24	7,251 22
Washburn.....	Washburn W. Wks Co.	.....	3,275 84	.....	26 34	3,302 18
Whitewater.....	Whitewater W. W. Co.	133 40	1,443 35	.....	111 01	1,687 76
	Total.....	\$5,382 83	\$26,015 77	.....	\$1,528 06	\$32,926 66
<i>Municipal.</i>						
Berlin.....	Municipal Water Wks.	\$1,080 00	\$1,356 62	.....	\$284 75	\$2,721 37
Burlington.....	" " " "	625 00	3,126 96	.....	.....	3,751 96
Columbus.....	" " " "	.....	1,770 19	.....	152 69	1,922 88
Egerton.....	" " " "	599 00	2,040 68	.....	163 83	2,803 51
Fort Atkinson..	" " " "	255 47	1,900 29	.....	72 15	2,227 91
Grand Rapids..	" " " "	.....	.....	\$0 81	.....	81
Kaukauna.....	" " " "	687 50	2,498 01	.....	168 76	3,354 27
Lake Geneva....	" " " "	230 50	3,749 49	.....	66 03	4,046 02
Lancaster.....	" " " "	450 00	3,453 96	.....	.....	3,903 96
Marshfield.....	" " " "	226 77	1,252 00	.....	91 33	1,570 10
Monroe.....	" " " "	633 33	3,258 23	.....	384 89	4,276 45
Neenah.....	" " " "	852 00	3,606 94	.....	174 99	4,633 93
New London....	" " " "	364 28	1,040 29	.....	29 21	1,433 78
Oconomowoc....	" " " "	708 00	804 53	.....	70 25	1,582 78
Platteville.....	" " " "	550 64	3,081 59	.....	.....	3,632 23
Portage.....	" " " "	1,231 50	3,668 17	.....	184 60	5,084 27
Pt. Washington.	" " " "	840 00	463 40	.....	.....	1,303 40
Richland Ctr....	" " " "	801 15	2,537 91	.....	104 98	3,444 04
River Falls.....	" " " "	52 83	.....	13 75	.....	66 58
Shawano.....	" " " "	388 58	1,453 28	.....	65 57	1,907 43
So. Milwaukee..	" " " "	1,940 00	7,738 26	.....	735 54	10,413 80
Sparta.....	" " " "	720 00	3,178 95	.....	321 76	4,220 71
Stoughton.....	" " " "	376 00	2,178 65	.....	109 06	2,663 71
Sturgeon Bay...	" " " "	504 00	3,117 28	.....	48 05	3,669 33
Tomahawk.....	" " " "	675 00	2,219 87	.....	228 17	3,123 04
Two Rivers.....	" " " "	600 00	905 94	.....	21 73	1,527 67
	Total.....	\$15,391 55	\$60,401 49	\$14 56	\$3,478 34	\$79,285 94

¹ Cost of fuel only.

EXPENSES FOR YEAR ENDING JUNE 30, 1912.
STEAM POWER.

MAINTENANCE.						Total steam power pumping.
Pumping station equipment.	Source of supply.	Collecting aqueducts, intakes and supply mains.	Purifica- tion system.	Pumping station buildings, fixtures and grounds.	Total mainten- ance.	
\$45 55		\$4 92		\$36 69	\$87 16	\$3,189 07
30 07				1 06	31 13	5,119 92
22 38	\$39 72			167 25	229 35	4,251 26
88 51	4 00	18 84		135 31	246 66	4,315 99
415 38				102 23	517 61	7,768 83
81 14		368 48		69 49	519 11	3,821 29
129 27				39 86	169 13	1,856 89
\$812 30	\$43 72	\$392 24		\$551 89	\$1,800 15	\$34,726 81
\$300 00				\$13 50	\$313 50	\$3,034 87
12 69				432 45	432 45	4,184 41
115 27				62 03	74 72	1,997 60
				159 32	159 32	2,962 83
				207 37	322 64	2,550 55
						81
121 80	\$7 74			18 85	26 59	3,380 86
		\$35 20		23 91	180 91	4,226 93
369 01	34 71	14 90		312 28	312 28	4,216 24
				27 90	446 52	2,016 62
539 03				247 10	786 13	5,062 58
159 82				226 54	386 36	5,020 29
72 81				6 25	79 06	1,512 84
28 63		122 59		50	151 72	1,734 50
78 42				22 90	101 32	3,733 55
264 03				25 30	289 33	5,373 60
						1,303 40
						3,444 04
12 60					17 80	84 38
18 49		5 20			18 49	1,925 92
349 00		1,063 61	\$601 00	161 44	2,175 05	12,588 85
79 69		13 45		35 53	128 67	4,349 38
				5 50	5 50	2,669 21
154 01	1 75			34 00	189 76	3,859 09
						3,123 04
65 29	125 25			4 00	194 54	1,722 21
\$2,740 59	\$169 45	\$1,254 95	\$601 00	\$2,026 67	\$6,792 66	\$86,078 60

CLASS B. DETAILED OPERATING
PUMPING—

LOCATION.	NAME OF COMPANY.	OPERATION.			
		Operating labor.	Hydraulic power purchas'd.	Pumping station, supplies and expenses.	Total operation.
	<i>Private.</i>				
Mellen	Peoples Water & Lt. Co. ¹				
	Total				
	<i>Municipal.</i>				
Baraboo	Mun. Water Works	\$1,698 00		\$463 28	\$2,161 28
River Falls	" " " "	605 42		1 75	607 17
	Total	\$2,303 42		\$465 03	\$2,768 45

PUMPING—

LOCATION.	NAME OF COMPANY.	OPERATION.			
		Operating labor.	Electric current purchased.	Pumping station, supplies and expenses.	Total operation.
	<i>Municipal.</i>				
De Pere	Mun. Water Works	\$513 80	\$1,392 17	\$91 87	\$1,997 84
Grand Rapids ..	" " " "	1,097 50	3,302 00	101 65	4,501 15
Marshfield	" " " "		² 3,948 90		3,948 90
New Richmond ..	" " " "	457 62	880 00	198 34	1,535 96
Platteville	" " " "		406 00		406 00
Rhineland	" " " "	1,500 00	2,371 60	353 78	4,225 38
Stoughton	" " " "		1,871 75	57 03	1,928 78
Waupaca	" " " "	690 13		108 29	798 42
West Allis	" " " "	700 00	225 24	269 94	1,195 18
	Total	\$4,959 05	\$14,397 66	\$1,180 90	\$20,537 61

¹Gravity system.²Current generated.

EXPENSES. 1912—Continued.
HYDRAULIC POWER.

MAINTENANCE.							Total hydraulic power pumping.
Hydraulic power works.	Pumping station equipm't.	Source of supply.	Collecting aqueducts, intakes and mains.	Purification system.	Pumping station, buildings, fixtures, grounds.	Total maintenance.	
\$1,762 45	\$9 03	\$4 00			\$393 23	\$2,168 71	\$4,329 99
16 25	5 56				3 07	24 88	632 07
\$1,778 70	\$14 59	\$4 00			\$396 30	\$2,193 59	\$4,962 06

ELECTRIC POWER.

MAINTENANCE.						Total electric power pumping.
Pumping station equipm't.	Source of supply.	Collecting aqueducts, intakes and supply mains.	Purification system.	Pumping station, buildings, fixtures and grounds.	Total maintenance.	
\$77 30					\$77 30	\$2,075 14
171 11	\$10 00				181 11	4,682 26
						3,948 90
						1,555 96
						406 00
						4,225 38
\$77 08					\$77 08	2,305 86
363 62	13 50			\$43 03	420 15	1,218 57
18 51				119 00	137 51	1,332 69
\$1,007 62	\$23 50			\$162 03	\$1,193 15	\$21,730 76

*No detail distribution.

CLASS B. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	Total pumping.	DISTRIBU- TION.		
			OPERATION.		
			Distribution system, operating labor.	Customer's expenses.	Distribution system supplies and expenses.
<i>Private.</i>					
Antigo	Antigo Water Co.	\$3,189 07	\$99 34		\$59 28
Beaver Dam.....	Beaver Dam Water Co.	5,119 92	(1)		
Mellen.....	Peoples Water & Lt. Co.	(2)			
Menomonie.....	Menomonie W. Wks. Co.	4,251 26			
Oconto.....	Oconto City W. Supply Co.	4,315 99	638 68	\$261 80	3 65
Ripon.....	Ripon Lt. & Water Co.	4,403 56	19 42	5 63	3 50
Stevens Point.....	Stevens Point Water Co.	7,768 83	480 00		116 73
Washburn.....	Washburn W. Wks. Co.	3,821 29			
Whitewater.....	Whitewater W. Wks. Co.	1,856 89	3 75		5 05
	Total.....	\$34,726 81	\$1,241 19	\$267 43	\$188 21
<i>Municipal.</i>					
Baraboo	Municipal Water Wks. Plant	\$4,329 99	\$634 36		\$45 13
Berlin.....	" " " "	3,034 87	165 12		
Hurlington.....	" " " "	4,184 41			
Columbus.....	" " " " 1	1,997 60	18 01		
De Pere.....	" " " "	2,075 14	550 00		
Edgerton.....	" " " "	2,962 83	(1)		
Ft. Atkinson.....	" " " "	2,550 55	38 34	\$11 80	316 49
Grand Rapids.....	" " " "	4,683 07			
Kaukauna.....	" " " "	3,380 86			
Lake Geneva.....	" " " "	4,226 93			
Lancaster.....	" " " "	4,216 24			51 55
Marshfield.....	" " " "	5,965 52		2 03	
Monroe.....	" " " "	5,062 58	333 33		19 62
Neenah.....	" " " "	5,020 29	149 35		35 15
New London.....	" " " "	1,512 84	229 75		1 50
New Richmond..	" " " "	1,535 96	730 47		700 49
Oconomowoc.....	" " " "	1,734 50	27 90		443 03
Platteville.....	" " " "	4,139 55	181 67		38 81
Portage.....	" " " "	5,373 60			
Pt. Washington..	" " " " 1	1,303 40	\$1,983 25		
Rhineland.....	" " " "	4,225 38	291 31		260 84
Richland Center	" " " "	3,444 04	277 30		246 62
River Falls.....	" " " "	716 45			
Shawano.....	" " " "	1,925 92			1 20
So. Milwaukee..	" " " "	12,588 85			
Sparta.....	" " " "	4,349 38	210 00		69 50
Stoughton.....	" " " "	4,975 07	30 90	26 21	42 26
Sturgeon Bay.....	" " " "	3,859 09	5 43	104 25	8 64
Tomahawk.....	" " " "	3,123 04			
Two Rivers.....	" " " "	1,722 21			
Waupaca.....	" " " "	1,218 57	7 40		100 95
West Allis.....	" " " "	\$8,746 09	740 89		77 50
	Total.....	\$120,184 82	\$4,621 53	\$144 29	\$2,459 28

¹No accurate distribution made.

²No pumping necessary, gravity system.

EXPENSES, 1912—Continued.

DISTRIBUTION.

Total operation.	MAINTENANCE.						Total distribution.
	Distribution and transmission.	Services.	Hydrants, fire cisterns, basins, etc	Meters.	Distribution buildings, fixtures and grounds.	Total maintenance.	
\$158 62							\$158 62
	\$304 01					\$304 01	304 01
	6 00	\$27 80	\$0 75			34 55	34 55
	58 38	13 15	53 10	\$50 13	\$3 50	178 26	178 26
904 13	28 32	16 05		10		44 47	948 60
	101 80		33 60	9 49	34 63	179 52	208 07
28 55	333 76		26 70	4 50		364 96	961 69
596 73							
8 80	36 00		65	13 24		49 89	58 69
\$1,696 83	\$868 27	\$57 00	\$114 80	\$77 46	\$38 13	\$1,155 66	\$2,852 49
\$679 49	\$43 50		\$15 06	\$80 18		\$138 75	\$818 24
165 12							165 12
					\$533 53	533 53	533 53
18 01	19 12	\$93 37	55 63	35 60		203 72	221 73
550 00	202 30	330 20		16 13		548 63	1,088 63
366 63	132 28		25 74	141 08		299 10	665 73
	20 00		10 00	48 00		78 00	78 00
	6 00	45 64	33 33	7 62		92 60	92 60
	13 30	50	20 44	19 47		54 11	54 11
51 55							51 55
2 03	158 21	20 89	167 73	194 12		540 96	542 99
352 95	27 88	122 67	64 78	357 92		573 25	926 20
184 50	49 03	143 99	81 45	55 20		329 67	514 17
231 25	52 55	299 67	140 80	188 89		681 91	913 16
1,430 96							1,430 96
470 93	448 58			664 52		1,113 10	1,584 03
220 48			87 69	63 99		151 68	372 16
	77 64	403 71	45 76	3 07		530 18	530 18
1,983 25							1,983 25
552 15			14 45	7 20		21 65	573 80
523 92	25 94					25 94	549 86
		16 85	37 15			54 00	54 00
1 20							1 20
	261 09		105 05			366 14	366 14
279 50	61 82		29 35			91 17	370 67
99 37	167 75	229 75	72 50	56 80		526 80	626 17
118 32	109 80		2 63	22 50		134 93	253 25
	75 00					75 00	75 00
	305 14					305 14	305 14
108 35	51 71	148 31	49 05			249 07	357 42
818 39	200 00	483 75	325 33	414 43		1,423 51	2,241 90
\$9,208 35	\$2,508 64	\$2,339 70	\$1,383 92	\$2,376 75	\$533 53	\$9,142 54	\$18,350 89

*Includes \$7,413.40 water purchased.

† No detailed distribution made.

CLASS B. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	COMMERCIAL.		
		Collection expenses.	Promotion of business expenses.	Total commercial.
	<i>Private.</i>			
Antigo.....	Antigo Water Co.....			
Beaver Dam.....	Beaver Dam Water Co.....			
Mellen.....	Peoples Water & Lt. Co.....			
Menomonie.....	Menomonie W. Wks. Co.....	\$225 00		\$225 00
Oconto.....	Oconto City W. Supply Co.....	225 00	\$50 00	275 00
Ripon.....	Ripon Lt. & W. Co.....	115 01	333 33	448 34
Stevens Point.....	Stevens Point W. Co.....	310 00	11 00	321 00
Washburn.....	Washburn W. Wks. Co.....	49 00		49 00
Whitewater.....	Whitewater W. Wks. Co.....			
	Total.....	\$924 01	\$394 33	\$1,318 34
	<i>Municipal.</i>			
Baraboo.....	Municipal Water Works Plant.....	\$59 10		\$59 10
Berlin.....	" " " " 1			
Burlington.....	" " " "			
Columbus.....	" " " "			
De Pere.....	" " " "	25 08		25 08
Edgerton.....	" " " "	172 60		172 60
Ft. Atkinson.....	" " " "	72 43		72 43
Grand Rapids.....	" " " "			
Kaukauna.....	" " " "			
Lake Geneva.....	" " " "	4 00		4 00
Lancaster.....	" " " "	4 00		4 00
Marshfield.....	" " " "	86 09	\$28 67	114 76
Monroe.....	" " " "	29 00		29 00
Neenah.....	" " " "	249 20		249 20
New London.....	" " " "	161 42		161 42
New Richmond.....	" " " "			
Oconomowoc.....	" " " "		115 30	115 30
Platteville.....	" " " "			
Portage.....	" " " "			
Pt. Washington.....	" " " "			
Rhineland.....	" " " "			
Richland Center.....	" " " "			
River Falls.....	" " " "	48 10		48 10
Shawano.....	" " " "	12 00		12 00
So. Milwaukee.....	" " " "	14 28		14 28
Sparta.....	" " " "	76 45		76 45
Stoughton.....	" " " "	52 50		52 50
Sturgeon Bay.....	" " " "	10 00		10 00
Tomahawk.....	" " " "	100 00		100 00
Two Rivers.....	" " " "	63 00		63 00
Waupaca.....	" " " "			
West Allis.....	" " " "	390 00	59 00	449 00
	Total.....	\$1,629 25	\$202 97	\$1,832 22

: No accurate distribution made.

EXPENSES, 1912—Continued.

GENERAL.

OPERATION.						Maintenance general office buildings, fixtures, and grounds.	Total general.
General office salaries.	General office supplies and expenses.	Law expenses—general.	Miscellaneous general expenses.	Railroad commission expenses.	Total operation.		
\$2,479 08	\$98 35	\$1,064 36	\$337 43	\$6 50	\$3,985 72		\$3,985 72
2,343 75			2,124 26		4,468 01		4,468 01
125 00	31 23				156 23		156 23
100 00	119 66		20 61		240 27		240 27
725 00	140 78	124 47	83 62	636 32	1,710 19	8 75	1,718 94
1,224 07	97 19	235 87	682 38	5 13	2,244 64	18 31	2,262 95
270 50	253 46	26 00	317 58		867 54		867 54
1,300 00	7 11	35 00	460 26	255 47	2,057 84		2,057 84
2,010 00	193 06		30 42	308 95	2,542 43		2,542 43
\$10,577 40	\$940 84	\$1,485 70	\$4,056 56	\$1,212 37	\$18,272 87	\$27 06	\$18,299 93
\$540 00	\$93 85		\$14 11		\$647 96		\$647 96
750 00			92 18		842 18	\$53 35	53 35
550 00	278 59				828 59		828 59
436 93	173 47		39 91		650 31		650 31
2,240 00	42 00				2,282 00		2,282 00
150 00					150 00		150 00
1,199 98			8 80		1,208 78		1,208 78
882 50	83 94		64 70		64 70		64 70
333 34	56 40				966 44		966 44
781 34	17 09	\$26 75	83 80	\$31 12	389 74		389 74
					940 10		940 10
28 00					28 00		28 00
399 99			35 95		435 94		435 94
1,200 00	40 80		186 25		1,427 05		1,427 05
1,400 00	100 68		11 00		1,511 68		1,511 68
399 96					399 96		399 96
540 00					540 00		540 00
25 25		\$148 70	8 05		148 70		148 70
	155 19		396 08		33 30		33 30
170 00	15 74		83 38		551 27		551 27
840 00	96 05				269 12		269 12
420 00	17 00		8 50		936 05		936 05
100 00					445 50		445 50
86 05			84 40		100 00		100 00
616 66			20 07		170 45		170 45
			51 03		636 73		636 73
					51 03		51 03
\$14,090 00	\$1,170 80	\$175 45	\$1,188 21	\$31 12	\$16,655 58	\$53 35	\$16,708 93

CLASS B. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	UNDISTRIBUTED.				Total undistributed.
		Insur- ance.	Station- ery and printing.	Stores depart- ment ex- penses.	Utility equip- ment ex- penses.	
<i>Private.</i>						
Antigo.....	Antigo Water Co.....		\$17 50			\$17 50
Beaver Dam.....	Beaver Dam Water Co.....					
Mellen.....	Peoples Water & Lt. Co.....					
Menomonie.....	Menomonie W. Wks. Co.....	\$69 64				69 64
Oconto.....	Oconto City W. Supply Co.....	36 73	17 81		\$7 15	61 69
Ripon.....	Ripon Lt. & W. Co.....	268 55	31 22		34 51	334 28
Stevens Point.....	Stevens Point W. Co.....	65 31	91 19			156 50
Washburn.....	Washburn W. Wks. Co.....		30 25			30 25
Whitewater.....	Whitewater W. Wks. Co.....	70 78				70 78
	Total.....	\$511 01	\$187 97		\$41 66	\$740 64
<i>Municipal.</i>						
Baraboo.....	Mup. Water Works Plant..	\$4 80				\$4 80
Berlin.....	" " " "	11 00	\$41 00			52 00
Burlington.....	" " " "	100 00	20 00			120 00
Columbus.....	" " " "		7 82	\$5 00		12 82
De Pere.....	" " " "					
Edgerton.....	" " " "	15 00	9 90			24 90
Ft. Atkinson.....	" " " "		29 09	1 09		30 18
Grand Rapids.....	" " " "	60 00	45 86			105 86
Kaukauna.....	" " " "	75 00				75 00
Lake Geneva.....	" " " "		64 96			64 96
Lancaster.....	" " " "				10 00	10 00
Marshfield.....	" " " "	50 92	71 35			122 27
Monroe.....	" " " "	72 00	46 57			118 57
Neenah.....	" " " "	21 66				21 66
New London.....	" " " "					
New Richmond.....	" " " "					
Oconomowoc.....	" " " "	75 00	74 78	25 68		175 46
Platteville.....	" " " "					
Portage.....	" " " "	115 75	52 40			168 15
Port Washington.....	" " " "					
Rhineland.....	" " " "	26 25				26 25
Richland Center.....	" " " "				12 80	12 80
River Falls.....	" " " "					
Shawano.....	" " " "	3 20				3 20
South Milwaukee.....	" " " "		35 10			35 10
Sparta.....	" " " "	71 75	38 15		57 50	167 40
Stoughton.....	" " " "	45 00	16 28			61 28
Sturgeon Bay.....	" " " "	11 67				11 67
Tomahawk.....	" " " "					
Two Rivers.....	" " " "					
Waupaca.....	" " " "	24 45				[24 45
West Allis.....	" " " "				300 00	300 00
	Total.....	\$783 45	\$553 26	\$31 77	\$380 30	\$1,748 78

¹No pumping necessary: gravity system.

EXPENSES. 1912—Concluded.

SUMMARY OF OPERATING EXPENSES.

Total pumping.	Total distribution.	Total commercial.	Total general.	Total undistributed.	Total of foregoing.	Depreciation.	Taxes.	Total operating expenses.
\$3,189 07	\$158 62		\$3,985 72	\$17 50	\$7,350 91		2,440 00	\$9,790 91
5,119 92	304 01		4,468 01		9,891 94	\$2,682 19	2,205 84	14,779 97
..... (.)	34 55		156 23		190 78			190 78
4,251 26	178 26	\$225 00	240 27	69 64	4,964 43		2,105 03	7,069 46
4,315 99	948 60	275 00	1,718 94	61 69	7,320 22	1,000 00	3,014 51	11,334 73
4,403 56	208 07	448 34	2,262 95	334 28	7,657 20	1,607 76	1,083 13	10,348 09
7,768 83	961 69	321 00	867 54	156 50	10,075 56		1,791 73	11,867 29
3,821 29		49 00	2,057 84	30 25	5,958 38		2,297 75	8,256 13
1,856 89	58 69		2,542 43	70 78	4,528 79		945 19	5,473 98
\$34,726 81	\$2,852 49	\$1,318 34	\$18,299 93	\$740 64	\$57,998 21	\$5,289 95	\$15,883 18	\$79,111 34
\$4,329 99	\$818 24	\$59 10	\$647 96	\$4 80	\$5,860 09			\$5,860 09
3,034 87	165 12			52 00	3,251 99	\$1,000 00		4,251 99
4,184 41	533 53		53 35	120 00	4,891 29			4,891 29
1,997 60	221 73		842 18	12 82	3,074 33			3,074 33
2,075 14	1,698 63	25 08	828 59		40,027 44			4,027 44
2,962 83		172 60		24 90	\$3,160 33			3,160 33
2,550 55	665 73	72 43	650 31	30 18	3,069 20	\$1,114 00		5,083 20
4,683 07	78 00		2,282 00	105 86	7,148 93	6,882 28		14,031 21
3,380 86	92 60		150 00	75 00	3,668 46			3,698 46
4,226 93	54 11	4 00	1,208 78	64 96	5,558 78	\$2,670 60	\$702 96	8,932 34
4,216 24	54 55	4 00	64 70	10 00	4,346 49			4,346 49
5,965 52	542 99	114 76	966 44	122 27	7,711 98			7,711 98
5,062 58	926 20	29 00	389 74	118 57	6,526 09	1,848 12		8,374 21
5,020 29	514 17	249 20	940 10	21 66	6,745 42	3,639 75	2,240 00	12,625 17
1,512 84	913 16	161 42			2,587 42			2,587 42
1,535 96	1,430 96		28 00		2,994 92	870 00		3,864 92
1,734 50	1,584 03	115 30	485 94	175 46	4,045 23	2,197 77		6,243 00
4,139 55	372 16		1,427 05		5,938 76			5,938 76
5,373 60	530 18		1,511 68	168 15	7,583 61			7,583 61
1,303 40	1,982 25				3,286 65			3,286 65
4,265 38	573 80		399 96	26 25	5,225 39			5,225 39
3,444 04	549 86		540 00		4,533 90			4,533 90
716 45	54 00	48 10	148 70	12 80	980 05	1,820 00		2,800 05
1,925 92	1 20	12 00	33 30	3 20	1,975 62			1,975 62
12,588 85	366 14	14 28	551 27	35 10	13,555 64			13,555 64
4,349 38	370 67	76 45	269 12	167 40	5,233 02	2,610 32		7,843 34
4,975 07	626 17	52 50	956 05	61 28	6,651 07	1,993 67		8,644 74
3,859 09	253 25	10 00	445 50	11 67	4,579 51			4,579 51
3,123 04	75 00	100 00	100 00		3,398 04	836 22		4,234 26
1,722 21	305 14	63 00	170 45		2,260 80			2,260 80
1,218 57	357 42		636 73	24 45	2,237 17			2,237 17
8,746 09	2,241 90	449 00	51 03	300 00	11,788 02			11,788 02
\$120,184 82	\$18,350 89	\$1,832 22	\$16,708 93	\$1,748 78	\$158,825 64	\$27,482 73	\$2,942 96	\$189,251 33

²Includes contingencies extraordinary.

CLASS B. STEAM GENERATION APPORTIONMENT

LOCATION.	NAME OF COMPANY.	OPERA		
		Operating labor.	Fuel for steam.	Water for steam.
<i>Private.</i>				
Antigo	Antigo Water Co		\$1,480 90	
Beaver Dam	Beaver Dam Water Co	\$660 00	3,261 87	
Menomonie	Menomonie W. Wks. Co.	902 00	1,654 71	
Oconto	Oconto City W. Supply Co.	580 62	2,652 89	
Ripon	Ripon Lt. & W. Co.	565 40	5,100 68	
Stevens Point	Stevens Point W. Co.	1,215 28	4,511 67	
Washburn	Washburn W. Wks. Co.	686 17	2,486 25	
Whitewater	Whitewater W. Wks. Co.	425 40	1,017 95	
	Total	\$5,034 87	\$22,166 92	
<i>Municipal.</i>				
Berlin	Mun. Water Works Plant ⁽¹⁾			
Burlington	" " " "	\$875 00	\$2,131 81	
Columbus	" " " "	1,040 33	5,951 45	\$96 00
De Pere	" " " " ⁽¹⁾			
Edgerton	" " " "	920 00	1,001 42	
Fl. Atkinson	" " " "	1,200 00	7,976 67	
Kaukauna	" " " "	687 50	1,698 81	
Lake Geneva	" " " "	505 90	2,646 06	
Lancaster	" " " "	450 00	1,704 92	
Marshfield	" " " "	1,260 87	8,710 36	1,192 00
Monroe	" " " "	663 00	2,483 43	
Neenah	" " " "	550 00	2,820 22	
New London	" " " " ⁽¹⁾			
Oconomowoc	" " " "			
Platteville	" " " "	782 00	2,161 61	
Portage	" " " "	590 00	3,064 27	
Port Washington	" " " "		463 40	
Rhineland	" " " "			
Richland Center	" " " " ⁽¹⁾			
River Falls	" " " " ⁽¹⁾			
Shawano	" " " " ⁽¹⁾			
So. Milwaukee	" " " "	1,387 64	6,350 62	
Sparta	" " " "	420 00	2,283 95	90 92
Stoughton	" " " "	1,110 00	906 50	
Sturgeon Bay	" " " "	1,080 00	10,024 40	
Tomahawk	" " " "	675 00	1,482 42	
Two Rivers	" " " "	1,432 50	2,793 54	
	Total	\$15,629 74	\$66,655 84	\$1,378 92

¹No steam generation apportionment account reported.

ACCOUNT, YEAR ENDING JUNE 30, 1912.

OPERATION.		MAINTENANCE.			Total cost of steam.	APPORTIONED TO	
Miscellaneous steam supplies and expenses.	Total operation.	Boiler plant equipment.	Boiler plant, buildings, fixtures and grounds.	Total maintenance.		Water utility.	Other utilities.
\$4 20	\$1,485 10				\$1,485 10	\$1,485 10	
62 50	3,921 87	\$299 84		\$299 84	4,221 71	4,221 71	
14 15	3,247 66	721 53		721 53	3,340 74	3,340 74	
80 68	5,746 76	35 79		35 79	3,283 45	3,283 45	
		123 24	\$13 20	136 44	5,883 20	5,883 20	
140 94	5,867 89	134 39	21 70	156 09	6,023 98	6,023 98	
49 15	3,221 57	54 27		54 27	3,275 84	3,275 84	
	1,443 35				1,443 35	1,443 35	
\$351 62	\$27,553 41	\$1,369 06	\$34 90	\$1,403 96	\$28,957 37	\$28,957 37	
\$120 15	\$3,126 96				\$3,126 96	\$3,126 96	
	7,087 78				7,087 78	1,770 19	\$5,317 59
35 55	1,956 97	\$83 71		\$83 71	2,040 68	2,040 68	
1,517 44	10,694 11				10,694 11	1,900 29	8,793 82
58 68	2,444 99	34 17	\$18 85	53 02	2,498 01	2,498 01	
423 28	3,575 24	163 80	10 45	174 25	3,749 49	3,749 49	
174 79	2,329 71	811 97	312 28	1,124 25	3,453 96	3,453 96	
245 05	11,408 28	257 81		257 81	11,666 09	1,252 00	10,414 09
80 84	3,227 27	30 96		30 96	3,258 23	3,258 23	
185 20	3,555 42	51 52		51 52	3,606 94	3,606 94	
107 62	3,051 23	30 36		30 36	3,081 59	3,081 59	
2 70	3,656 97	11 20		11 20	3,668 17	3,668 17	
	463 40				463 40	463 40	
	7,738 26				7,738 26	7,738 26	
49 72	2,844 57	52 59	281 79	334 38	3,178 95	3,178 95	
109 06	2,125 56	46 59	6 50	53 09	2,178 65	2,178 65	
	11,104 40				11,104 40	3,117 28	7,987 12
	2,157 42		62 45	62 45	2,219 87	2,219 87	
149 90	4,375 94	153 75		153 75	4,529 69	905 94	3,623 75
\$3,259 98	\$86,924 48	\$1,728 43	\$692 32	\$2,420 75	\$89,345 23	\$53,208 86	\$36,136 37

CLASS C. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	Pumping.	Distribution.
<i>Private.</i>			
Bangor.....	Hussa Bros. ¹		
Hillsboro.....	Hillsboro City W. Works ¹		
Hurley.....	Hurley Water Co. ²	\$9,588 25	\$2,021 78
Iron River.....	Iron River W. Lt. & Power Co.....	3,004 76	
Phillips.....	Phillips Lt. W. Ft. & Pr. Co.....	3,531 79	
Union Grove.....	Union Grove W. Works.....	370 00	140 00
	Total.....	\$16,494 80	\$2,161 78
<i>Municipal.</i>			
Algoma.....	Municipal Water Works Plant.....	\$2,180 08	\$15 89
Alma Center.....	" " " ".....		
Arcadia.....	" " " ".....	1,120 21	164 94
Baldwin.....	" " " ".....		
Barron.....	" " " ".....	644 65	130 80
Bayfield.....	" " " ".....		
Belmont.....	" " " ".....	2,802 21	513 57
Benton.....	" " " ".....	793 77	162 85
Blair.....	" " " ".....		
Blanchardville.....	" " " ".....	410 69	40 55
		724 50	4 00
Bloomer.....	" " " ".....	426 40	218 50
Brodhead.....	" " " ".....	902 04	601 03
Bruce.....	" " " ".....		
Cashton.....	" " " ".....		
Cassville.....	" " " ".....		
Clinton.....	" " " ".....	848 90	439 90
Cumberland.....	" " " ".....	1,200 00	276 58
Darlington.....	" " " ".....	7,844 29	152 25
Deerfield.....	" " " ".....		
Dodgeville.....	" " " ".....		
Elkhart Lake.....	" " " ".....	825 95	58 85
Elkhorn.....	" " " ".....	4,886 34	755 39
Elsworth.....	" " " ".....		
Elroy.....	" " " ".....		
Evansville.....	" " " ".....	1,937 44	307 61
Fennimore.....	" " " ".....		
Glenwood.....	" " " ".....		
Glidden.....	" " " ".....		
Jefferson.....	" " " ".....	2,388 20	354 162
Kiel.....	" " " ".....	1,137 49	
Kilbourn.....	" " " ".....	2,318 27	1,124 90
Lake Mills.....	" " " ".....	1,631 81	519 09
Lodi.....	" " " ".....	1,166 99	479 55
Loyal.....	" " " ".....		
Mauston.....	" " " ".....	1,314 06	162 86
Mayville.....	" " " ".....	2,632 41	1,127 11
Mazomanie.....	" " " ".....		
Medford.....	" " " ".....	819 91	98 65
Menasha.....	" " " ".....	1,120 95	94 05
Merrillan.....	" " " ".....	242 49	101 91
Mondovi.....	" " " ".....	468 00	18 00
Neillsville.....	" " " ".....		
No. Freedom.....	" " " ".....	215 12	553 03
No. Milwaukee.....	" " " ".....	2,722 86	161 72
Onalaska.....	" " " ".....	1,562 92	44 47

¹ No distribution of operating expenses reported.

EXPENSES. YEAR ENDING JUNE 30, 1912.

Commer- cial.	General.	Undistri- buted.	Total of foregoing.	Deprecia- tion.	Taxes.	Total operating expenses.
\$341 99	\$3,354 64		\$15,306 66	\$10,000 00	\$32 59	\$25,339 25
	1,266 83		4,271 59		435 56	4,707 15
	333 33	\$149 66	4,014 78			4,014 78
			510 00		50 00	560 00
\$341 99	\$4,954 80	\$149 66	\$24,103 03	\$10,000 00	\$518 15	\$34,621 18
	\$584 83	\$32 73	\$2,813 53	\$1,256 27		\$4,069 80
\$1 35	272 25	113 05	1,671 80			1,671 80
	100 64		876 09	599 53		1,475 62
	43 90		3,359 68			3,359 68
			956 62			956 62
	12 60		451 24			451 24
	76 10		741 10			741 10
			721 00			721 00
			1,503 07			1,503 07
	30 65		1,319 45			1,319 45
	120 00		1,596 58			1,596 58
125 10	13 75		8,135 39	449 69		8,585 08
26 07			910 87	171 56		1,082 43
424 08	361 38	44 86	6,472 05			6,472 05
12 82	220 55	10 00	2,538 42	6,048 50	247 92	8,834 84
	226 80		2,969 62	823 16		3,792 78
			1,137 49			1,137 49
114 73			3,557 90	1,500 00		5,057 90
	587 99	29 03	2,817 92	400 00		3,217 92
	83 45		1,729 99			1,729 99
	110 79		1,587 71			1,587 71
	433 17		4,242 69			4,242 69
3 09	26 57	82 41	1,030 63			1,030 63
126 00	27 50		1,368 50			1,368 50
10 75			355 15			355 15
	100 00		586 00			586 00
	50 87		819 02			819 02
	240 00		3,124 58			3,124 58
	10 00	50 00	1,667 39			1,667 39

* Includes Wisconsin and Michigan properties.

CLASS C. DETAILED OPERATING

LOCATION.	NAME OF COMPANY.	Pumping.	Distribu- tion.
<i>Municipal—Concluded.</i>			
Park Falls.....	Municipal Water Works Plant.....	731 85	38 65
Plymouth.....	" " " " " 3.....	6,751 28	2,781 82
Prairie du Chien.	" " " " " ".....	2,534 05	111 30
Shell Lake.....	" " " " " 1.....		
Shullsburg.....	" " " " " ".....	1,244 18	44 50
Spring Valley....	" " " " " 1.....		
Stanley.....	" " " " " ".....	974 36	2,718 53
St. Croix Falls....	" " " " " ".....	524 59	431 20
Sun Prairie.....	" " " " " ".....	1,793 89	380 65
Thorp.....	" " " " " ".....	593 45	348 46
Viroqua.....	" " " " " ".....	2,196 89	372 06
Waterloo.....	" " " " " ".....	1,757 69	96 00
Waupun.....	" " " " " ".....	3,261 92	
Wauwatosa.....	" " " " " ".....	3,468 41	
West Bend.....	" " " " " ".....	904 78	2,267 48
Westby.....	" " " " " ".....	594 20	103 48
Whitehall.....	" " " " " ".....	133 68	117 16
	Total.....	\$74,904 17	\$18,493 96

† No distribution of operating expenses reported.

EXPENSES, 1912.—Concluded.

Commer- cial.	General.	Undistri- buted.	Total of foregoing.	Deprecia- tion.	Taxes.	Total operating expenses.
50 00	50 00		870 50			870 50
46 04	1,004 58	156 78	10,740 50	740 74		11,481 24
			2,645 35			2,645 35
	31 92		1,320 60			1,320 60
	58 14		3,751 03			3,751 03
9 00	180 00	25 39	955 79			955 79
21 04		44 64	2,388 93			2,388 93
			1,007 59			1,007 59
233 70	190 45	40 25	3,033 35	677 31		3,710 66
14 00	25 00	11 00	1,903 69			1,903 69
	466 68		3,728 60			3,728 60
	32 25	60 00	3,468 41			3,468 41
			3,264 51			3,264 51
	159 50		857 18	403 08		1,260 26
11 50			262 34			262 34
\$1,229 27	\$5,932 31	\$700 14	\$101,259 85	\$13,069 84	\$247 92	\$114,577 61

³ Report covers one year and 3 months.

CLASS A. BALANCE
As*Italic figures denote credits.*

LOCATION.	NAME OF COMPANY.	PROPERTY AND PLANT.		Treas- ury se- curities.	Stocks, bonds and other invest- ments.	Reserve, sinking and special fund assets.
		Cost begin- ning of year.	Construc- tion and equip- ment current year.			
<i>Private.</i>						
Ashland	Ashland Water Co.....	\$664,922 73	\$11,192 87	\$7,000 00		
Beloit.....	Beloit W. Gas & El. Co...	505,316 63	37,881 15		\$3,300 00	
Chippewa Falls	Chipp. Val. Rv. Lt. & P. Co.	273,095 75	5,382 44			
Green Bay.....	Green Bay Water Co.....	763,807 98	55,794 33			
Janesville.....	Janesville Water Co.....	433,415 04	1,848 56			
Marinette.....	City Water Co.....	576,250 69	6,882 74			
Merrill.....	City Water Works Co.....	345,347 14	23,618 42			
Oshkosh.....	Oshkosh Water Wks. Co.	786,118 78	6,303 32			\$255 96
Racine.....	Racine Water Co.....	1,393,018 56	53,314 30			
Superior.....	Superior W.Lt. & Pr. Co.	1,560,077 70	58,100 49	50,000 00	10,819 13	25,498 76
	Total.....	\$7,306,371 00	\$260,318 62	\$57,000 00	\$14,119 13	\$25,754 72
<i>Municipal.</i>						
Appleton.....	Mun. Water Wks. Plant.	\$347,106 70				
Eau Claire.....	" " " "	314,244 46	\$13,545 34			\$10,169 17
Fond du Lac.....	" " " "	345,661 04	18,584 90			
Kenosha.....	" " " "	299,201 49	8,815 75		\$25,000 00	
La Crosse.....	" " " "	614,380 55				
Madison.....	" " " "	626,995 61	40,183 36			
Manitowoc.....	" " " "	248,299 08	1,409 47			
Milwaukee.....	" " " "	7,005,915 16	232,134 01		22 00	
Sheboygan.....	" " " "	493,281 63	338,340 48		67,200 00	
Watertown.....	" " " "	166,090 85	7,226 31			
Waukesha.....	" " " "	172,045 36	5,003 25		4,500 00	1,500 00
Wausau.....	" " " "	309,499 98	9,083 54			
	Total.....	\$10,942,721 91	\$297,645 45		\$96,722 00	\$11,669 17

1 No complete balance sheet available.

SHEET, JUNE 30 1912.
SETS.

CURRENT ASSETS.					Prepaid ac- counts.	Open ac- counts.	Deficit.	Total assets.
Cash.	Notes and bills receiv- able.	Ac- counts receiv- able.	Materials and supplies.	Miscel- laneous current assets				
\$276 54		\$6,537 40	\$2,150 50	\$311 14				\$692,391 18
34,342 62	\$1,718 00	10,586 81	3,690 18		\$355 23	\$7,227 09	\$35,327 05	639,744 76
656 02		47,493 30			2,178 52			328,150 01
3,984 66		11,850 75				45,765 96		877,875 04
484 29		5,025 43	877 45	75 00	60 80	25,730 02	4,229 46	619,615 88
508 64		1,854 40	1,335 62	125 00	20 41	6,916 57	50,277 99	430,004 19
882 31	776 00	1,165 64				7,408 31		802,910 32
754 58		31,093 55	1,529 34	465 00	50 40	58,500 00		1,538,635 73
9,159 76	120 00	15,171 40	6,468 31		3,784 16	2,813 60		1,742,013 31
\$51,349 42	\$2,614 00	\$130,688 68	\$16,051 40	\$976 14	\$6,449 52	\$154,361 55	\$89,834 50	\$8,115,588 68
\$3,036 73		\$3,946 23	\$999 75					\$355,089 41
17,474 89						\$9,293 23		364,727 09
14,425 58		3,297 74						367,543 68
232,066 49		3,376 22		\$2,383 75				353,202 79
			662 70					847,109 74
6,288 07		27,788 29	5,631 15		\$100 00			706,986 48
7,237 13			3,255 00					260,200 68
278,676 38		245,435 46	87,704 58		18,937 90	657 19		7,869,482 68
16,949 92		5,787 89	8,088 25		33 87	5,840 22		558,841 30
7,281 42			1,628 43					182,227 01
			2,613 15					185,661 76
			5,811 25		80 00			324,474 77
\$583,436 61		\$289,631 83	\$116,394 26	\$2,383 75	\$19,151 77	\$15,790 64		\$12,375,547 39

² Includes item \$46,337.95, 3% depreciation for 3 years 4 months.

CLASS A. BALANCE SHEET
LIABIL

LOCATION.	NAME OF COMPANY.	CAPITAL LIABILITIES.		
		Capital stock preferred.	Capital stock common.	Funded debt.
	<i>Private.</i>			
Ashland.....	Ashland Water Co.....	\$125,000 00	\$175,000 00	\$230,000 00
Beloit.....	Beloit W. Gas & El. Co.....	165,000 00	165,000 00	297,000 00
Chippewa Falls.....	Chipp. Val. Ry. Lt. & Pr. Co.....		133,333 33	166,666 67
Green Bay.....	Green Bay Water Co.....		202,300 00	400,000 00
Janesville.....	Janesville Water Co.....		200,000 00	175,000 00
Marinette.....	City Water Co.....		200,000 00	364,000 00
Merrill.....	City Water Wks. Co.....		125,000 00	199,000 00
Oshkosh.....	Oshkosh W. Wks. Co.....	79,000 00	200,000 00	419,000 00
Racine.....	Racine Water Co.....		400,000 00	1,006,000 00
Superior.....	Superior W. Lt. & Pr. Co.....	250,000 00	250,000 00	1,064,000 00
	Total.....	\$619,000 00	\$2,050,633 33	\$4,320,666 67
	<i>Municipal.</i>			
Appleton.....	Mun. Water Works Plant.....			\$255,000 00
Eau Claire.....	.. .. .			100,000 00
Fond du Lac.....	.. .. .			189,500 00
Kenosha.....	.. .. .			.. . . .
La Crosse.....	.. .. .			517,000 00
Madison.....	.. .. .			97,500 00
Manitowoc.....	.. .. .			230,000 00
Milwaukee.....	.. .. .			55,000 00
Sheboygan.....	.. .. .			350,000 00
Watertown.....	.. .. .			62,000 00
Waukesha.....	.. .. .			124,000 00
Wausau.....	.. .. .			103,000 00
	Total.....			\$2,083,000 00

1 No complete balance sheet available.

JUNE 30, 1912.—Continued.
 TIES.

Mortgage liabilities.	RESERVE LIABILITIES.			CURRENT LIABILITIES.		
	Depreciation reserve.	Sinking reserve.	Special reserve.	Notes and bills payable.	Accounts payable.	Matured interest on funded debt unpaid.
.....	\$49,132 37	.....	.....	\$10,612 39	\$7,198 65	.....
.....	420 00	.....	\$12 40	.....	4,789 83	.....
.....	6,652 20	.....	.....	85,900 00	8,643 77	.....
.....
.....	.....	.....	.....	39,050 06	293 54	.....
.....	.....	.....	.....	93,756 18	.....	.....
.....	.....	.....	.....	4,000 00	370 00	.....
.....	321 06	.....	.....	99,159 60	177 96	.....
.....	50,144 25	\$26,927 17	698 54	.....	8,824 12	.....
.....	\$106,669 88	\$26,927 17	\$710 94	\$332,478 23	\$30,297 87	.....
.....
.....	\$40,231 00	.....	.....	.....	\$1,955 39	.....
.....	.....	\$10,169 17	.....	.....	153,000 00	.....
.....
.....	14,373 85	.....	.....	.....	308,773 45	.....
.....
.....	12,941 73	.....	.....	.....	21,554 08	.....
.....	.....	.....	.....	.....	4,064 11	.....
.....	38,340 48	.....	.....	\$27 10	75,079 55	.....
.....
.....	.....	.....	.....	.....	1,488 30	.....
\$30,000 00	.....	.....	.....	.....	21,026 58	.....
.....
\$30,000 00	\$105,887 06	\$10,169 17	.....	\$27 10	\$596,941 46	.....

CLASS A. BALANCE SHEET,
LIABILITIES

LOCATION.	NAME OF COMPANY.	CURRENT LIABILITIES—		
		Deposits.	Miscellaneous current liabilities.	Taxes accrued.
<i>Private</i>				
Ashland	Ashland Water Co.....	\$714 00	\$88,750 00	.....
Beloit	Beloit W. Gas & Elec. Co....	956 22	23 50	\$1,598 81
Chippewa Falls...	Chip. Vall. Ry. Lt. & Pr. Co.	.....	.....	.....
Green Bay.....	Green Bay Water Co.....	.....	.....	.....
Janesville.....	Janesville Water Co.....	.....	.....	.....
Marinette.....	City Water Co.....	.....	6,216 86	3,988 75
Merrill.....	City Water Works Co.....	.....	6,607 71	2,323 64
Oshkosh.....	Oshkosh W. Wks. Co.....	522 00	.....	.....
Racine.....	Racine Water Co.....	.....	.....	6,769 39
Superior.....	Superior W. Lt. & Pr. Co...	3,196 59	6,903 25	.....
	Total.....	\$5,382 81	\$108,501 32	\$14,680 59
<i>Municipal.</i>				
Appleton	Mun. Water Works Plant....	\$2,916 64	\$40,583 59	.....
Eau Claire .....	" " " " " " " " " "	.....	.....	.....
Fond du Lac .....	" " " " " " " " " "	.....	.....	.....
Kenosha.....	" " " " " " " " " "	4,095 00	.....	.....
LaCrosse.....	" " " " " " " " " "	.....	.....	.....
Madison .....	" " " " " " " " " "	.....	.....	.....
Manitowoc .....	" " " " " " " " " "	.....	.....	.....
Milwaukee	" " " " " " " " " "	785 00	.....	.....
Sheboygan.....	" " " " " " " " " "	85 00	.....	.....
Watertown.....	" " " " " " " " " "	.....	.....	.....
Waukesha.....	" " " " " " " " " "	.....	.....	.....
Wausau.....	" " " " " " " " " "	.....	.....	.....
	Total.....	\$7,881 64	\$40,583 59	.....

¹City unreserved proprietary interest.

JUNE 30, 1912. Concluded.
Concluded.

ACCRUED LIABILITIES.				Open accounts.	Surplus.	Total li- abilities.
Unmatured interest on funded debt accrued.	Unmatured interest on notes and bills pay- able accrued.	Dividends accrued.	Miscel- laneous. liabilities accrued.			
\$4,950 00					\$5,983 77	\$692,391 18
					12,854 04	639,744 76
					189,675 04	328,150 01
					69,248 26	877,875 04
	\$6,066 67					444,248 26
3,316 66						619,615 88
8,383 33					100,0 8 32	430,004 19
7,522 48					17,824 39	802,910 32
					73,796 91	1,538,635 73
\$24,172 47	\$6,066 67				\$469,400 73	\$8,115,588 68
\$5,737 50					\$8,665 29	\$355,089 41
					101,557 62	364,727 09
					178,043 68	367,543 68
833 34					349,107 79	353,202 79
					6,129 10	847,109 74
					596,544 75	706,986 48
					8,646 60	280,200 68
4,666 66			\$5,169 96	\$9,877 18	17,756,245 95	7,869,482 68
					128,982 99	558,841 30
					120,227 01	182,227 01
					30,173 46	185,661 76
					190,448 19	324,474 77
\$11,237 50			\$5,169 96	\$9,877 18	\$9,474,772 73	\$12,375,547 39

LOCATION.	NAME OF COMPANY.	PROPERTY AND PLANT.		Treas- ury se- curities	Stocks, bonds and other invest- ments.	Reserve, sinking and spe- cial fund assets.
		Cost begin- ning of year.	Construc- tion and equip- ment current year.			
<i>Private.</i>						
Antigo.....	Antigo Water Co.....	\$224,692 18	\$12,034 13			
Beaver Dam....	Beaver Dam Water Co....	268,219 61	149 60			
Mellen.....	Peoples Water & Lt. Co....	39,278 22	4,100 00	\$17,100 00		
Menomonie.....	Menomonie W. Wks. Co....	83,993 41				
Oconto.....	Oconto City W. Sup. Co....	124,578 32	1,173 01			
Ripon.....	Ripon Lt. & W. Co.....	137,744 36	1,699 95	572 00		\$5,148 00
Stevens Point...	Stevens Point W. Co....	147,710 30	1,250 18			
Washburn.....	Washburn W. Wks. Co....	226,829 76	816 59			
Whitewater.....	Whitewater W. Wks. Co....	159,698 80	484 58			
Total		\$1,412,744 96	\$21,708 04	\$17,672 00		\$5,148 00
<i>Municipal.</i>						
Baraboo.....	Mun. Water Works Plant	\$142,801 82	\$5,460 67			
Berlin.....	" " " "	66,663 88				
Burlington.....	" " " "	72,998 85	1,439 72			
Columbus.....	" " " "	38,291 35	1,603 07			
De Pere.....	" " " "	89,177 68	1,228 31			
Edgerton.....	" " " "	40,250 56	2,930 10			
Ft. Atkinson....	" " " "	57,845 83	7,509 83			
Grand Rapids...	" " " "	137,645 69	7,437 51			
Kaukauna.....	" " " "	93,667 12	6,206 01			
Lake Geneva...	" " " "	87,695 66				
Lancaster.....	" " " "	77,744 69	1,792 96			
Marshfield.....	" " " "	135,229 73	3,491 54			
Monroe.....	" " " "	101,214 63	633 49			\$4,791 45
Neenah.....	" " " "	104,384 67	13,841 26			
New London.....	" " " "	38,319 35	3,578 90			
New Richmond..	" " " "	30,040 00				1,320 00
Oconomowoc....	" " " "	68,896 75	4,362 42			2,197 77
Platteville.....	" " " "					
Portage.....	" " " "	75,172 32	1,694 06			
Pt. Washington..	" " " "					
Rhineland.....	" " " "	90,000 00	21,238 03			
Richland Ctr....	" " " "					
River Falls.....	" " " "	38,198 17	416 78			5,840 00
Shawano.....	" " " "	21,398 29	15,704 06			
So. Milwaukee..	" " " "	188,760 76	54,324 50			37,009 69
Sparta.....	" " " "	71,445 62	15,565 21			737 55
Stoughton.....	" " " "	97,432 40	3,138 58			
Sturgeon Bay...	" " " "	20,764 67	1,695 00			
Tomahawk.....	" " " "	33,449 03	4,139 16			
Two Rivers.....	" " " "	61,860 44	5,066 15			
Waupaca.....	" " " "	70,882 89	1,016 12			
West Allis.....	" " " "	67,763 99	10,492 28			
Total		\$2,219,996 84	\$196,005 87			\$51,896 46

1 No balance sheet reported.

SHEET, JUNE 30, 1911.
SETS.

CURRENT ASSETS.					Prepaid ac- counts.	Open ac- counts.	Deficit.	Total as- sets.
Cash.	Notes and bills re- ceivable.	Accounts receiv- able.	Materials and sup- plies.	Miscel- laneous current assets.				
\$3,479 84		\$166 34				\$1,000 00		\$241,372 49
10,926 35		118 50	\$543 75					279,957 81
846 57	\$400 00	728 68				19 41		62,472 88
989 52		1,151 87					\$132,865 20	219,000 00
632 51		11,182 91	381 56			4,906 00		142,854 31
280 90	43 98	2,235 56	903 28		\$1,500 00	157 39		150,285 42
1,358 17		434 52					124,246 83	275,000 00
1,576 17	66 50						16,710 98	246,000 00
931 83		2,279 78	319 61		74 17			163,788 77
\$21,021 86	\$510 48	\$18,298 16	\$2,148 20		\$1,574 17	\$6,082 80	\$273,823 01	\$1,780,731 68
	\$8,467 67		\$898 60					\$157,628 76
			985 40					66,663 88
\$897 61		\$2,458 62	204 74					75,423 97
	2,503 73		638 56					43,455 39
			385 00					93,548 28
	1,500 00	1,480 66	254 00					43,565 66
		1,508 28	2,667 02					68,590 47
7,092 65		1,002 48	370 00		\$98 00			149,258 50
2,598 25		6,007 39	1,273 37					108,436 26
			641 76					97,574 67
730 72		138 80	822 55			\$2,655 15		80,179 41
93 20		2,661 65	2,027 59					143,068 49
12,118 85		246 87	947 40					111,422 01
		1,076 61	504 57					131,539 05
								43,479 43
253 59								31,613 59
2,807 94		186 50	574 00		50 00			79,075 38
								76,866 38
2,238 30		6,836 17	1,787 00					122,099 50
		43 76	296 20					44,794 91
14,127 10			710 41		31 20			51,971 06
								280,094 95
352 54	1,800 64	111 80	2,640 73		190 95			92,845 04
496 26			1,997 70					103,064 94
	230 00		140 00				\$2,917 22	25,746 89
261 46		856 08	1,256 20		53 50			40,015 43
4,949 82	2,034 06		831 54					74,742 01
	174 67		529 75					72,603 43
1,350 31		3,340 33						82,946 91
\$50,368 60	\$16,710 77	\$27,956 00	\$23,384 09		\$423 65	\$2,655 15	\$2,917 22	\$2,592,314 65

* Balance sheet incomplete.

CLASS B. BALANCE
LIA

LOCATION.	NAME OF COMPANY.	CAPITAL LIABILITIES.		
		Capital stock preferred.	Capital stock common.	Funded debt.
	<i>Private.</i>			
Antigo.....	Antigo Water Co.....		\$100,000 00	\$76,000 00
Beaver Dam.....	Beaver Dam Water Co.....		125,000 00	
Mellen.....	Peoples Water & Lt. Co.....		50,000 00	
Menomonie.....	Menomonie W. Wks. Co.....		100,000 00	119,000 00
Oconto.....	Oconto City W. Supply Co.....		100,000 00	
Ripon.....	Ripon Lt. & W. Co.....		62,086 66	57,772 00
Stevens Point.....	Stevens Point W. Co.....		175,000 00	100,000 00
Washburn.....	Washburn W. Wks. Co.....		100,000 00	
Whitewater.....	Whitewater W. Wks. Co.....		80,000 00	73,500 00
	Total.....		\$892,086 66	\$426,272 00
	<i>Municipal.</i>			
Baraboo.....	Munic. Water Works Plant.....			\$89,000 00
Berlin.....	" " " " " "			19,000 00
Burlington.....	" " " " " "			13,000 00
Columbus.....	" " " " " "			25,000 00
De Pere.....	" " " " " "			66,800 00
Edgerton.....	" " " " " "			25,000 00
Ft. Atkinson.....	" " " " " "			28,000 01
Grand Rapids.....	" " " " " "			75,000 00
Kaukauna.....	" " " " " "			48,500 00
Lake Geneva.....	" " " " " "			90,293 90
Lancaster.....	" " " " " "			9,000 00
Marshfield.....	" " " " " "			96,666 67
Monroe.....	" " " " " "			78,500 00
Neenah.....	" " " " " "			60,000 00
New London.....	" " " " " "			31,500 00
New Richmond..	" " " " " "			
Oconomowoc.....	" " " " " "			41,500 00
Platteville.....	" " " " (1).....			
Portage.....	" " " " " "			22,500 00
Pt. Washington..	" " " " (2).....			
Rhineland.....	" " " " " "			55,000 00
Richland Ctr.....	" " " " (2).....			
River Falls.....	" " " " " "			9,875 13
Shawano.....	" " " " " "			6,900 00
So. Milwaukee..	" " " " " "			114,000 00
Sparta.....	" " " " " "			25,100 00
Stoughton.....	" " " " " "			
Sturgeon Bay.....	" " " " " "			8,910 00
Tomahawk.....	" " " " " "			
Two Rivers.....	" " " " " "			34,875 00
Waupaca.....	" " " " " "			44,600 00
West Allis.....	" " " " " "			45,500 00
	Total.....			\$1,164,020 71

¹ No balance sheet.

HEET, JUNE 30, 1912.—Continued.
 BILITIES.

Mortgage liabilities.	Depreciation reserve fund.	Sinking fund.	Special funds.	Notes and bills payable.	Accounts payable.	Matured interest on funded debt unpaid.
				\$46,450 00		
\$132,750 00	\$7,912 88			10,000 00	\$803 80	
	1,008 10			15,300 00	3,177 50	
	6,218 68			8,439 78		
100,000 00				46,000 00	99 59	\$5,880 00
\$232,750 00	\$15,139 66			\$126,189 78	\$4,080 89	\$5,880 00
					\$716 49	
	\$8,064 00	\$15,900 08	\$1,000 00 11,354 74		3,017 14 693 89	
					4,558 58	\$1,410 00
	6,639 57 3,639 75	16,500 00			2,189 39 885 81	
	1,320 00 2,197 77			\$6,000 30		
	8,118 82					
	737 55			563 30	650 51 848 71	313 75
	836 22			4,542 02	6,272 29	
					2,240 00	
	\$31,553 68	\$32,400 08	\$12,354 74	\$11,105 32	\$22,072 81	\$1,723 75

² Balance sheet incomplete.

CLASS B. BALANCE SHEET,
LIABILITIES—

LOCATION.	NAME OF COMPANY.	CURRENT LIABILITIES CONCLUDED.	
		Deposits.	Miscellaneous current liabilities.
<i>Private.</i>			
Antigo.....	Antigo Water Co.....		
Beaver Dam.....	Beaver Dam Water Co.....		
Mellen.....	Peoples Water & Light Co.....		
Menomonie.....	Menomonie Water Works Co.....		
Oconto.....	Oconto City Water Supply Co.....		
Ripon.....	Ripon Light & Water Co.....		
Stevens Point.....	Stevens Point Water Co.....		
Washburn.....	Washburn Water Works Co.....		
Whitewater.....	Whitewater Water Works Co.....	\$830 00	
	Total.....	\$830 00	
<i>Municipal.</i>			
Baraboo.....	Municipal Water Works Plant.....		
Berlin.....	" " " "		
Burlington.....	" " " "		
Columbus.....	" " " "		
De Pere.....	" " " "		
Edgerton.....	" " " "		\$2,451 29
Fort Atkinson.....	" " " "		
Grand Rapids.....	" " " "		
Kaukauna.....	" " " "		
Lake Geneva.....	" " " "		
Lancaster.....	" " " "		
Marshfield.....	" " " "		
Monroe.....	" " " "		
Neenah.....	" " " "		
New London.....	" " " "		
New Richmond.....	" " " "		
Oconomowoc.....	" " " "	\$2,807 94	
Platteville.....	" " " "		
Portage.....	" " " "		
Port Washington.....	" " " "		
Rhineland.....	" " " "		
Richland Center.....	" " " "		
River Falls.....	" " " "		
Shawano.....	" " " "		
So. Milwaukee.....	" " " "		
Sparta.....	" " " "		
Stoughton.....	" " " "		
Sturgeon Bay.....	" " " "		
Tomahawk.....	" " " "		
Two Rivers.....	" " " "		
Waupaca.....	" " " "		843 00
West Allis.....	" " " "		
	Total.....	\$2,807 94	\$3,274 29

¹ No balance sheet.

JUNE 30, 1912—Concluded.
Concluded.

ACCRUED LIABILITIES.					Open ac- counts.	Surplus.	Total liabilities.
Taxes accrued.	Unma- tured in- terest on funded debt accrued.	Unma- tured in- terest on notes and bills payable accrued.	Divi- dends accrued.	Miscel- laneous liabilities accrued.			
					\$760 20	\$18,162 29	\$241,372 49
						13,491 13	279,957 81
						2,472 88	62,472 88
						23,368 71	219,000 00
							142,854 81
	\$101 68		\$225 00	\$2,569 59	12,872 03		150,285 42
							275,000 00
	479 04					3,000 14	246,000 00
							163,788 77
	\$580 72		\$225 00	\$2,569 59	\$13,632 23	\$60,495 15	\$1,780,731 68
						\$68,628 76	\$157,628 76
						47,663 88	66,663 88
	\$109 38					62,423 97	75,423 97
						17,629 52	43,455 39
				\$6,862 84		19,885-44	93,548 23
	505 20					11,612 03	43,565 66
						4,577 76	68,590 47
						74,258 50	149,258 50
						53,967 68	108,436 26
						7,280 76	97,574 67
						71,179 41	80,179 41
					\$7,210 15	39,191 67	143,068 49
\$1,120 00						7,593 05	111,422 01
						65,893 49	131,539 05
						11,979 43	43,479 43
	691 00					24,293 59	31,613 59
						31,878 67	79,075 38
						46,247 56	76,866 38
						67,099 50	122,099 50
						34,919 78	44,794 91
						45,071 06	51,971 06
						166,094 95	280,094 95
						65,479 93	92,845 04
						102,216 23	103,064 94
					6,022 58		25,746 89
					1,591 02	37,588 19	40,015 43
						39,867 01	74,742 01
	286 50					26,873 93	72,603 43
						35,206 91	82,946 91
\$1,120 00	\$1,592 08			\$6,862 84	\$14,823 75	\$1,286,602 66	\$2,592,314 65

² Balance sheet incomplete.

CLASS C. BALANCE
As

LOCATION.	NAME OF COMPANY.	PROPERTY AND PLANT.	
		Cost beginning of year.	Construction and equipment current year.
	<i>Private.</i>		
Bangor	Hussa Bros. ¹		
Hillsboro	Hillsboro City W. Wks.	\$7,424 00	\$25 00
Hurley	Hurley Water Co. ²	406,909 69	4,797 69
Iron River	Iron River W. Lt. & Pr. Co.	20,000 00	
Phillips	Phillips Lt. W. Ht. & Pr. Co.	11,278 81	
Union Grove	Union Grove W. Wks.	7,000 00	
	Total	\$452,612 50	\$4,822 69

LIABILI

LOCATION.	NAME OF COMPANY.	CAPITAL LIABILITIES.		RESERVE AND SPECIAL FUND LIABILITIES.	
		Capital stock.	Funded debt.	Depreciation reserve fund.	Special fund liabilities.
	<i>Private.</i>				
Bangor	Hussa Bros. ¹				
Hillsboro	Hillsboro City W. Wks.				
Hurley	Hurley Water Co. ²	\$200,000 00	\$200,000 00		
Iron River	Iron River W. Lt. & Pr. Co.	40,000 00	9,200 00		\$600 00
Phillips	Phillips Lt. W. Ht. & Pr. Co.	4,166 67	12,500 00		
Union Grove	Union Grove W. Wks.				
	Total	\$244,166 67	\$221,700 00		\$600 00

¹No balance sheet available.

SHEET, JUNE 30, 1912.
SETS.

CURRENT ASSETS.					Pre-paid ac- counts.	Open ac- counts.	Deficit.	Total assets.
Cash.	Notes and bills receiv- able.	Ac- counts receiv- able.	Ma- terials and supplies.	Miscel- laneous.				
		\$350 00						\$7,799 00
\$974 28		7,378 93	\$75 97					420,136 56
1,377 00		867 82	200 00			\$5,447 93	\$33,515 68	53,515 68
								19,171 56
								7,000 00
\$2,351 28		\$8,596 75	\$275 97			\$5,447 93	\$33,515 68	\$507,622 80

TIES

CURRENT LIABILITIES.			Accrued liabilities.	Open accounts.	Surplus.	Total liabilities.
Notes and bills pay- able.	Accounts payable.	Miscel- laneous.				
					\$7,799 00	\$7,799 00
\$900 00	\$4,889 09	\$975 70	\$1,333 33		12,038 44	420,136 56
3,715 68				\$2,504 89		53,515 68
						19,171 56
					7,000 00	7,000 00
\$4,615 68	\$4,889 09	\$975 70	\$1,333 33	\$2,504 89	\$26,837 44	\$507,622 80

²Includes Wisconsin and Michigan properties,

CLASS C. BALANCE SHEETS—
As

LOCATION.	NAME OF COMPANY.	PROPERTY AND PLANT.		Reserve sinking and special fund assets.
		Cost beginning of year.	Construction and equipment current year.	
<i>Municipal.</i>				
Algoma.....	Municipal Water Works Plant..	\$25,390 47	\$2,866 26	\$1,000 00
Alma Center.....	" " " " " "	12,000 00		
Arcadia.....	" " " " " "	19,853 90	298 99	
Baldwin.....	" " " " " "	817 39	20 00	
Barron.....	" " " " " "	11,525 00	674 53	3,520 31
Bayfield.....	" " " " " "	40,688 11	3,904 45	
Belmont.....	" " " " " "	9,595 00		
Benton.....	" " " " " "	3,600 00		
Blair.....	" " " " " "	8,000 00		
Blanchardville...	" " " " " "	6,426 24		
Bloomer.....	" " " " " "	16,774 04	1,653 21	
Broadhead.....	" " " " " "	35,000 00		
Bruce.....	" " " " " "			
Cashton.....	" " " " " "	10,077 01		300 00
Cassville.....	" " " " " "	10,700 00	1,600 00	
Clinton.....	" " " " " "	17,080 81	1,941 67	
Cumberland.....	" " " " " "	15,347 50	1,482 38	
Darlington.....	" " " " " "	22,484 00		
Deerfield.....	" " " " " "	5,000 00	2,090 95	
Dodgeville.....	" " " " " "	38,658 82	120 00	
Elkhart Lake.....	" " " " " "	8,578 00	56 01	
Elkhorn.....	" " " " " "	21,010 00		
Ellsworth.....	" " " " " "	17,295 00	144 00	3,750 00
Elroy.....	" " " " " "			
Evansville.....	" " " " " "	37,368 16		
Fennimore.....	" " " " " "			
Glenwood.....	" " " " " "	13,822 49		
Glidden.....	" " " " " "	13,000 00		
Jefferson.....	" " " " " "	54,877 47	3,767 59	
Kiel.....	" " " " " "	28,355 38		
Kilbourn.....	" " " " " "	30,000 00		
Lake Mills.....	" " " " " "	20,000 00		
Lodi.....	" " " " " "	17,000 00		
Loyal.....	" " " " " "			
Mauston.....	" " " " " "	20,000 00		
Mayville.....	" " " " " "	42,476 50	706 74	
Mazomanie.....	" " " " " "	12,300 00		
Medford.....	" " " " " "	29,117 14	10,020 66	
Menasha.....	" " " " " "			
Merrillan.....	" " " " " "	7,500 00		
Mondovi.....	" " " " " "	20,431 20		
Neillsville.....	" " " " " "	60,000 00		
North Freedom.....	" " " " " "	11,111 80	544 76	
No. Milwaukee.....	" " " " " "	41,805 42	3,495 47	
Onalaska.....	" " " " " "	15,000 00	190 90	
Park Falls.....	" " " " " "	12,000 00		
Plymouth.....	" " " " " "	64,767 55	11,389 84	
Prairie du Chien.....	" " " " " "	28,867 30	1,547 50	9,182 00
Shell Lake.....	" " " " " "			
Shullsburg.....	" " " " " "	18,553 22		
Spring Valley.....	" " " " " "	8,000 00		
Stanley.....	" " " " " "	27,986 33	2,210 70	
St. Croix Falls.....	" " " " " "	16,700 00	360 00	
Sun Prairie.....	" " " " " "	24,000 00	1,800 00	
Thorp.....	" " " " " "	7,000 00	371 82	
Viroqua.....	" " " " " "	26,702 98	389 42	
Waterloo.....	" " " " " "	28,000 00	970 01	
Waupun.....	" " " " " "	35,053 72	2,980 38	
Wauwatosa.....	" " " " " "	31,917 00	2,279 97	
West Bend.....	" " " " " "	35,918 95	4,072 75	
Westby.....	" " " " " "	8,061 69	117 15	
Whitehall.....	" " " " " "	7,093 00		
Total.....		\$1,210,688 59	\$64,068 11	\$17,752 31

¹No balance sheet available.

²Includes electric utility.

JUNE 30, 1912.
SETS.

CURRENT ASSETS.								
Cash.	Notes and bills receivable.	Ac-counts receivable.	Mate-rials and supplies.	Miscel-laneous.	Pre-paid ac-counts.	Open ac-counts.	Deficit.	Total assets.
\$137 79			\$699 32	\$2,749 33	\$787 36		\$9,898 30	\$43,528 83
		\$48 03	258 15					12,000 00
			27 20					20,459 07
								837 39
								15,747 04
418 31		209 54	715 47		127 47			46,063 35
842 89			62 00					10,489 89
			16 67					3,600 00
			350 00					8,016 67
								6,426 24
								18,777 25
								35,000 00
		220 00	390 00	174 29				10,551 30
				60 00				12,970 00
294 47	\$60 00	25 20						19,402 15
			165 00					16,829 88
								22,649 00
								7,090 95
								38,778 82
		166 23						8,800 24
		3,739 19	111 21					24,860 40
			132 55					21,321 55
		1,745 32	603 75		20 20		434 59	40,172 02
								13,822 49
								13,000 00
243 66			440 37		74 09			59,403 18
			76 10	251 90				28,683 38
								30,000 00
324 64		422 23						20,746 87
								17,000 00
								20,000 00
148 81			512 32	321 38				44,165 75
427 60		2,581 25						12,300 00
								42,146 65
							337 12	7,837 12
1,163 75			81 50					21,676 45
								60,000 00
2,884 99			25 00					11,656 56
			10 00					48,210 88
								15,200 90
1,200 00			161 10					13,361 10
		1,856 65	427 80	68 03	70 12			78,578 99
			160 00					39,756 80
			250 00					18,803 22
								8,000 00
900 80		323 88						31,421 71
								17,060 00
			72 36					25,872 36
								7,371 82
1,239 54		1,232 91	779 04					30,343 89
71 29		186 85	304 68					29,461 54
1,902 26			194 47					38,299 86
122 06		1,142 44	2,660 34		60 00		3,693 28	36,099 23
								47,669 82
				188 22				8,367 06
878 22								7,971 22
\$13,201 08	\$60 00	\$13,899 72	\$9,686 40	\$3,813 15	\$1,139 24		\$14,363 29	\$1,348,671 89

³Report covers one year and three months.

CLASS C. BALANCE SHEET,
LIABILITIES.

LOCATION.	NAME OF COMPANY.				CAPITAL LIABILITIES.		RESERVE AND SPECIAL FUND LIABILITIES.	
					Capital stock.	Funded debt.	Depreciation reserve fund.	Special fund liabilities.
<i>Municipal.</i>								
Algoma.....	Mun.	W.	Wks.	Plant.....		\$5,000 00	\$11,305 95	\$18,500 00
Alma Center.....	"	"	"	"		7,500 00		
Arcadia.....	"	"	"	"				
Baldwin.....	"	"	"	"				
Barron.....	"	"	"	"		3,416 67	599 53	
Bayfield.....	"	"	"	"				
Belmont.....	"	"	"	"		4,300 00		
Benton.....	"	"	"	"				
Blair.....	"	"	"	"				
Blanchardville.....	"	"	"	"		3,500 00		
Bloomer.....	"	"	"	"				
Brodhead.....	"	"	"	"				
Bruce.....	"	"	"	1				
Cashton.....	"	"	"	"		1,854 00	300 00	
Cassville.....	"	"	"	2		4,000 00		
Clinton.....	"	"	"	"				
Cumberland.....	"	"	"	"		1,665 77		
Darlington.....	"	"	"	"				
Deerfield.....	"	"	"	"		2,800 00		
Dodgeville.....	"	"	"	"		20,000 00		
Elkhart Lake.....	"	"	"	"			171 56	
Elkhorn.....	"	"	"	"			630 30	
Ellsworth.....	"	"	"	"		11,250 00		3,750 00
Elroy.....	"	"	"	1				
Evansville.....	"	"	"	"		35,000 00		
Fennimore.....	"	"	"	1				
Glenwood.....	"	"	"	"		2,600 00		
Glidden.....	"	"	"	"		4,000 00		
Jefferson.....	"	"	"	"		34,800 00	715.49	
Kiel.....	"	"	"	"		18,000 00		
Kilbourn.....	"	"	"	"		3,000 00		
Lake Mills.....	"	"	"	"			400 00	
Lodi.....	"	"	"	"		4,300 00		
Loyal.....	"	"	"	1				
Mauston.....	"	"	"	"				
Mayville.....	"	"	"	"		35,000 00		
Mazomanie.....	"	"	"	"		1,000 00		
Medford.....	"	"	"	"		29,000 00		
Menasha.....	"	"	"	1				
Merrillan.....	"	"	"	"		7,000 00		
Mondovi.....	"	"	"	"		12,400 00		
Neillsville.....	"	"	"	"		2,000 00		
No. Freedom.....	"	"	"	"		4,500 00		
No. Milwaukee.....	"	"	"	"		23,000 00		
Onalaska.....	"	"	"	"		14,000 00		
Park Falls.....	"	"	"	"		8,000 00		
Plymouth.....	"	"	"	"		23,528 33	1,614 74	11,471 66
Prairie du Chien.....	"	"	"	1		24,000 00		
Shell Lake.....	"	"	"	"				
Shullsburg.....	"	"	"	"				

1 No balance sheet available.

JUNE 30, 1912.
UTILITIES.

CURRENT LIABILITIES.			Accrued liabilities.	Open accounts.	Surplus.	Total liabilities.
Notes and bills payable.	Accounts payable	Miscellaneous.				
\$2,850 62	\$2,006 22	\$3,433 32	\$32 72		\$400 00	\$43,528 83
814 41		256 18			4,500 00	12,000 00
					19,388 48	20,459 07
				\$602 05	837 39	837 39
					11,128 79	15,747 04
	1,086 30				44,977 05	46,063 35
			480 27		5,719 62	10,499 89
					3,600 00	3,600 00
					8,016 67	8,016 67
					2,926 24	6,426 24
					18,777 25	18,777 25
					35,000 00	35,000 00
		8,223 01			174 29	10,551 30
1,500 00					7,470 00	12,970 00
	56 50				19,345 65	19,402 15
	2,187 95			653 01	14,511 10	16,829 88
					20,461 05	22,649 00
					4,290 95	7,090 95
					18,778 82	38,778 82
			1,153 81		8,628 68	8,800 24
		450 00			23,076 29	24,860 40
					5,871 55	21,321 55
	2,146 73	2,491 96	533 33			40,172 02
					11,222 49	13,822 49
					9,000 00	13,000 00
700 00	144 07	609 00	131 17		22,303 45	59,403 18
112 91					19,570 47	28,683 38
					27,000 00	30,000 00
					20,346 87	20,746 87
					12,700 00	17,000 00
					20,000 00	20,000 00
					9,165 75	44,165 75
		1,500 00			11,300 00	12,300 00
					11,646 65	42,146 65
		560 00	277 12			7,837 12
		434 00		586 00	8,256 45	21,676 45
					58,000 00	60,000 00
					7,156 56	11,656 56
					25,210 88	48,210 88
					1,200 90	15,200 90
					5,361 10	13,361 10
	22,959 85	218 75			18,786 66	78,579 99
					15,756 80	39,756 80
					18,803 22	18,803 22

² Includes electric utility.

CLASS C. BALANCE SHEET,
LIAB.

LOCATION.	NAME OF COMPANY.	CAPITAL LIABILITIES.		RESERVE AND SPECIAL FUND LIABILITIES.	
		Capital stock.	Funded debt.	Depreciation reserve fund.	Special fund liabilities.
Spring Valley.....	Mun. W. Wks. Plant.....	.....	.....	.....	.....
Stanley.....	" " " " .....	.....	.....	.....	.....
St. Croix Falls.....	" " " " .....	.....	.....	.....	10,000 00
Sun Prairie.....	" " " " .....	.....	500 00	.....	.....
Thorp.....	" " " " .....	.....	1,211 40	.....	.....
Viroqua.....	" " " " .....	.....	.....	1,379 93	.....
Waterloo.....	" " " " .....	.....	28,000 00	.....	.....
Waupun.....	" " " " .....	.....	.....	.....	.....
Wauwatosa.....	" " " " .....	.....	25,000 00	.....	.....
West Bend.....	" " " " .....	.....	.....	.....	.....
Westby.....	" " " " .....	.....	2,300 00	.....	.....
Whitehall.....	" " " " .....	.....	.....	.....	.....
	Total.....	.....	407,426 17	\$17,117 50	\$43,721 66

JUNE 30, 1912.—Concluded.
ITIES.

CURRENT LIABILITIES.			Accrued liabilities.	Open accounts.	Surplus.	Total liabilities.
Notes and bills payable.	Accounts payable.	Miscellaneous.				
					8,000 00	8,000 00
					31,421 71	31,421 71
					7,060 00	17,060 00
					25,372 36	25,872 36
					6,160 42	7,371 82
					28,963 96	30,343 89
					1,461 54	29,461 54
					38,299 86	38,299 86
					36,099 23	36,099 23
	\$22,253 15		416 67			47,669 82
			35 40		6,031 66	8,367 06
					7,971 22	7,971 22
\$5,977 94	\$52,840 77	\$18,176 22	\$3,060 49	\$1,841 06	\$798,510 08	1,348,671 89

ALL CLASSES. EQUIPMENT DATA.

LOCATION.	NAME OF COMPANY.	BOILERS.		PUMPS.		Capacity in M gal. per day.
		Number.	Total rated h. p.	Number.	Kind,	
Algoma.....	Mun. W. Wks. Plant.....	2	80	2	Steam Duplex.....	900
Alma Center.....	.....	.....	.....	3	Gould Triplex.....	.....
Antigo.....	Antigo W. Co.....	2	250	4	1 W. P' mp; 2 D'n; 1 Knowles	3,750
Appleton.....	Mun. W. Wks. Plant.....	2	180	1	Steam.....	500
Arcadia.....	.....	.....	.....	.....	.....	.....
Ashland.....	Ashland W. Co.....	3	350	4	2 Holly; 1 Deane; 1 Lawr'ce	7,100
Bangor.....	Hussa Bros.....	.....	.....	2	.....	70
Baldwin.....	Mun. W. Wks. Plant.....	1	125	3	.....	6,000
Baraboo.....	.....	.....	.....	1	Gordon Duplex.....	864
Barron.....	.....	.....	.....	.....	.....	.....
Bayfield.....	.....	2	300	2	Steam.....	960
Beaver Dam.....	Beaver Dam W. Co.....	2	200	2	Worthington.....	3,000
Belmont.....	Mun. W. Wks. Plant.....	1	100	1	Steam.....	43,200
Beloit.....	Beloit W. Gas & El. Co.....	3	250	9	5 F. M.; 2 Smith V.; 2 De L.	8,000
Beaton.....	Mun. W. Wks. Plant.....	1	.....	1	.....	.....
Berlin.....	.....	2	140	2	Duplex.....	2,000
Blair.....	.....	.....	.....	1	Gould Triplex.....	288
Blanchardville.....	.....	2	.....	.....	.....	.....
Bloomer.....	.....	.....	.....	2	.....	224
Brodhead.....	.....	.....	.....	2	Gould; Fairbanks.....	1,800
Bruce.....	.....	2	84	4	Steam.....	1,152
Burlington.....	.....	2	220	2	Smith Vaile, Barr Duplex..	1,080
Cashton.....	.....	.....	.....	.....	.....	87
Cassville.....	.....	2	85	1	Steam.....	40
Chip. Falls.....	C. Val. Ry. Lt. & Pr. Co.	2	200	4	1 Ph'nix; 2 D'ne; 1 W' rth'ton	.....
Clinton.....	Mun. W. Wks. Plant ²	2	30	2	.....	115
Columbus.....	.....	.....	.....	2	Stillwell & Pierce.....	.....
Cumberland.....	.....	1	50	2	S't m Duplex; P'wer Triplex	242
Darlington.....	.....	2	80	2	Smedley Duplex.....	1,152
Deerfield.....	.....	.....	.....	2	.....	.....
DePere.....	.....	.....	.....	2	Deane Steam Pump.....	1,440
Dodgeville.....	.....	2	140	4	.....	203
Eau Claire.....	.....	3	240	9	4 Ph'nix; 1 S. V.; 1 F. M.; 3 L.	12,000
Edgerton.....	.....	2	160	2	Smith-Vail.....	1,500
Elkhart Lake.....	.....	2	40	1	A. C. and D. C.....	384
Elkhorn.....	.....	3	500	1	Duplex.....	57
Ellsworth.....	.....	1	30	2	1 Deane; 1 Gould.....	787
Elroy.....	.....	2	250	2	Steam.....	33
Evansville.....	.....	2	200	2	Comp. Duplex Steam.....	86
Fennimore.....	.....	2	200	.....	.....	.....
Fond du Lac.....	.....	3	310	5	2 Gask; 2 B. Jackson; 1 W'd	6,000
Ft. Atkinson.....	.....	3	400	4	Still., P., S. V.; Steam I; F.	.....
Glenwood.....	.....	.....	.....	1	Rumsey, Triplex.....	.....
Glidden.....	.....	1	40	1	Fairbanks Morse Duplex.....	.....
Grand Rapids.....	.....	1	45	3	Still., B. & Co. Fairbanks..	2,190
Green Bay.....	Green Bay W. Co.....	4	600	6	2 Snow; 2 K., 2 B. Jackson.	.....
Hillsboro.....	Hillsboro City W. Wks.	.....	.....	1	.....	345
Hurley.....	Hurley W. Co.....	2	225	5	3 Steam; 2 Power.....	3,000
Iron River.....	Iron R. W. Lt. & Pr. Co.	2	175	2	Blake, Westinghouse.....	2,250
Janesville.....	Janesville W. Co.....	3	375	2	2 Blake.....	4,000
Jefferson.....	Mun. W. Wks. Plant.....	2	300	2	Steam Duplex.....	1,000
Kaukauna.....	.....	2	320	2	Deane Steam Duplex.....	3,000
Kenosha.....	.....	2	250	3	Laidlow, Dunn, Gor. & Barr	12,000
Kiel.....	.....	1	40	2	Gould, D., B. Jackson. Cent	792
Kilbourn.....	.....	.....	.....	4	.....	1,760

¹ Report covers 7 months ending June 30, 1912.

² Gasoline engine.

YEAR ENDING JUNE 30, 1912.

RESERVOIRS.			FILTERS.			STANDPIPES.			
Number.	Elevation above pumps.	Capacity in M gallons.	Number.	Kind.	Capacity in M gallons.	Number.	Distance from pumping station in feet.	Height of inlet above pumps.	Capacity in M gallons.
1		87							
1	59	2,500	3	Rap. sand	2,250	1	2,640		30
1	186	175							
			3	Slow sand	3,000				
						1	1,000	60	24
						1	6,600	192	275
2		70				1	190	115	35
1	278	150							
1	6	423				1	5,280	138	200
						1	1,320	147	50
						1	240	130	112
						1	50		
2	135	350							
1	200	94							
1	142	99							
						1	20	60	68
1	Level	50							
1	12	85				1	7,920	137	70
2	30	882							
1	78	27				1			368
1		60				1	2,640	138	60
1	Level	90				1	2,640	55	70
						1	150	138	68
1	250	110						100	53
2		100				2	1-100.1-1800	125	100
1		105				1	560	80	65
1	20	600							
1		275				1	600	175	125
1	100	135							
2	Same level	130				1	2,450	20	75
1	85	75							
1	160	125				1		190	25
						1	6,600	75	68
1	Under gr'nd	50							
1	0	2,500							
1	Level	43				1	1,500	145	
						1	1,500	150	78.7
1	160	45				1	1,266	160	45
3		366				1	5,280	200	165
3	0	1,650				1	40		100
						1	2,000	70	40
						2		235	530
1	0	796				1	6,600	91	312
1	9	25				1	1,650	36	60
1		300				1	3,000	175	176
						1	718	43	250
1		50				1	2,400	107	
1		60				1	4,000	212	60

³² motors; 2 gasoline engines.

ALL CLASSES. EQUIPMENT

LOCATION.	NAME OF COMPANY.	BOILERS.		PUMPS.		
		Number.	Total rated h. p.	Number.	Kinds.	Capacity in M gal. per day.
La Crosse.....	Mun. W. Wks. Plant..	3	540	3	2 Blake; 1 Holly.....	16,500
Lake Geneva.....	" " " " " " " "	2	225	5	Williams, Smith Vaile, D'ne	1,500
Lake Mills.....	" " " " " " " "	1	160	1	Electric Motor.....	385
Lancaster.....	" " " " " " " "	2	160	2	Deane.....	700
Lodi.....	" " " " " " " "	2	150	1	Steam.....	144
Loyal.....	" " " " " " " "					
Madison.....	" " " " " " " "	3	300	8	1 Aills; 1 A. C.; 2 P.; 4 R'try	10,000
Manitowoc.....	" " " " " " " "	3	225	2	2 Worthington.....	3,000
Marinette.....	City W. Co.....	3	240	2	2 Deane; 2 Worthington.....	7,000
Marshfield.....	Mun. W. Wks. Plant..			3	Smedley & Worth'ngton ..	2,000
Mauston.....	" " " " " " " "	1	60	1	Steam Duplex.....	720
Mayville.....	" " " " " " " "	4 ³	40	2	Air Comp. and Gould.....	144
Mazomanie.....	" " " " " " " "	2	195	1	Steam.....	
Medford.....	Mun. W. Wks. Plant..			2	2 Gould; 1 Triplex; 1 single.	864
Mellen.....	Peoples W. & Lt. Co.....					
Menasha.....	Mun. W. Wks. Plant. ⁷					
Menomonie.....	Menomonie W. Wks. Co.	2	150	2	Gordon Maxwell.....	1,500
Merrill.....	City W. Wks. Co.....	3	300	4	2 Deane; Laid. Dunn; 1 Pres.	3,500
Merrillan.....	Mun. W. Wks. Plant..			1	Gould Triplex.....	181
Milwaukee.....	" " " " " " " "	16	2,150	10 ¹	5 A. Co; 2 Wis. E.; 3 A. C....	294,000
Mondovi.....	" " " " " " " "			1	Triplex Force.....	651
Monroe.....	" " " " " " " "	2	300	3	1 Deane Triplex; 2 Sm.-V....	1,380
Neeah.....	" " " " " " " "	2	200	2	Deane.....	2,300
Neillsville.....	" " " " " " " "	2	140	2	Stram, Breffale.....	
New London.....	" " " " " " " "			2	Deane Holyoke.....	1,440
New Richmond.....	" " " " " " " "	1	100	2	F. Morse, Smith Vaile.....	
No. Freedom.....	" " " " " " " "	1 ³	25	1	Nat'l Con. Co. Triplex.....	346
No. Milwaukee.....	" " " " " " " "					
Oconomowoc.....	" " " " " " " "	3	300	3	2 Smith Vaile; 1 A. Chalm..	3,000
Oconto.....	Oconto City W. Sup. Co.	3	180	3	2 Deane; 1 Smith Vaile.....	4,000
Onalaska.....	Mun. W. Wks. Plant..	1	50	2	Steam.....	1,500
Oshkosh.....	Oshkosh W. Wks. Co..	4	500	5	2 Holly G.; 1 Wor.; 2 West..	9,500
Park Falls.....	Mun. W. Wks. Plant..			1		1,440
Phillips.....	Phillips Lt. W. H. & P. Co	3	450	2	Deane & Worthington ..	1,475
Platteville.....	Mun. W. Wks. Plant..	2	200	2	Keystone-Fairbanks.....	1,700
Plymouth.....	" " " " " " " "	2	300	3	1 Steam; 2 Power.....	458
Portage.....	" " " " " " " "	2	300	2	Worthington Compound.....	2,500
Pt. Washington.....	" " " " " " " "	3	300	2	Rumsey, single; By.-J., cent.	1,600
Prairie du Chien.....	" " " " " " " "	1	75	1	Steam, Smedley.....	750
Racine.....	Racine W. Co.....	3	693	5	2 A.; 1 Wor.; 1 Bl.; 1 Pres..	14,250
Rhineland.....	Mun. W. Wks. Co.....	2	300	4 ¹	2 Steam; 2 Electric.....	6,520
Rhineland C'ntr.....	" " " " " " " "	3	375	2	Go'd. trip; F. Morse, dup.	1,152
Ripon.....	Ripon Lt. & W. Plant..	3	275	2	Gordon Steam Pump.....	3,000
River Falls.....	Mun. W. Wks. Plant..	1	40	2	Gould, Fairbanks.....	400
Shawano.....	" " " " " " " "	2	500	3	2 Stillwell; 1 Prescott.....	1,750
Sheboyan.....	" " " " " " " "	4	400	3	1 Nord.; 1 Holly; 1 Gordon.	15,000
Shell Lake.....	" " " " " " " "	2	140	2	Steam.....	400
Shullsburg.....	" " " " " " " "	1	50	1	Worthington Duplex.....	720
So. Milwaukee.....	" " " " " " " "	3	375	3	2 Worthington; 1 Deane.....	3,000
Sparta.....	" " " " " " " "	2	160	2	Corliss-Aills-Chalm.....	2,500

¹Total pumps for pumping and repumping.²Capacity of used pumps for original pumping, excluding high pressure repumping.³1 at North Point Station, 540 feet from station, inlet 64 ft. above eng. room floor, capacity 12 M gal.; 1 at High Service Station, 150 feet from station, inlet 10 ft. above eng. room floor, capacity 200 M gal.

DATA. YEAR ENDING JUNE 30, 1912.

RESERVOIRS.			FILTERS.			STANDPIPES.			
Number.	Elevation above pumps.	Capacity in M gallons.	Number.	Kind.	Capacity in M gallons.	Number.	Distance from pumping station in feet.	Height of inlet above pumps.	Capacity in M gallons.
						1	660	120	60
1		135				1	11,880	300	105
						1			
						1			30
2	0	1,200				1	1,775	62	56
3	0	688				1	7,920	70	275
			10	Rapid sand.	3,000	2	10	12	284
2		486				1	10,560	90	158
1	180	240				1			
1		30				1	2,500	180	60
1	190	120							
1		77				1	5,200	146	60
1		1,500				1	10,560	124	65
1		50				1	5,280		100
1		148	5	Rapid sand	1,500	1	15	0	289
						1	990	100	50
1	129	21,000				2 ³			212
1	143	18				1	5,280	172	100
1		100				1	100		270
						1	5,280	50	
						1	2,500	65	73
1	175	77				1	200	129	50
1		300				1	100	89	85
1	0	1,250	14	Rapid sand.	4,000	1	2,200		166
2		80				1	5,280	185	100
2		108				1	1,320	210	324
						1	1,958	100	
						1	7,300	144	200
1	264	320				1	7,920	102	330
1	170	120				1	600	67	150
1	200	180				1	3,960	30	131
1		100							
						1	5,280	185	60
						1	5,280	160	101
						1	5,280	108	435

⁴Capacity of 1 Allis, 1 Deane, 2 Epp. Carpenter, pumping into mains

⁵Gasoline engine.

⁶Estimated.

⁷No data reported.

ALL CLASSES. EQUIPMENT

LOCATION.	NAME OF COMPANY.	BOILERS.		PUMPS.		
		Number.	Total rated h. p.	Number.	Kinds.	Capacity in M gal. per day.
Spring Valley ..	Mun. W. Wks. Plant..	1		1	Power.....	14 ⁴
Stanley	" " " "	1		1	" " " "	5 ⁶
St. Croix Falls...	" " " "	1		1	" " " "	6 ⁰
Stevens Point...	Stevens Pt. W. Co.....	2	160	2	Hatley.....	4,00 ⁰
Stoughton	Mun. W. Wks. Plant...	1	100	3	2 Deane; 1 Gould.....	2,00 ⁰
Sturgeon Bay...	" " " "	3	375	1	Platt Iron Works.....	1,500
Sun Prairie.....	" " " "	2		2	Gould; Wood.....	994
Superior	Superior W.Lt.&Pr.Co.	4	615	6	1 A.; 1 D.; 2 E.; 1 W; 1 P....	15,600
Thorp	Mun. W. Wks. Plant..	2	180		" " " "	
Tomahawk.....	" " " "	2	140	2	Fairbanks & Smith Vaile...	2,500
Two Rivers.....	" " " "	2	250	2	Deane.....	4,300
Union Grove	Union Grove W. Wks. Co.				" " " "	
Viroqua.....	Mun. W. Wks. Plant...	2	55	3	Denning, Gould, Keystone.	380
Washburn	Washburn W. Wks. Co.	3	160	2	Deane.....	2,000
Watertown	Mun. W. Wks. Plant..	3	200	2	2 Smith Vaile.....	3,000
Waukesha	" " " "	2	180	2	1 Knowles; 1 Smith Vaile..	
Waupaca.....	" " " "			5	Smith Vaile; By'n.-Jackson	1,728
Waupun	" " " "	3	223	2	Steam.....	700
Wausau	" " " "	4	600	2	2 Holly.....	6,000
Wauwatosa	" " " "	2	140	2	" " " "	2,000
West Allis.....	" " " "			2	Gould.....	864
West Bend.....	" " " "	0		1	Deane Triplex, power	720
Westby.....	" " " "	1	71	2	" " " "	145
Whitehall.....	" " " "			1	Gould.....	
Whitewater.....	Whitewater W. Wks. Co.	2	180	2	Deane.....	3,000

DATA, 1912—Concluded.

RESERVOIRS.			FILTERS.			STANDPIPES.			
Number.	Elevation above pumps.	Capacity in M gallons.	Number.	Kind.	Capacity in M gallons.	Number.	Distance from pumping station in feet.	Height of inlet above pumps.	Capacity in M gallons.
1	165	65				1	1,350		85
1	140	165				1	102	152	363
						1	200	40	30
1		30				1	1,695	148	84
2	40	1,350	3	Slow sand.	5,000	1	1,440	30	
						1	50		181
						1	1,160	96	35
						1	600	47	165
1	265	1,200				1	3,500	212	150
1	0	450				1	1,320	150	75
2		367				1	1,320	114	45
1	127	282				1	6,000	225	60
1	below.	60				1		175	108
		176				1	3,960	133	60
						1	1,200	60	200
1	143					1	2,000	185	185
1	5	855							

ALL CLASSES, WATER SUPPLY, PUMPAGE, PRESSURE, MAINS,

LOCATION.	NAME OF COMPANY.	Source of water supply.	Number of intakes or wells.	Depth of water of intake or well, feet.
Algoma.....	Mun. Water Wks. Pl'nt.	Lake; shallow art. well..	3	360-40-80
Alma Center.....		Well.....	1	313
Antigo.....	Antigo Water Co.....	Riv.; imp. res.; sh. stg. w's	1 i. 3 w.	41.; 25 & 60 w.
Appleton.....	Mun. Water Wks. Pl'nt	Riv.; imp. res.; deep wells.	2 i. 3 w.	8 i.; 600-823 w.
Arcadia.....		Well.....	1	385
Ashland.....	Ashland Water Co.....	Lake; shall. w's & deep w.	1 i. 11 w.	101; 385 w; 70d.
Bangor.....	Hussa Bros.....	Wells.....	2	135
Baldwin.....	Mun. Water Wks. Pl'nt.			
Baraboo.....	" " " "	Riv; shall well; deep well	2 i. 7 w.	8 i.; 15-20 w. 93d
Barron.....	" " " "	Wells.....	2	6
Bayfield.....	" " " "			
Beaver Dam.....	Beaver Dam Water Co..	Lake.....	1	40
Belmont.....	Mun. Water Wks. Plant	Spring; deep wells.....	1 i. 3 w.	300-500 w.
Beloit.....	Beloit W. Gas & El. Co..	Well.....	1	150
Benton.....	Mun. Water Wks. Plant	Spring; shallow wells.....	1 i. 2 w.	40 s.; 77-80 w.
		Well.....	1	300
Berlin.....	" " " "			
Blair.....	" " " "	Artesian wells.....	2	480
Blanchardville..	" " " "	Well.....	1	12
Bloomer.....	" " " "	Wells.....	2	80
Brodhead.....	" " " "	Well.....	2	130-207
		Well.....	5	76
Bruce.....	" " " "			
Burlington.....	" " " "	Well.....	1	44
Cashton.....	" " " "	Deep wells.....	3	155-600-1,100
Cassville.....	" " " "	Wells.....	2	254
Chippewa Falls..	Ch. Val. Ry. Lt. & P. Co	Artesian well.....	1	1,100
		Springs.....	1 s.	9 s;
Clinton.....	Mun. Water Wks. Plant			
Columbus.....	" " " "	Well.....	1	960
Cumberland.....	" " " "	Wells.....	3	84-84-97
Darlington.....	" " " "	Well.....	1	555
Deerfield.....	" " " "	Well.....	1	16
		Wells.....	2	152-129
De Pere.....	" " " "			
Dodgeville.....	" " " "	Wells (deep).....	5	600-1,000
Eau Claire.....	" " " "	Wells.....	3	130-300-450
Edgerton.....	" " " "	Res.; shallow wells.....	1 R. 100 s.w.	40 s. w.
Elkhart Lake..	" " " "	Deep well.....	1	1,000
		Lake.....	1	5
Elkhorn.....	" " " "			
Ellsworth.....	" " " "	Well.....	1	150
Floy.....	" " " "	Well.....	1	609
Evansville.....	" " " "	Wells.....	3	6
Fennimore.....	" " " "	Well.....	2	12
		Well.....	1	800
Fond du Lac....	" " " "			
Fort Atkinson..	" " " "	Reservoir; deep wells....	1 R. 9 w.	480-784
Glenwood.....	" " " "	River and well.....	1 w. 1 R.	753 w. 6 R.
Glidden.....	" " " "	Well.....	1	200
Grand Rapids..	" " " "	Spring, well and river....	2	W. 23-R. 7
		River; spring.....	1 R. 108 s.	8 i. 6-24 s.
Green Bay.....	Green Bay Water Co..			
Hillsboro.....	Hillsboro City W. Wks..	Deep and artesian well..	10 D.	850-933
Hurley.....	Hurley Water Co.....	Well.....	1	142
Iron River.....	Iron Riv. W. Lt. & P. Co.	River.....	1	
Janesville.....	Janesville Water Co....	Wells.....	15	50
		Shall. and deep wells; res.	3 w. 1 R.	25 sw; 1160 dw
Jefferson.....	Mun. Water Wks. Plant			
Kaukauna.....	" " " "	Well.....	1	900
Kenosha.....	" " " "	Deep wells.....	3	629-643-798
Kiel.....	" " " "	Lake; wells.....	1 i. 7 w.	35 i. 1,600 w.
Kilbourn.....	" " " "	Well.....	1	29
		Well.....	2	400

1 Report covers 7 months ending June 30, 1912.

SERVICE AND METERS. YEAR ENDING JUNE 30, 1912.

Total water pumped M gallons.	Average daily pump- age M gallons.	Range of ordinary pres- sure, pounds.	Range of fire pres- sure, pounds.	SERVICE CONNECTIONS.				Total connec- tions ex- cluding foun- tains and hy- drants.	No. of meters.	Miles of distribu- tion mains.
				Foun- tains.	Hy- drants.	Com- mercial.	Total.			
23,114	69	30—45	90—110		38	198	236	197	43	4.66
244,024	685	34—44	80—110	4	112	33	31	31	1	1.1
1512,983	2,408	60—65	90—100	14	251	690	806	698	19	10.31
12,554	34	60—82	60—82		28	1,846	2,111	1,846	468	29.16
432,413	1,181	20—65	80—125	7	246	131	159	131	2	3.02
7,000	20					1,971	2,224	1,974	543	30.63
342,440	938					66	66	72	14	.44
36,613	2100	95—110	110—125	5	23	173	196	173		2.06
56,019	153	35—45	80—95	1	29	1,050	1,191	1,050	388	10.40
362,712	995					220	250	215		3.18
717,077	1,965	120	120	1	41	356	398	347	58	4.83
66,562	181	40—55	45—60	1	4	1,242	1,246	1,242	2	10.55
13,140	36	45—60	45—60	1	16	69	86	72		1.19
6,956	29	50—55	70—90	8	204	2,078	2,292	1,944	590	25.79
525	1					60	60	60	2	
		40—60	80—120	6	84	531	621	568	395	9.52
		65—80	65—80	1	16	98	115	98	3	1.82
		65—75	60	2	21	22	22	22	8	
		60—80	100—120	2	21	76	99	76	76	1.94
								212		6.00
		60	100—120					6		.5
81,636	223	65—70	65—70	5	90	623	718	622	622	11.31
5,956	16	18—25	12—20					137	15	3.46
	10	70—78	78—110			69	69	64	5	
		40—75	40—75			185		1,684	162	17.36
9,158	29	60	60	3	30	110	143	152	42	2.38
9,280	25	55	100—120	2	48	329	379	331	180	6.46
		35—45	35—45	2	21	257	280	257		2.58
44,255	121	40—60	60—100			425	425	425	151	.6
21,923	6	55—60	55—60					37		
75,980	217	60—65	60—65	4	91	609	704	614	191	10.68
18,542	50	70	70	4		96	100	96		2.36
730,000	2,000	70—75	100—130	19	420	2,533	2,972	2,840	1,455	40.65
51,664	141	65—70	100—120					462	445	6.71
12,000	30	60—65	100—110			11	11	60	42	1.37
58,324	132	40—60	60—80	1	52	250	301	250	250	
3,475	5			2	29	112	143	110	111	2.21
		65—90	80—110	2	26	83	111	81	5	4.51
20,410	56	65—75	65—75		54	285	339	285	173	5.40
7,408	20	40—80	100—120			162	162	162	43	3.18
720,738	1,983	20—30	90—125	9	232	3,264	3,507	3,218	2,138	33.08
54,749	149	50—65	50—65	1			544	543	544	8.60
222,812	62					5	5	85		1.3
6,900	189	70	70	1	16	70	87	72		1.1
114,873	314	75—92	92—150	3		756	759	756	240	15.95
530,628	1,450	40	100	10	414	4,501	4,925	4,513	1,410	93.42
3,000	8				14	160	174	159		2.5
2110,000	301	80—100	—125		45	270	315	272	8	4.5
		90—100	100—125	1	38	229	268	226		2.72
447,814	1,224	68—73	75—120	12	308	3,598	2,918	2,589	867	32.34
220,796	57	45—60	100—115	3	56	394	453	394	390	7.35
97,615	267	30—75	30—100	4		487	491	487	191	10.33
1,161,117	3,181	70—75	80—100	7	7	3,723	3,737	3,723	2,615	39.68
	23	40—62	52—120	2	35	4	41	135	131	3.04
	79	75—90	90—135	1	39	305	345	302	297	

* Estimated.

ALL CLASSES, WATER SUPPLY, PUMPAGE, PRESSURE,

LOCATION.	NAME OF COMPANY.	Source of water supply.	Number of intakes or wells.	Depth of water of intake or well, feet.
La Crosse.....	Mun. Water Wks. Plant	Lake; river.....	2 i.	16 i.
Lake Geneva....	" " " "	Shall. well; deep w; art. w.	6 w.	20-1,123
Lake Mills.....	" " " "	Well.....	1	380
Lancaster.....	" " " "	Spring.....	1	14
Lodi.....	" " " "	Well.....	1	12
Loyal.....	" " " "	Wells.....	1	30
Madison.....	" " " "	Shallow wells; deep wells	1 s w. 10 dp.	220sw. 750d w.
Manitowoc.....	" " " "	Shallow wells.....	2 s. w.	18 s. w.
Marinette.....	City Water Co.....	River; lake; deep well...	1 R 1 L. 1d. w.	1.5&25 d. w. 765
Marshfield.....	Mun. Water Wks. Plant	Ar. w; 1 Imp. res; 1 concr. r	W. 16. R. 9	60-80
Mauston.....	" " " "	Wells.....	6	150-250
Mayville.....	" " " "	Well.....	1	670
Mazomanie....	" " " "	Wells.....	10	25
Medford.....	Mun. W. Works Plant..	well.....	9	
Mellen.....	Peoples W. & Lt. Co....	River; imp. res.....		
Menasha.....	Mun. W. Works Plant..	(1)		
Menomonie....	Menomonie W. W. Co...	River; deep-wells.....	2	10-350-350
Merrill.....	City Water Works Co...	River.....	2 i.	12 R.
Merrillan.....	Mun. Water Wks. Plant	Wells.....	4	28
Milwaukee.....	" " " "	Lake.....	2 i.	60 and 18
Mondovi.....	" " " "	Flowing well.....	1	
Monroe.....	" " " "	One shallow, 2 deep wells	3	50-1000
Neenah.....	" " " "	Deep wells.....	3	410-610-672
Neillsville....	" " " "	River.....	1	10
New London....	" " " "	River.....	1	8
New Richmond.	" " " "	Shallow wells.....	6	57
No. Freedom....	" " " "	Drilled well.....		
No. Milwaukee.	" " " "	Milwaukee water works.		
Oconomowoc...	" " " "	Deep wells.....	2	829-750
Oconto.....	Oconto City W. Sup. Co.	River; deep wells.....	1 i. 6 w.	40i; 318-598 w.
Onalaska.....	Mun. Water Wks. Plant	Artesian well.....	2	470
Oshkosh.....	Oshkosh W. Wks. Co...	Lake and deep well.....	2 i. & 8 w.	5-191280-960w
Park Falls.....	Mun. Water Wks. Plant	River.....	1	15
Phillips.....	Phil Lt. W. H. & Pr. Co	River.....	1	6
Platteville....	Mun. Water Wks. Plant	Deep wells.....	2	1745-1002
Plymouth.....	" " " "	Wells and spring.....	4	Flowing.
Portage.....	" " " "	River.....	3 i.	3
Pt. Washington	" " " "	Lake.....	1	38
Prairie du Chi'l	" " " "	Well.....	1	48
Racine.....	Racine Water Co.....	Lake.....	1 i.	40 ft.
Rhineland.....	Mun. Water Wks. Plant	River.....	1	12
Richland Cent'r	" " " "	Deep well.....	1	662
Ripon.....	Ripon Lt. & Water Co..	Shallow wells, deep wells	3 s: 1 d.	30-20s; 112d.
River Falls....	Mun. Water Wks. Plant	Deep wells.....	3	400-600
Shawano.....	" " " "	Shallow wells.....	12	20
Sheboygan.....	" " " "	Lake.....	3 i	12-47 ft. int.
Shell Lake.....	" " " "	Lake.....	1	18
Shullsburg....	" " " "	Wells.....	3	275
So. Milwaukee.	" " " "	Lake.....	2	31-12
Sparta.....	" " " "	Shallow wells; deep wells	25-30s. 200 d.	
Spring Valley..	" " " "	Well.....	1	169
Stanley.....	" " " "	Wells.....	2	40-100
St. Croix Falls.	" " " "	Well.....	1	40
Stevens Point.	Stevens Point W. Co....	River; wells.....	1 R-2 w.	r 10-w. 20-90
Stoughton.....	Mun. Water Wks. Plant	Riv.; shall. w'll; deep w'lls	1-1-2	15-37-1007-10

1 No data reported.

MAINS, SERVICES AND METERS, 1912.—Continued.

Total water pumped M gallons.	Average daily pump- age M gallons.	Range of ordinary pressure pounds.	Range of fire pressure pounds.	SERVICE CONNECTIONS.				Total connections ex- clusive foun- tains and hy- drants.	No. of meters.	Miles of distribu- tion mains.
				Foun- tains.	Hy- drants.	Com- mercial.	Total.			
1,025,000	2,808	60	100	10	532	4,399	4,941	4,399	2,059	61.00
109,000	600	50- 70	80-130	8	87	388	475	388	288	7.50
21,229	56	40- 60	40- 60	3	34	155	192	155	161	2.56
38,000	104	30- 38	60- 80	8	3	522	530	578	56	8.8
15,800	43	60- 80	60- 80	1	28	192	221	189	189	4.11
5,952	14	54- 64	50- 60	.....	.....	26	26	26	.....	.....
687,919	1,885	80- 86	85-120	13	403	5,228	5,644	5,227	5,165	66.36
331,511	1,210	65- 70	90-100	.....	211	1,873	2,084	1,873	1,320	24.10
552,706	1,514	40- 65	90-120	1	242	2,840	3,083	2,785	96	33.1
80,090	219	60- 75	60-120	.....	.....	.....	.....	285	.....	.....
.....	.....	80	80	2	40	30	72	190	160	.....
19,074	52	72- 75	80- 85	1	.....	206	207	206	206	5.40
.....	.....	80- 90	80- 90	1	.....	17	29	24	17	.....
8,104	22	38- 40	100-120	.....	29	67	96	67	.....	3.4
.....	.....	.....	.....	1	.....	95	96	142	48	3.62
95,608	256	65- 85	65-100	.....	.....	.....	.....	.....	.....	.....
322,857	909	40- 55	80- 95	5	115	481	601	581	140	9.94
4,200	112	40- 48	40- 48	1	181	1,241	1,426	1,068	31	19.87
17,023,617	46,640	20- 60	.....	1	15	59	75	59	6	1.33
.....	.....	.....	.....	.....	.....	.....	.....	.....	56,356	486.35
84,000	230	40- 70	100-130	7	91	541	639	537	553	8.68
182,955	501	45- 50	70- 90	5	7	621	631	619	544	13.52
10,239	28	.....	.....	2	105	57	360	419	360	12.5
20,962	57	60- 65	85- 95	3	62	170	235	181	139	5.86
45,425	2125	53- 62	62- 80	2	32	185	219	185	.....	.....
2,707	27	.....	.....	.....	.....	11	101	101	.....	1.89
33,940	933	.....	.....	1	59	262	322	262	262	8
45,061	123	50	100	2	.....	428	430	344	396	8.41
172,704	473	30	90-130	5	126	722	853	713	46	14.5
12,810	35	60- 65	.....	.....	.....	153	153	153	73	3
951,441	2,607	35- 40	90-115	12	479	3,366	3,857	3,366	3,857	59.17
4,132	11	60- 70	100-125	.....	13	30	43	29	29	1.37
1,825	500	75-100	100-100	.....	14	105	119	97	.....	.....
42,822	117	80- 90	90- 90	8	144	949	1,101	949	758	11.61
14,000	38	90- 98	80- 90	1	63	517	581	516	500	9.46
195,032	532	60- 80	80-120	3	103	1,000	1,106	1,000	19	1.8
67,775	188	70- 80	100-110	.....	.....	376	376	363	363	6.5
1,214,653	3,319	122-125	122-125	46	69	115	67	66	66	13.09
.....	.....	60- 80	100-130	9	627	8,918	9,544	7,471	5,308	74.14
255,500	700	45- 54	90-110	.....	.....	825	963	825	2	12.88
61,320	167	66- 73	66- 73	5	.....	486	491	486	227	7.30
220,926	603	36- 54	90-120	3	104	737	844	724	110	11.5
72,704	192	60- 80	60- 80	5	45	420	470	408	15	4.7
.....	.....	40- 45	70-100	1	.....	115	116	109	115	5.94
1,121,343	3,080	40- 45	85- 90	15	480	4,944	5,439	5,006	325	67.07
.....	.....	40- 50	90-110	1	30	271	302	261	.....	2.5
11,500	30	80-100	80-140	3	30	202	235	201	.....	2.44
275,000	753	70- 85	90-110	3	137	.....	.....	578	.....	6.94
150,466	411	55- 95	100-125	.....	.....	399	399	399	398	12.9
2,800	28	.....	.....	1	11	52	64	49	.....	5
3,044	8	60- 65	.....	3	26	165	194	165	165	4
594	1+	75- 95	75- 95	.....	13	48	61	46	46	1.3
360,848	985	50- 65	60- 90	2	153	699	854	699	77	13.87
86,728	237	60- 70	70-120	1	99	715	815	715	229	12.68

ALL CLASSES. WATER SUPPLY. PUMPAGE, PRESSURE, MAINS

LOCATION.	NAME OF COMPANY.	Source of water supply.	Number of intake or wells.	Depth of water of intake or wells.
Sturgeon Bay...	Mun. Water Works Plant	Bay: wells.....	1 bay-5 w.	8b, w.-36-250
Sun Prairie.....	" " " "	Wells.....	2	712
Superior.....	Superior W. Lt. & Pr. Co	Wells.....	97 wells.	38-45
Thorp.....	Mun. Water Wks. Plant	Shallow well.....	2	28-25
Tomahawk.....	" " " "	Springs.....	2	21
Two Rivers.....	" " " "	Shallow wells: River....	3	15
Union Grove.....	Union Grove W. W. Co.	Wells.....	3	302-398-566
Viroqua.....	Mun. Water Wks. Plant	Lake: imp. res.....	1 l.; 2 im.res	18 l.
Washburn.....	Washburn W. Wks. Co.	Wells.....	3	760-1032 ft.
Watertown.....	Mun. Water Wks. Plant	Wells.....	3	760-1032 ft.
Waukesha.....	" " " "	Artesian wells.....	4	1000-1900 ft.
Waupaca.....	" " " "	River, lake; wells.....	1 r.; 1 l.; 20 w.	4 r.; 25 l.; 50 w.
Waupun.....	" " " "	Wells.....	2	755-965
Wausau.....	" " " "	Riv.: deep wells & sh. wells	1 l.; 2 w.	1 l.; 10 w. 135 ft.
Wauwatosa.....	" " " "	Artesian well.....	1	1350
West Allis.....	" " " "	Wells.....	1	1235 ft.
West Bend.....	" " " "	Artesian well.....	2	325-300
Westby.....	" " " "	Wells.....	1	7½
Whitehall.....	" " " "	River.....	1	7½
Whitewater.....	Whitewater W. W. Co.	Wells.....	4	250-1,000

¹Purchased from Milwaukee.²Estimated.

SERVICES AND METERS, 1912—Concluded.

Total water pumped M gal-lons.	Average daily pump-age M gallons.	Range of ordinary pressure pounds.	Range of fire pressure pounds.	SERVICE CONNECTIONS.				Total connections ex-clusive foun-tains and hy-drants.	No. of meters.	Miles of distribu-tion mains.
				Foun-tains.	Hy-drants.	Com-mercial.	Total.			
54,768	150	40-70	120-130				62	70	13	1.6
735,685	2,010	55-62 ³	90-130	3	36	183	222	180	57	4.27
37,633	² 103	45-70	100-110	23	746	4,757	5,526	4,757	4,026	58.05
52,401	143	55-65	100-110			87	87	87	87	1
912	² 25	40-60	125-130	1	41	581	623	581		5.19
36,317	99	40-52	90-110	4	78	608	690	608	604	8.03
139,548	382	40-53	40-53	2	26	131	131	131		2.4
304,066	833	40-110	40-110	1		533	561	530	32	10.68
263,750	732	40-110	40-110	1		480	481	475	2	6.68
110,096	301	65-75	100-110	5	178	1,161	1,161	1,161	1,155	20.31
841,000	2,336	65-100	65-100	9	232	1,514	1,523	1,539	1,548	24.94
65,619	179	50-55	50-150	5	4	491	500	482	20	9.6
191,297	² 249	52-60	52-60	1	49	533	533	533	265	6.29
50,000	150	50-60	100-120							32.52
7,404	20	60-90	60-90	2		528	530	528	509	14.22
56,799	155	40-70	40-70	2	296	998	1,296	993	1,011	25.05
		35-50	35-50	2	48	200	250	200	200	4.66
		60	80			70	70	164		2.63
		62-74	100-130	6	101	333	440	329	102	8.6

³No data reported.

CLASSES A & B. RATIO OF OPERATING EXPENSES

LOCATION.	NAME OF COMPANY.	PER CENT DIVISION		
		Pump- ing.	Distribu- tion.	Commer- cial.
<i>Class A. Private</i>				
Ashland.....	Ashland Water Co.....	35.24	6.51	3.51
Beloit.....	Beloit W. Gas & El. Co.....	53.81	7.76	1.06
Chipp. Falls.....	Chip. Val. Ry. Lt. & Pr. Co.....	44.18	4.17	.38
Green Bay.....	Green Bay Water Co.....	43.07	12.61	1.34
Janesville.....	Janesville Water Co.....	40.00	9.96	3.56
Marinette.....	City Water Co.....	44.38	3.58	6.55
Merrill.....	City Water Co.....	52.28	2.93	3.82
Oshkosh.....	Oshkosh Water Wks. Co.....	45.04	7.76	.....
Racine.....	Racine Water Co.....	20.45	7.73	4.96
Superior.....	Superior W. Lt. & Pr. Co.....	30.13	14.64	8.32
<i>Class A. Municipal.</i>				
Appleton.....	Municipal Water Works Plant..	74.87	12.86	2.81
Eau Claire.....	" " " " "	46.01	30.56	12.49
Fond du Lac.....	" " " " "	69.19	13.13	4.88
Kenosha.....	" " " " "	63.84	21.62	6.74
La Crosse.....	" " " " "	70.65	22.40	1.71
Madison.....	" " " " "	61.54	11.05	7.25
Manitowoc.....	" " " " "	61.57	18.62	1.21
Milwaukee.....	" " " " "	36.82	20.17	18.25
Sheboygan.....	" " " " "	36.71	8.37	1.04
Watertown.....	" " " " "	67.44	18.65	.....
Waukesha.....	" " " " "	59.54	29.96	2.44
Wausau.....	" " " " "	76.16	12.49	2.00
<i>Class B. Private.</i>				
Antigo.....	Antigo Water Co.....	32.57	1.62	.....
Beaver Dam.....	Beaver Dam Water Co.....	34.63	2.06	.....
Mellen.....	Peoples Water & Light Co.....	.....	18.11	.....
Menomonie.....	Water Works Co.....	60.14	2.52	3.18
Oconto.....	Oconto City W. Supply Co.....	38.08	8.37	2.43
Ripon.....	Ripon Lt. & W. Co.....	42.56	2.01	4.33
Stevens Point.....	Stevens Point Water Co.....	65.46	8.10	2.71
Washburn.....	Washburn Water Works Co.....	46.28	.....	.59
Whitewater.....	Whitewater Water Works Co.....	33.92	1.07	.....
<i>Class B. Municipal.</i>				
Baraboo.....	Municipal Water Works Plant..	73.88	13.06	1.01
Berlin.....	" " " " "	71.37	3.88	.....
Burlington.....	" " " " "	85.55	10.91	.....
Columbus.....	" " " " "	64.98	7.21	.....
De Pere.....	" " " " "	51.53	27.28	.63
Edgerton.....	" " " " "	93.75	.....	5.46
Pt. Atkinson.....	" " " " "	50.17	13.10	1.42
Grand Rapids.....	" " " " "	33.37	.55	.....
Kaukauna.....	" " " " "	91.41	2.50	.....
Lake Geneva.....	" " " " "	47.32	.61	.04
Lancaster.....	" " " " "	97.01	1.19	.09
Marshfield.....	" " " " "	77.36	7.04	1.49
Monroe.....	" " " " "	60.45	11.06	.35
Neenah.....	" " " " "	39.76	4.07	1.97
New London.....	" " " " "	58.47	35.29	6.24
New Richmond.....	" " " " "	39.74	37.02	.....
Oconomowoc.....	" " " " "	27.79	25.37	1.85
Platteville.....	" " " " "	69.70	6.26	.....
Portage.....	" " " " "	70.86	6.99	.....
Pt. Washington.....	" " " " "	39.66	60.34	.....

AND EARNINGS, YEAR ENDING JUNE 30, 1912.

OF OPERATING EXPENSES.						Percentage of operating expenses to operating revenues.
General.	Undistributed.	Total of foregoing.	Depreciation.	Taxes.	Total operating expenses.	
17.30	3.01	65.57	8.26	26.17	100.00	66.80
21.27	.75	84.65	1.75	13.60	100.00	51.61
8.68	1.15	58.56	14.08	27.36	100.00	57.38
16.65	6.32	79.99	.....	20.01	100.00	55.04
30.46	2.06	86.04	.....	13.96	100.00	53.06
13.15	.15	67.81	.....	32.19	100.00	52.68
11.38	.14	70.55	.....	29.45	100.00	69.14
22.46	.52	75.78	.....	24.22	100.00	48.78
31.33	.02	64.49	8.99	26.52	100.00	46.54
11.50	.....	64.59	18.33	17.08	100.00	48.42
7.89	1.57	100.00	.....	.....	100.00	72.80
7.72	3.22	106.00	.....	.....	100.00	45.89
12.35	.45	100.00	.....	.....	100.00	47.64
6.83	.97	100.00	.....	.....	100.00	47.72
3.73	1.51	100.00	.....	.....	100.00	55.19
3.45	.97	84.26	15.62	.12	100.00	78.48
5.94	2.43	89.77	.....	10.23	100.00	54.65
7.40	4.97	87.61	12.30	.....	100.00	31.17
8.10	3.72	57.94	42.06	.....	100.00	39.88
11.62	2.29	100.00	.....	.....	100.00	53.06
8.06	.....	100.00	.....	.....	100.00	102.33
7.09	2.26	100.00	.....	.....	100.00	45.77
40.71	18	75.08	.....	24.92	100.00	39.33
30.23	.....	66.92	18.15	14.93	100.00	75.53
81.89	.....	100.00	.....	.....	100.00	7.16
3.40	.99	70.23	.....	29.77	100.00	48.90
15.16	.54	64.58	8.82	26.60	100.00	59.72
21.87	3.23	74.00	15.54	10.46	100.00	71.88
7.31	1.32	84.90	.....	15.10	100.00	55.99
24.92	.37	72.16	.....	27.84	100.00	59.60
46.45	1.29	82.73	.....	17.27	100.00	50.42
11.06	.09	100.00	.....	.....	100.00	32.76
.....	1.22	76.47	23.53	.....	100.00	33.13
1.09	2.45	100.00	.....	.....	100.00	93.54
27.39	.42	100.00	.....	.....	100.00	48.85
20.56	.....	100.00	.....	.....	100.00	40.05
.....	.79	100.00	.....	.....	100.00	45.30
12.79	.59	78.07	21.93	.....	100.00	53.53
16.26	.75	50.93	49.07	.....	100.00	136.75
4.06	2.03	100.00	.....	.....	100.00	57.71
13.53	.73	62.23	29.90	7.87	100.00	73.71
1.48	.23	100.00	.....	.....	100.00	87.31
12.53	1.58	100.00	.....	.....	100.00	46.79
4.65	1.42	77.93	22.07	.....	100.00	50.95
7.45	.17	53.42	28.84	17.74	100.00	84.71
.....	.....	100.00	.....	.....	100.00	65.93
.72	.....	77.48	22.52	.....	100.00	85.16
6.98	2.81	64.80	35.20	.....	100.00	167.48
24.04	.....	100.00	.....	.....	100.00	50.47
19.93	2.22	100.00	.....	.....	100.00	75.78
.....	.....	100.00	.....	.....	100.00	45.88

CLASSES A & B. RATIO OF OPERATING EXPENSES

LOCATION.	NAME OF COMPANY.	PER CENT DIVISION		
		Pump- ing.	Distribu- tion.	Commer- cial.
	<i>Class B. Municipal—Concl.</i>			
Rhinelander.....	Municipal Water Works Plant.	80.87	10.98	.....
Richland Center..	" " " "	75.97	12.13	.....
River Falls.....	" " " "	25.58	1.93	1.72
Shawano.....	" " " "	97.49	.06	.60
So. Milwaukee....	" " " "	92.87	2.70	.10
Sparta.....	" " " "	55.45	4.73	.97
Stoughton.....	" " " "	57.56	7.24	.61
Sturgeon Bay.....	" " " "	84.27	5.53	.22
Tomahawk.....	" " " "	73.76	1.75	2.36
Two Rivers.....	" " " "	76.19	13.49	2.78
Waupaca.....	" " " "	54.46	15.97	.....
West Allis.....	" " " "	74.19	19.02	3.81

AND EARNINGS, 1912—Concluded.

OF OPERATING EXPENSES.						Percentage of operating expenses to operating revenues.
General.	Undistributed.	Total of foregoing.	Depreciation.	Taxes.	Total operating expenses.	
7.65	.50	100.00	.....	.....	100.00	36.77
11.90	.....	100.00	.....	.....	100.00	63.24
5.31	.46	35.00	65.00	.....	100.00	51.63
1.69	.16	100.00	.....	.....	100.00	47.70
4.07	.26	100.00	.....	.....	100.00	135.47
3.43	2.13	66.71	33.29	.....	100.00	80.56
10.83	.71	76.95	23.05	.....	100.00	82.66
9.73	.25	100.00	.....	.....	100.00	223.79
2.36	.....	80.23	19.77	.....	100.00	84.01
7.54	.....	100.00	.....	.....	100.00	26.07
28.46	1.11	100.00	.....	.....	100.00	60.64
.43	2.55	100.00	.....	.....	100.00	76.37

Financial and Operating Statistics

Italic figures denote deficits.

ALL CLASSES.¹ INCOME ACCOUNT.—UTILITY

LOCATION.	NAME OF COMPANY.	Total operating revenues.	Total operating expenses.	Net operating revenue.	Non-operating revenue.	Gross income of operating systems.	Non-operating revenues, utility as a whole.
Abbotsford...	Abb. E. L. & T. Co.	\$2,647 72	\$2,647 72	.....	.....	.....	.....
Allenton.....	All.-Kohlsville T. C	3,175 66	1,960 54	\$1,215 12	\$29 30	\$1,244 42	.....
Almond.....	Almond Tel. Co.	6,091 13	3,900 17	2,190 96	.....	2,190 96	.....
Amery.....	Amery Elec. Co.	4,560 00	4,355 64	204 36	.....	204 36	.....
Amherst.....	Amherst Tel. Co.	3,659 73	2,765 27	894 46	.....	894 46	.....
Antigo.....	Antigo Tel. Co.	20,927 65	14,652 98	6,274 67	172 99	6,447 66	.....
Argyle.....	Argyle Tel. Co.	1,134 72	1,296 50	161 78	.....	161 78	.....
Arkansaw.....	Arkansaw Tel. Co.	2,640 00	1,379 82	1,260 18	.....	1,260 18	.....
Ashland.....	Ash. Home Tel. Co.	23,130 02	17,174 44	5,955 58	.....	5,955 58	.....
Athens.....	Athens Tel. Co.	3,448 61	1,947 08	1,500 95	.....	1,500 95	.....
Neillsville....	B. St. Tel. & Tel. CO	11,488 03	10,413 82	1,074 21	38 25	1,112 46	.....
Oconomowoc..	Badger Tel. Co.	7,245 14	5,670 95	1,574 19	2 75	1,576 94	.....
Richland Ctr.	Badger Tel. Co.	1,858 35	726 37	1,131 98	.....	1,131 98	.....
Janesville....	B. Tel. & Teleg. Co.	12,322 19	10,162 73	2,159 46	.....	2,159 46	\$68 75
Baldwin.....	Baldwin Tel. Co.	7,809 78	3,089 79	4,719 99	.....	4,719 99	.....
Augusta.....	Ball J. L. Estate...	6,057 25	4,322 90	1,734 35	66 09	1,800 44	.....
Bangor.....	Bangor Tel. Co.	9,426 21	5,956 38	3,469 83	.....	3,469 83	.....
Rice Lake....	Barron Co. Tel. Co	19,408 55	14,853 43	4,555 12	364 97	4,920 09	.....
Washburn....	Bayfield Co. Tel. Co	3,646 44	3,354 56	291 88	.....	291 88	.....
Belleville....	Belleville Tel. Co.	3,260 00	2,924 50	335 50	.....	335 50	.....
Hayward.....	Bell Tel. Mfg. Co.	3,332 00	1,373 37	1,958 63	12 00	1,970 63	.....
Belmont.....	Bel. & P. V. T. Co.	2,192 75	1,710 37	482 38	.....	482 38	.....
Beloit.....	B. Farm Tel. Co.	6,404 22	3,941 81	2,462 41	.....	2,462 41	.....
Berlin.....	Berlin Tel. Co.	2,885 98	1,359 59	1,526 39	.....	1,526 39	.....
Black Earth..	Black Earth T. Co.	3,082 53	1,933 08	1,149 45	.....	1,149 45	.....
Bloomer.....	Bloomer Tel. Co.	7,793 27	5,466 84	2,326 43	.....	2,326 43	.....
Boscobel.....	Boscobel Tel. Co.	3,154 72	2,006 95	1,147 77	23 11	1,170 88	.....
Bristol.....	Bristol Tel. Co.	4,223 12	2,146 94	2,076 18	.....	2,076 18	.....
Brodhead....	Brodhead Tel. Co.	9,042 78	4,898 39	4,144 39	35 04	4,179 43	.....
Brooklyn....	Brooklyn Tel. Co.	3,226 57	3,035 96	190 61	16 80	207 41	.....
Green Bay....	Brown Co. Tel. Co.	3,975 71	2,706 27	1,269 44	.....	1,269 44	.....
Burlington...	B. B. & W. T. Co.	4,285 05	2,775 48	1,509 57	6 43	1,516 00	.....
Rochester....	B. R. & K. Tel. Co.	6,015 17	3,931 47	2,083 70	15 96	2,099 66	.....
Cadott.....	Cadott Tel. Co.	2,964 80	2,528 65	436 15	5 30	441 45	.....
Cecil.....	C. G. Val. Tel. L. Co	2,643 40	843 42	1,799 98	13 70	1,813 68	.....
Cedar Grove..	Cedar Grove T. Co.	2,683 17	2,382 56	300 61	262 92	563 53	.....
Bl. R. Falls..	Central Wis. T. Co.	20,102 31	13,185 53	6,916 78	15 55	6,932 33	.....
Chip. Falls..	Chip. Co Tel Co.	10,112 61	8,713 50	1,399 11	40 62	1,439 73	.....
Bruce.....	Chip. Val. Tel. Co.	9,929 68	8,769 14	1,160 54	564 65	1,725 19	.....
Sheboygan...	Citizens Tel. Ex.	52,564 76	33,321 25	19,243 51	.....	19,243 51	918 81
Loyal.....	Clark Co. Tel. Co.	4,705 53	4,110 88	594 65	.....	594 65	.....
Clear Lake...	Clear Lake T. Co.	2,752 20	2,660 76	91 44	11 80	103 24	.....
Clinton.....	Clinton Tel. Co.	7,208 21	5,724 38	1,483 83	.....	1,483 83	.....
Colby.....	Colby Tel. Co.	1,189 81	1,188 34	1 47	.....	1 47	.....
Coloma.....	Coloma Tel. Co.	2,778 54	1,615 33	1,163 21	.....	1,163 21	.....
Coon Valley..	C. V. Farmers T. Co	6,000 73	3,979 34	2,021 39	18 00	2,039 39	.....
Crandon.....	Crandon Tel. Co.	3,684 39	2,307 59	1,376 80	26 25	1,403 05	.....
Cuba City....	C. C. Tel. Ex. Co.	1,866 00	1,420 89	445 11	.....	445 11	.....
Cumberland..	Cumberland T. Co.	4,363 05	3,043 86	1,319 19	49 64	1,368 83	.....
Deerfield....	Deerfield Tel. Co.	2,437 99	1,806 44	631 55	.....	631 55	.....

¹ Does not include utilities using condensed form of report.

of Public Utilities.—E. Telephone.

AS A WHOLE, YEAR ENDING JUNE 30, 1912.

Gross income.	DEDUCTIONS FROM GROSS INCOME.			Net income.	DISPOSITION OF NET INCOME.			Surplus.
	Interest on funded debt and real estate mortgages.	Interest on floating debt.	Total deductions.		Dividends.	Other deductions.	Total deductions.	
\$1,244 42				\$1,244 42				\$1,244 42
2,190 96		\$338 72	\$338 72	1,852 24	\$1,842 00		\$1,842 00	10 24
204 36				204 36				204 36
894 46				594 46	257 50		257 50	636 96
6,447 66				6,447 66	3,875 00		3,875 00	2,572 66
161 78		97 75	97 75	259 53				259 53
1,260 18		12 00	12 00	1,248 18	1,148 00		1,148 00	100 18
5,955 58	\$6,222 00	54 47	6,276 47	320 89				320 89
1,500 93		193 43	193 43	1,307 50	770 00		770 00	537 50
1,112 46		345 81	345 81	766 65				766 65
1,576 94		81 03	81 03	1,495 91				1,495 91
1,131 98				1,131 98				1,131 98
2,228 21	900 00	19 05	919 05	1,309 16				1,309 16
4,719 99				4,719 99	4,440 40		4,440 40	279 59
1,800 44				1,800 44		\$500 00	\$500 00	1,300 44
3,469 83				3,469 83	1,500 00		1,500 00	1,969 83
4,920 09				4,920 09	4,672 50		4,672 50	247 59
291 88				291 88	600 00		600 00	308 12
335 50				335 50				335 50
1,970 63				1,970 63				1,970 63
482 38		12 15	12 15	470 23				470 23
2,462 41		260 00	200 00	2,262 41	573 10		573 10	1,689 31
1,526 39				1,526 39	516 00		516 00	1,010 39
1,149 45		67 53	67 53	1,081 92				1,081 92
2,326 43		187 78	187 78	2,138 65	1,946 00		1,946 00	192 65
1,170 88		42 50	42 50	1,128 38				1,128 38
2,076 18		28 85	28 85	2,047 33	819 13		819 13	1,228 20
4,179 43				4,179 43	2,242 50		2,242 50	1,936 93
207 41				207 41	600 00		600 00	392 59
1,269 44		558 22	558 22	711 22				711 22
1,516 00		91 25	91 25	1,424 75	1,000 00		1,000 00	424 75
2,099 66		143 97	143 97	1,955 69	1,031 25		1,031 25	924 44
441 45				441 45				441 45
1,813 68		265 61	265 61	1,548 07				1,548 07
563 53		249 75	249 75	313 78				313 78
6,932 33		780 17	780 17	6,152 16				6,152 16
1,439 73				1,439 73	955 44		955 44	484 29
1,725 19				1,725 19	305 00		305 00	1,420 19
20,162 32	3,144 94		3,144 94	17,017 38	6,008 00		6,008 00	11,009 38
594 65				594 65				594 65
103 24		114 50	114 50	71 26				71 26
1,483 83				1,483 83	950 00		950 00	533 83
1 47				1 47				1 47
1,163 21				1,163 21				1,163 21
2,039 39		176 28	176 28	1,863 11	1,273 76		1,273 76	589 35
1,403 05		13 00	13 00	1,390 05	750 00		750 00	640 05
445 11				445 11				445 11
1,368 83		19 60	19 60	1,349 23	1,250 00		1,250 00	99 23
631 55		63 44	63 44	568 11				568 11

Italic figures denote deficits.

ALL CLASSES.¹ INCOME ACCOUNT, UTILITY

LOCATION.	NAME OF COMPANY.	Total operating revenues.	Total operating expenses.	Net operating revenue.	Non-operating revenue.	Gross income of operating systems.	Non-operating revenue, utility as a whole.
Reeseville.....	Dodge Co. Tel. Co....	\$3,729 63	\$1,760 83	\$1,968 80	.....	\$1,968 80	.....
Downsville.....	Downsville Tel. Co....	2,141 48	1,317 95	823 53	.....	823 53	.....
Earle.....	Earle Tel. Co.....	29,486 58	24,686 13	4,800 45	85 75	4,806 20	.....
Eden.....	E. F. du Lac T. Co....	2,934 35	2,435 21	499 14	18 30	517 44	.....
Chilton.....	Eastern Wis. T. Co....	22,744 47	14,139 56	8,604 91	.....	8,604 91	.....
Campbells'prt	East Valley T. Co....	2,103 30	2,188 60	85 30	.....	85 30	.....
Eau Claire.....	Eau C. Co. Tel. Co....	4,267 20	4,835 00	567 80	.....	567 80	.....
Eau Galle.....	Eau G. Tel. Co.....	2,159 75	2,122 73	37 02	.....	37 02	.....
Edgerton.....	Edgerton Tel. Co....	8,992 52	5,819 77	3,172 75	47 65	3,220 40	.....
Elroy.....	Elroy Tel. Co.....	5,162 53	4,271 87	890 66	61 82	952 48	.....
Cushing.....	Equity Tel. Co.....	3,297 93	1,399 50	1,898 43	.....	1,898 43	\$ 4 43
Neosho.....	Eureka Tel. Co.....	4,887 40	3,023 58	1,863 82	.....	1,863 82	.....
Evansville.....	Evans, Tel. Co ².....	.....	.....	.....	.....	.....	.....
Baraboo.....	Farmers Mut. T. Co....	2,347 17	2,230 32	116 85	.....	116 85	.....
Hebron, Ill....	Farmers N. E. T. Co....	3,286 87	1,769 00	1,517 87	.....	1,517 87	.....
Lincaaster.....	F. T. Co. of Beetown	10,949 84	8,711 91	2,237 93	.....	2,237 93	.....
Richland Ctr.	Farmers Tel. Ex....	9,295 40	6,263 04	3,032 36	138 70	3,171 06	.....
Cross Plains.....	Farmers U. Tel. Co....	4,009 01	3,149 18	860 33	.....	860 33	.....
Pennimore.....	Fen. Mut. Tel. Co....	2,030 85	2,298 41	267 56	6 96	260 60	.....
Pennimore.....	Fennimore Tel. Co....	850 86	846 65	4 21	.....	4 21	70 50
Fountain City	Fount'n City T. Co....	3,366 14	3,295 46	70 68	7 50	78 18	.....
Appl'ton.....	Fox C. Val. T. Co....	86,881 36	68,194 14	18,687 22	.....	18,687 22	.....
Franksville.....	Franksville T. Co....	2,953 17	2,463 25	489 92	.....	489 92	.....
Friendship.....	Friendship Tel. Co....	2,650 00	6,459 11	3,809 11	.....	3,809 11	.....
Gildden.....	Gildden Tel. Co.....	4,570 65	3,989 86	580 79	.....	580 79	.....
Greenwood.....	Greenwood Tel. Co....	2,428 57	1,775 37	653 20	37 40	690 60	.....
Peshigo.....	Harmony Tel. Co....	582 43	451 93	130 50	.....	130 50	.....
Hillsboro.....	Hillsboro Tel. Co....	5,216 91	3,030 15	2,186 76	.....	2,186 76	.....
Durand.....	Home Tel. Co.....	4,035 38	3,809 92	165 46	.....	165 46	.....
Hubertus.....	Hubertus Tel. Co....	3,485 68	1,666 92	1,818 76	.....	1,818 76	.....
Durand.....	Inter Co. Tel. Co....	3,833 43	3,665 79	167 64	.....	167 64	.....
Lake Mills.....	Interurban Tel. Co....	18,931 31	15,990 38	2,940 93	83 70	3,024 63	72 05
Iron River.....	I. R. W. Lt. & P. Co....	2,980 21	2,630 21	350 00	.....	350 00	.....
Jackson.....	Jackson Tel. Co.....	2,023 56	1,507 41	516 15	.....	516 15	.....
Mauston.....	Juneau Elec. Co....	4,295 91	3,356 70	939 21	.....	939 21	.....
Kenosha.....	Ken Home Tel. Co....	56,370 06	45,665 09	10,705 06	80 95	10,786 01	.....
Knapp.....	Knapp Tel. Co.....	3,942 75	3,942 75	.....	.....	.....	.....
La Crosse.....	La Cr. Int. Tel. Co....	14,220 77	8,724 62	5,496 15	13 95	5,510 10	.....
La Crosse.....	La Crosse Tel. Co....	64,777 59	50,627 40	14,150 19	762 68	14,912 87	392 06
La Farge.....	La Farge Tel. Co....	3,228 43	2,332 81	895 62	.....	895 62	.....
Lake City, M.	L. Pepin Tel. Co....	4,753 17	3,338 85	1,414 32	.....	1,414 32	.....
Larsen.....	Larsen Tel. Co.....	5,866 69	4,808 90	1,057 79	.....	1,057 79	.....
Limeridge.....	Limeridge Tel. Co....	4,925 00	3,807 00	1,118 00	.....	1,118 00	.....
Poynette.....	Leeds Par. Tel. Co....	2,275 00	1,892 00	383 00	.....	383 00	.....
Lodi.....	Lodi Tel. Exchange	4,298 54	2,944 64	1,353 90	.....	1,353 90	.....
Ludington.....	Ludington Tel. Co....	2,737 18	2,095 63	641 55	.....	641 55	.....
Luxemburg.....	Luxemburg Tel. Co....	1,467 09	1,417 09	50 00	.....	50 00	.....
Manawa.....	Manawa Tel. Co....	2,253 00	1,130 35	1,122 65	.....	1,122 65	.....
Readsville.....	Man. & W. Tel. Co....	5,370 89	4,648 10	722 79	.....	722 79	.....
Wausau.....	Marat. Co. Tel. Co....	3,955 77	2,772 65	1,183 12	.....	1,183 12	.....

¹ Does not include utilities using condensed form of report.² Sold to Wis. Tel. Co.—No report made.

AS A WHOLE, 1912.—Continued

Gross income.	DEDUCTIONS FROM GROSS INCOME.			Net income.	DISPOSITION OF NET INCOME.			Surplus.
	Interest on funded debt and real estate mortgages.	Interest on floating debt.	Total deductions.		Dividends.	Other deductions.	Total deductions.	
\$1,968 80		\$72 00	\$72 00	\$1,896 80				\$1,896 80
823 53		43 95	43 95	779 58				779 58
4,806 20		226 45	226 45	4,579 75	\$1,674 00		\$1,674 00	2,905 75
517 44		317 57	317 57	199 87				199 87
8,604 91		1,643 63	1,643 63	6,961 28	2,250 00		2,250 00	4,711 28
85 30		113 75	113 75	199 05				199 05
567 80				567 80				567 80
37 02				37 02				37 02
3,220 40		137 50	137 50	3,082 90	\$2,880 00		2,880 00	202 90
952 48	\$300 00		300 00	652 48				652 48
1,902 86		175 00	175 00	1,727 86	1,428 00		1,428 00	299 86
1,863 82		262 08	262 08	1,601 74	1,200 00		1,200 00	401 74
116 85				116 85				116 85
1,517 87				1,517 87	600 00		600 00	917 87
2,237 93				2,237 93				2,237 93
3,171 06				3,171 06				3,171 06
860 83		4 75	4 75	856 08	395 00		395 00	461 08
260 60				260 60				260 60
74 71				74 71				74 71
78 18				78 18				78 18
18,687 22	14,140 00	4,566 44	18,706 44	19 22				19 22
489 92		38 63	38 63	451 29				451 29
3,809 11		189 00	189 00	3,998 11				3,998 11
580 79				580 79	540 00		540 00	40 79
690 60		60 78	60 78	629 82				629 82
130 50				130 50				130 50
2,186 76		387 63	387 63	1,799 13				1,799 13
165 46				165 46	480 00		480 00	314 54
1,818 76				1,818 76	1,436 75		1,436 75	382 01
167 64				167 64				167 64
3,096 68	1,000 00	464 50	1,464 50	1,632 18	1,402 00		1,402 00	230 18
350 00				350 00				350 00
516 15		58 48	58 48	457 67				457 67
939 21	102 53		102 53	836 68				836 68
10,786 01				10,786 01	7,000 00		7,000 00	3,786 01
5,510 10	1,832 39	1,110 00	2,942 39	2,567 71				2,567 71
15,304 93		1,305 78	1,305 78	13,999 15	10,514 79		10,514 79	3,484 36
895 62				895 62				895 62
1,414 32				1,414 32				1,414 32
1,057 79		84 11	84 11	973 68				973 68
1,118 00				1,118 00				1,118 00
383 00				383 00	544 00		544 00	161 00
1,353 90	60 00		60 00	1,293 90				1,293 90
641 55				641 55				641 55
50 00				50 00				50 00
1,122 65				1,122 65				1,122 65
722 79				722 79				722 79
1,183 12		36 15	36 15	1,146 97	748 75		748 75	398 22

³Dividends for two years.

ALL CLASSES.—INCOME ACCOUNT

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	Total operating revenues.	Total operating expenses.	Net operating revenue.	Non-operating revenue.	Gross income of operating systems.	Non-operating revenue utility as a whole.
Marion.....	M. & Nor. Tel. Co.	\$8,762 55	\$6,924 70	\$1,837 85		\$1,837 85	
Markesan.....	Markesan Tel. Co.	4,257 00	3,759 98	497 02		497 02	
Oxford.....	M. & A. Co. T. Co.	2,877 20	3,162 66	285 46		285 46	
Mazomanie.....	Mazomanie Tel. Co.	3,566 19	3,181 19	385 00		385 00	
Marshfield.....	Marshfield Tel. Ex.	11,845 82	9,885 96	1,959 86	\$38 95	1,998 81	
Welcome.....	Matteson Tel. Co.	1,967 13	1,457 39	509 74		509 74	
Mattoon.....	Mattoon Tel. Co.	1,340 40	1,016 40	324 00		324 00	
Mauston.....	Maust'n El. Ser. Co.	6,030 93	8,049 90	2,018 97		2,018 97	
Cumberland.....	McKinley Tel. Co.	2,651 95	1,087 93	1,564 02	15 00	1,579 02	
Medford.....	Medford Tel. Exch.	3,639 24	2,869 03	770 21		770 21	
M'n'm'n'e Falls	M. Falls Tel. Co.	5,769 74	4,241 65	1,528 09		1,528 09	
Merton.....	Merton Tel. Co.	1,566 76	706 30	860 40		860 40	
Niagara.....	Mich. State Tel. Co.	2,232 40	2,308 05	75 63		75 63	
Stetsonville.....	Midway Tel. Co.	3,086 58	2,840 16	246 42		246 42	
Milwaukee.....	M'lt'n Mut. T. Co.	2,353 81	2,334 05	19 76		19 76	
Milton Jct.....	M. & M. Jct. T. Co.	10,012 04	6,466 76	3,545 28		3,545 28	
Mineral Pt.....	Min. Pt. Tel. Co.	8,206 46	5,167 70	3,038 70		3,038 70	\$126 39
Mondovi.....	Mondovi Tel. Co.	2,547 53	1,110 50	1,437 03		1,437 03	
Sparta.....	Monroe Co. Tel. Co.	18,400 51	11,074 11	7,326 55	10 48	7,336 83	
Mt. Horeb.....	Mt. H. Ind. Tel. Co.	6,254 02	2,743 85	3,510 19		3,510 19	
Mt. Vernon.....	Mt. V. Tel. Co.	6,891 60	3,852 15	3,039 45	50 84	3,090 29	
Nelsonville.....	Nelsonville Tel. Co.	2,782 12	2,619 92	162 20		162 20	
New Auburn.....	N. Auburn Tel. Co.	1,917 44	1,103 78	813 66		813 66	
Newburg.....	Newburg Tel. Co.	5,081 70	3,396 97	1,684 73		1,684 73	
Cashton.....	N. Cashton Tel. Co.	5,673 16	3,444 05	2,229 11		2,229 11	
Dodgeville.....	New Union Tel. Co.	6,902 54	5,508 55	1,393 99	183 81	1,577 80	
Minocqua.....	Northern Tel. Co.	2,180 00	1,612 44	567 56		567 56	
Northfield.....	N. Farm. Tel. Co.	2,029 12	1,309 36	719 76		719 76	
Ashland.....	No. Wis. Toll Line.	4,141 87	3,957 65	204 24		204 24	
Oakfield.....	Oakfield Tel. Co.	5,409 06	3,784 12	1,624 94		1,624 94	
Oconto.....	O. Rural Tel. Co.	3,711 48	2,356 35	1,355 13	33 58	1,388 71	
Wilton.....	Ont. & W. Tel. Co.	3,148 18	2,929 82	218 36	30	218 06	
Oostburg.....	Oostburg Tel. Co.	2,347 60	2,378 43	30 83		30 83	
Oregon.....	Oregon Tel. Co.	3,076 85	1,112 97	1,963 88		1,963 88	
Orfordville.....	Orfordville T. Co.	4,084 30	2,104 23	1,980 07		1,980 07	
Osceola.....	Os. Far. Mut. T. Co.	5,319 27	5,826 21	506 94		506 94	
Osseo.....	Osseo Tel. Co.	5,941 34	5,009 40	931 94	31 43	963 37	
Germantown.....	Ozau.-Wash. T. Co.	8,425 21	4,646 19	3,779 02		3,779 02	
Pardeeville.....	Pardeev. Tel. Co.	3,944 51	3,269 98	674 53		674 53	
Mt. Hope.....	Peoples Tel. Co.	9,037 45	7,082 15	1,955 30	768 05	2,723 35	
Superior.....	Peoples Tel. Co.	45,154 36	33,586 56	11,567 80		11,567 80	
Weyocena.....	Peoples Tel. Co.	15,918 64	13,388 94	2,529 70		2,529 70	65 20
Pewaukee.....	Pew.-Sussex T. Co.	3,574 58	2,192 47	1,382 11		1,382 11	
Ellsworth.....	Pierce Co. Tel. Co.	20,393 40	11,098 08	9,295 32	65	9,295 97	
Plymouth.....	Plymouth Tel. Co.	6,979 13	5,803 58	1,175 55		1,175 55	
Portage.....	Portage Tel. Co.	17,942 33	13,274 65	4,667 68	11 20	4,678 88	
Poynette.....	Poynette Tel. Co.	4,487 66	4,152 91	334 85		334 85	
Prairie Farm.....	P. F. R'y & D. T. Co.	6,106 05	3,461 20	2,644 85		2,644 85	
Phillips.....	Price Co. Tel. Co.						
Big Bend.....	P. G. & B. B. T. Co.	2,661 47	2,984 71	323 24		323 24	

¹ Does not include utilities using condensed form of report.⁴ Covers only seven months.

UTILITY AS WHOLE, 1912.—Continued.

Gross income.	DEDUCTIONS FROM GROSS INCOME.			Net income.	DISPOSITION OF NET INCOME.			Surplus.
	Interest on funded debt and real estate mortgages.	Interest on floating debt.	Total deductions.		Dividends.	Other deductions.	Total deductions.	
\$1,837 85	\$621 01		\$621 01	\$1,216 84	\$711 00		\$711 00	\$505 84
497 02				497 02				497 02
285 46				285 46				285 46
385 00				385 00	385 00		385 00	
1,998 81				1,998 81				1,998 81
509 74				509 74				509 74
324 00				324 00				324 00
2,018 97	196 58		196 58	2,215 55				2,215 55
1,579 02		\$312 43	312 43	1,266 59	111 00		111 00	1,155 59
770 21				770 21				770 21
1,528 09	150 00	90 00	240 00	1,288 09	1,200 00		1,200 00	88 09
860 40		20 00	20 00	840 40				840 40
75 63				75 63				75 63
246 42				246 42				246 42
19 76		80 50	80 50	60 74	471 49		471 49	532 23
3,545 28				3,545 28	3,600 00		3,600 00	54 72
3,165 09		57 00	57 00	3,108 09				3,108 09
1,437 03				1,437 03				1,437 03
7,336 83				7,336 83	4,980 00		4,980 00	2,356 83
3,510 19				3,510 19	1,820 00		1,820 00	1,690 19
3,090 29		3 38	3 38	3,086 91	624 00		624 00	2,462 91
162 20				162 20				162 20
813 66		134 50	134 50	679 16	410 00		410 00	269 16
1,684 73		80 00	80 00	1,604 73				1,604 73
2,229 11				2,229 11	1,200 00		1,200 00	1,029 11
1,577 80	\$226 36	178 49	404 85	1,172 95				1,172 95
567 56				567 56	600 00		600 00	32 44
719 76				719 76	620 80		620 80	98 96
204 24				204 24	2,000 00		2,000 00	1,795 76
1,624 94				1,624 94				1,624 94
1,388 71		165 00	165 00	1,223 71	1,223 71		1,223 71	
218 06		215 24	215 24	2 82				2 82
30 83		302 16	302 16	332 99				332 99
1,963 88		38 00	38 00	1,925 88				1,925 88
1,980 07				1,980 07	840 00		840 00	1,140 07
506 94				506 94	900 00	900 00	1,800 00	2,306 94
963 37				963 37	875 50		875 50	87 87
3,779 02		190 53	190 53	3,588 49	2,370 00		2,370 00	1,218 49
674 53				674 53				674 53
2,723 35		45 00	45 00	2,678 35	1,205 00		1,205 00	1,473 35
11,567 80	6,000 00		6,000 00	5,567 80				5,567 80
2,594 90		375 00	375 00	2,219 90	1,006 50		1,006 50	1,213 40
1,382 11		17 05	17 05	1,365 06				1,365 06
9,295 97				9,295 97				9,295 97
1,175 55	135 00	174 75	309 75	865 80				865 80
4,678 88		278 50	278 50	4,400 38	1,750 00		1,750 00	2,650 38
334 85				334 85				334 85
2,644 85				2,644 85	2,102 25		2,102 25	542 60
323 24		121 07	121 07	444 31				444 31

^a Company in hands of receiver. No complete report made.

TELEPHONE UTILITIES¹—ALL CLASSES, INCOME*Italic figures denote deficits.*

LOCATION.	NAME OF COMPANY.	Total operating revenues.	Total operating expenses.	Net operating revenue.	Non-operating revenue.	Gross income of operating systems.	Non-operating revenue, utility as a whole.
Random Lake	Random L. Tel. Co.	\$2,972 16	\$3,425 12	<i>\$452 96</i>		<i>\$452 96</i>	
Reedsburg	Reedsburg Tel. Co.	9,845 75	6,365 56	3,480 19	\$42 43	3,522 62	
Rhineland	Rhinel'r Mut. T. Co.	4,772 16	3,524 42	1,247 74		1,247 74	
Rice Lake	R. L. & N'the'n T. Co.	2,390 62	942 63	1,447 99	16 05	1,464 04	
Ripon	Ripon Rural T. Co.	4,002 00	3,408 09	593 91		593 91	
Ripon	Ripon Tel. Co.	8,161 83	6,685 25	1,476 58	330 82	1,807 40	
Janesville	Rock River Tel. Co.	33,448 26	23,397 99	10,110 27	249 43	10,359 70	\$900 00
Johnsons Cr'k	Rock River Tel. Co.	5,152 49	3,010 28	2,142 21	2 10	2,144 31	
Rosendale	Rosendale Tel. Co.	3,703 19	1,235 89	2,467 30		2,467 30	
Waupaca	Rural Tel. Co.	3,380 24	1,924 77	1,455 47		1,455 47	
Scandinavia	Scandinavia T. Co.	4,372 88	3,549 11	823 77		823 77	
Sharon	Sharon Tel. Co.	4,438 65	3,166 58	1,272 07		1,272 07	
Eleva	Shaw Tel. Co.	2,167 06	1,681 51	485 55	7 80	493 35	
Shiocton	Shiocton Tel. Co.	4,580 00	4,980 00	<i>400 00</i>		<i>400 00</i>	
Elkhorn	State L. D. Tel. Co.	9,390 10	5,355 22	4,034 88		4,034 88	4 50
New Richm'd	St. Croix Tel. Co.	7,315 31	6,360 63	954 68	118 20	1,072 88	
St. Croix Falls	St. C. Val. T. Exch.	8,949 51	6,530 08	2,419 43	35 23	2,454 66	
Stockbridge	Stoc. & Sher. T. Co.	2,243 60	1,143 60	1,100 00		1,100 00	
Sullivan	Sullivan Tel. Co.	3,341 58	2,832 55	509 03		509 03	
Alma	Tenney Tel. Co.	3,850 13	3,805 02	45 11		45 11	
Tomah	Tomah El. & T. Co.	9,999 85	8,670 24	1,329 11	59 47	1,388 58	
Tomahawk	T. El. W. & Tel. Co.	5,035 87	4,178 97	856 90	873 47	1,730 37	
Mariam P. St. P	Minn. T. S. T. & T. Co.	3,888 30	2,897 99	990 31		990 31	
Prairie du Sac	Troy & H. Cr. T. Co.	8,891 29	6,349 14	2,542 15	112 47	2,654 62	68 75
Two Rivers	Two Rivers T. Co.	6,927 18	4,229 03	2,698 15	19 70	2,678 45	
Union Grove	Union Grove T. Co.	5,767 57	2,823 55	2,944 02		2,944 02	87 63
Plainfield	Union Tel. Co.	6,648 43	4,770 53	1,877 90		1,877 90	
Pr. du Chien	Union Tel. Co.	4,937 87	3,963 54	974 33		974 33	
Monroe	United Tel. Co.	27,344 02	20,383 95	6,960 07	593 48	7,553 55	851 60
Pickett	Utica Tel. Co.	2,845 96	636 53	2,209 43		2,209 43	
Viroqua	Viroqua Tel. Co.	7,557 44	3,928 22	3,629 22	93 30	3,722 52	
Walworth	Wal. Tel. Exch. Co.	5,798 04	3,600 71	2,197 33	40 00	2,237 33	
Schleis'g'r'v'le	Wash. Co. Tel. Co.	3,659 67	2,248 02	1,411 65		1,411 65	
Watertown	Watertown Tel. Co.	5,682 80	4,420 18	1,262 62	275 00	1,537 62	
Waunakee	Waunakee Tel. Co.	2,373 96	1,328 00	1,045 96		1,045 96	
Wausau	Wausau Tel. Co.	30,111 77	27,453 12	2,658 65	1,214 03	3,872 68	
Westby	Westby Tel. Co.	6,648 12	4,103 36	2,354 76	17 23	2,371 99	
Arcadia	Western Wis. T. Co.	21,745 85	11,014 82	10,731 03	279 90	11,010 93	24 56
Westfield	W. Farmers T. Co.	4,401 38	4,543 52	<i>142 14</i>		<i>142 14</i>	
Glenwood	West Wis. Tel. Co.	6,226 22	4,312 39	1,913 83		1,913 83	
Shullsburg	White Oak Tel. Co.	1,190 78	853 68	337 10		337 10	
Waterford	Wind Lake Tel. Co.	1,049 83	1,566 92	<i>517 09</i>		<i>517 09</i>	
Oshkosh	W'p'ebago Co. T. Co.	2,228 00	1,585 49	642 51		642 51	
South Wayne	W'ns. & Sulli. T. Co.	2,225 00	1,130 07	1,094 93		1,094 93	
Milwaukee	Wisconsin Tel. Co.	3,308,436 34	2,620,681 56	687,754 78	15,125 09	702,879 87	46,953 00
Wonewoc	Wonewoc Tel. Co.	3,532 25	2,749 39	782 86		782 86	
Grand Rapids	Wood Co. Tel. Co.	18,717 85	16,656 68	2,061 17		2,061 17	
	Total	\$4,769,711 35	\$3,706,197 20	\$1,063,514 15	\$23,666 97	\$1,087,181 12	\$50,608 23

¹ Does not include utilities using condensed form of report.

ACCOUNT, UTILITY AS A WHOLE, 1912—Concluded.

Gross income.	DEDUCTIONS FROM GROSS INCOME.			Net income.	DISPOSITION OF NET INCOME.			Surplus.
	Interest on funded debt and real estate mortgages.	Interest on floating debt.	Total deductions.		Dividends.	Other deductions.	Total deductions.	
\$452 96				\$452 96				\$452 96
3,522 62		\$130 87	\$130 87	3,391 75				3,391 75
1,247 74		17 19	17 19	1,230 55	\$632 40		\$632 40	598 15
1,464 04				1,464 04				1,464 04
593 91				593 91	1,000 00		1,000 00	406 09
1,807 40				1,807 40	800 00		800 00	1,007 40
11,259 70		468 85	468 85	10,790 85	9,500 00		9,500 00	1,290 85
2,144 31				2,144 31	1,520 00		1,520 00	624 31
2,467 30				2,467 30				2,467 30
1,455 47				1,455 47	223 32		223 32	1,232 15
823 77				823 77	490 00		490 00	333 77
1,272 07				1,272 07	800 00		800 00	472 07
493 35		105 00	105 00	388 35	300 00		300 00	88 35
400 00				400 00				400 00
4,039 38		137 50	137 50	3,901 88	1,504 00		1,504 00	2,397 88
1,072 88		83 02	83 02	989 86	804 60		804 60	185 26
2,454 66		4 85	4 85	2,449 81	1,212 00		1,212 00	1,237 81
1,100 00		48 00	48 00	1,052 00	250 00		250 00	802 00
509 03				509 03	535 00		535 00	25 97
45 11				45 11				45 11
1,388 58				1,388 58	1,396 50		1,396 50	7 92
1,730 37		125 55	125 55	1,604 82	1,066 66		1,066 66	538 16
990 31				990 31				990 31
2,723 37		326 79	326 79	2,396 58				2,396 58
2,678 45	\$480 00	800 00	1,280 00	1,398 45				1,398 45
3,031 65				3,031 65	1,509 00		1,509 00	1,522 65
1,877 90				1,877 90	757 50		757 50	1,120 40
974 33				974 33				974 33
8,405 15		34 66	34 66	8,370 49	4,130 51		4,130 51	4,239 98
2,209 43				2,209 43	400 00		400 00	1,809 43
3,722 52				3,722 52	2,750 00		2,750 00	972 52
2,237 33				2,237 33	2,160 00		2,160 00	77 33
1,411 65		587 25	587 25	824 40	824 40		824 40	
1,537 62		33 38	33 38	1,504 24	1,242 50		1,242 50	261 74
1,045 96				1,045 96				1,045 96
3,872 68	1,230 38	1,128 66	2,359 04	1,513 64	4,800 00		4,800 00	3,286 36
2,371 99				2,371 99	1,546 50		1,546 50	825 49
11,035 49		668 10	668 10	10,367 39	4,725 00		4,725 00	5,642 39
142 14		62 50	62 50	204 64				204 64
1,913 83				1,913 83	1,820 00		1,820 00	93 83
337 10		105 02	105 02	232 08				232 08
517 09		100 00	100 00	617 09	96 25		96 25	713 34
642 51		66 50	66 50	576 01				576 01
1,094 93				1,094 93	525 00		525 00	569 93
749,832 87	5,649 25	1,369 64	7,018 89	742,813 98	720,960 00		720,960 00	21,853 98
782 86				782 86				782 86
2,061 17	240 00		240 00	1,821 17	1,345 50		1,345 50	475 67
\$1,137,789 35	\$42,630 44	\$24,736 97	\$67,367 41	\$1,070,421 94	\$875,051 76	\$1,400 00	\$876,451 76	\$193,970 18

CONDENSED FORM, INCOME ACCOUNT, YEAR ENDING JUNE 30, 1912.

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	Operating revenues.	Operating expenses.	Net operating revenue.	Deductions from net revenue.	Surplus.
New Rome.....	Adams Co. Metallic Tel. Co.....	\$944 50	\$962 40	\$17 90	.....	\$17 90
Boaz.....	Akan Tel. Co.....	111 43	161 15	49 72	.....	49 72
Almena.....	Almena Farmers Tel. Co.....	1,208 30	1,010 45	197 85	.....	197 85
Brandon.....	Alto Tel. Co. ¹.....	.....	.....	.....	.....	.....
Bruce.....	Amacoy Tel. Co.....	285 60	90 33	195 27	\$154 70	40 57
Amberg.....	Amberg Tel. Co.....	385 50	216 30	169 20	50 00	119 20
Aniwa.....	Aniwa Tel. Co. ².....	.....	.....	.....	.....	.....
Montfort.....	Annaton & Preston Tel. Co.....	1,766 02	2,052 19	286 17	.....	286 17
Arena.....	Arena & Ridgeway Tel. Co.....	1,871 65	505 40	1,366 25	848 04	518 21
Arnold.....	Arnold Tel. Lines.....	659 40	158 00	501 40	.....	501 40
Albany.....	Attica Mutual Tel. Co.....	1,364 55	761 01	603 54	300 00	303 54
Auburndale.....	Auburndale Tel. Co.....	876 25	498 55	377 70	.....	377 70
Avoca.....	Avoca-Muscoda Far. Tel. Co.....	198 78	145 38	53 40	54 73	1 33
Avoca.....	Avoca & Pride Hollow Tel. Co.....	27 00	5 00	22 00	.....	22 00
Orange.....	Badger Mutual Tel. Co.....	1,231 34	1,202 11	29 23	.....	29 23
Waupaca.....	Baldwin Mills Tel. Co.....	1,229 75	1,165 80	63 95	.....	63 95
Bancroft.....	Bancroft Tel. Co.....	776 24	761 09	15 15	.....	15 15
Barneveld.....	B & Hollandale Tel. Co.....	265 00	230 00	35 00	.....	35 00
Ridgeway.....	B. & Ridgeway Tel. Co.....	1,203 05	828 14	374 91	.....	374 91
Barton.....	Barton Rural Tel. Co.....	45 00	45 00	.....	.....	.....
Shell Lake.....	Bashaw Valley Tel. Co.....	30 25	34 24	3 99	.....	3 99
Basswood.....	B. & Eagle Corners Tel. Co.....	481 50	351 75	129 75	.....	129 75
Bayfield.....	Bayfield Farmers Tel. Co.....	615 00	615 00	.....	.....	.....
Loyal.....	Beaver Tel. Co.....	389 36	341 75	47 61	.....	47 61
Osseo.....	Beef River Valley Tel. Co.....	349 88	320 20	29 68	.....	29 68
Big Flats.....	Big Flats-Colburn Tel. Co. ².....	.....	.....	.....	.....	.....
Spring Green.....	Big Hollow Tel. Co.....	828 00	355 75	472 25	300 00	172 25
Birnamwood.....	Birnamwood Tel. Co.....	1,775 59	1,167 21	608 38	217 50	390 88
Greenwood.....	Black River Tel. Co.....	71 50	74 00	2 50	.....	2 50
Hollandale.....	Blanchardville & H. Farm. Tel. Co.....	186 67	181 11	5 56	.....	5 56

Mineral Point.....	Bloomfield Tel. Co.....	95 00	95 00				
Bonduel.....	Bonduel Tel. Co.....	2,160 25	2,015 55	144 70			144 70
Independence.....	Borst Valley Far. Tel. Co.....	130 00	130 00				
Brandon.....	Brandon Tel. Co.....	841 62	503 57	338 05	127 50		210 55
Briggsville.....	B. & Big Springs Tel. Co.....	852 80	767 60	85 20			85 20
Browtown.....	Browtown Tel. Co.....	2,400 00	2,000 00	400 00	600 00		200 00
Dorchester.....	Bruckerville Farmers Tel. Co.....	221 64	200 30	21 34			21 34
Ontario.....	Brush Creek Farmers Tel. Co.....	120 00	99 00	21 00			21 00
Westby.....	Buckeye Ridge Co-op Tel. Co.....	871 91	924 00	52 09			52 09
Buena Vista.....	Buena Vista Tel. Co.....	329 15	316 32	12 83			12 83
Burke.....	Burke Tel. Co.....	48 00	48 00				
Spooner.....	Burnett & Washburn Co. Tel. Co.....	182 14	136 25	45 89			45 89
Wilson.....	Cady Tel. Co.....	961 00	849 00	112 00			112 00
New London.....	Caledonia Farmers Tel. Co.....	90		90			90
Forest Jct.....	Calumet Tel. Co.....	1,632 51	377 99	1,254 52	1,225 25		29 27
Cambria.....	Cambria Co-op Tel. Co.....	170 00	155 00	15 00			15 00
Cambridge.....	Cambridge Tel. Co.....	1,166 65	1,004 36	162 29			162 29
Cameron.....	Cameron Farmers Tel. Co.....	362 53	769 03	93 50			93 50
Canton.....	Canton Farmers Tel. Co.....	444 60	306 74	137 86			137 86
Wabeno.....	Carter-Wabeno Tel. Co.....	2,880 00	2,852 79	27 21			27 21
Casco.....	Casco-Brussels Tel. Co.....	1,357 32	841 12	516 20	612 20		96 00
New Richmond.....	Cedar Lake Rural Tel. Co.....	216 00	216 00				
Chetek.....	Chetek Rural Tel. Co.....	621 64	220 07	401 57	228 64		172 93
Cambridge.....	Christiana Town Hall Tel. Line.....	226 71	85 01	141 70			141 70
Turtle Lake.....	City Tel. Co.....	1,588 16	1,805 17	217 01			217 01
Neenah.....	Clayton Tel. Co.....	127 60	127 60				
Lone Rock.....	Clyde Tel. Co.....	125 00	124 21	79			79
Oak Ridge.....	Colburn Tel. Co.....	20 12	6 78	13 34			13 34
Colfax.....	Colfax Phone System & Toll Lines.....	3,650 00	2,060 00	1,590 00			1,590 00
De Forest.....	Columbia Co. Tel. Co.....	1,469 88	807 35	662 53	66 25		596 28
High Cliff.....	Cook & Brown Line.....	17 55	9 05	8 50			8 50
Merrill.....	Corning Tel. Co.....	39 47	39 47				
Cottage Grove.....	Cottage Grove Tel. Co.....	1,598 66	935 43	663 23	845 25		182 02
Highland.....	Council Bluffs Tel. Co.....	67 50	58 25	9 25			9 25
Tisch Mills.....	County Line Tel. Co.....	347 25	325 95	21 30			21 30
Grand Rapids.....	Cranmoor Tel. Co.....	414 50	216 20	198 30	111 00		87 30
Boscobel.....	Crawford Co. Farmers Mut. Tel. Co.....	1,726 42	1,715 00	11 42			11 42
Taylor.....	Curran Farmers Tel. Co.....	546 00	367 08	178 92			178 92
Curtiss.....	Curtiss & Withee Tel. Co.....	23 40	19 70	3 70			3 70
Dallas.....	Dallas Farmers Tel. Co.....	550 00	550 00				

¹ No service connection yet; plant being constructed.

² No revenues or expenses reported.

CONDENSED FORM, INCOME ACCOUNT, 1912—Continued.

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	Operating revenues.	Operating expenses.	Net operating revenue.	Deductions from net operating revenue.	Surplus.
Darlington	Darlington Tel. Co.	\$2,583 95	\$5,166 41	\$2,582 46		\$2,582 46
Deer Park	Deer Park Tel. Co.	1,292 48	880 22	412 26	\$222 09	190 17
La Farge	Dell Co-op. Tel. Co.	570 60	464 13	106 47		106 47
Delton	Delton Tel. Co.	792 00	745 00	47 00		47 00
Denmark	Denmark Farmers & Merchants' Tel. Co.	169 95	161 65	8 30		8 30
Montello	Diamond Tel. Co.	79 50	17 00	62 50	49 50	13 00
Dodgeville	Dodgeville & Northern Tel. Co.	10	53 27	53 17		53 17
Dodgeville	Dodgeville & Union Mills Tel. Co.	594 77	689 43	94 66		94 66
Sturgeon Bay	Door County Tel. Co.	829 08	1,015 18	186 10		186 10
Waldwick	Dukes Prairie Tel. Co.	320 00	260 00	60 00		60 00
Earl	Earl Tel. Co.	161 75	181 38	19 63		19 63
Brandon	Eastern Alto Tel. Co. ²					
Watertown	Ebenezer Tel. Co.	696 00	601 34	94 66		94 66
Edgar	Edgar, Castle & Emmet Tel. Co.	464 55	460 74	3 81		3 81
Edgar	Edgar Local Tel. Co.	534 28	287 66	246 62	239 21	7 41
Edmund	Edmund Tel. Co.	60 00	60 00			
Elderon	Elderon Tel. Co.	1,596 78	1,978 30	381 52		381 52
Eleva	Eleva Farmers Mut. Tel. Co.	1,547 50	892 25	655 25	213 50	441 75
Elk Creek	Elk Creek Tel. Co.	370 40	372 70	2 30		2 30
Elk Mound	Elk Mound Tel. Co.	2,094 47	1,519 43	575 04	309 51	265 53
Manitowoc	English Lake Tel. Co.	365 93	314 17	51 76		51 76
Etrick	Etrick Tel. Co.	3,244 98	2,610 91	634 07	326 50	307 57
Fairchild	Foster, N. C. Lumber Co.	69 00	16 62	52 38	1 90	50 48
Cuba City	Farmers Badger Tel. Co.	338 00	315 15	22 85		22 85
Prairie du Sac	Farmers Co-op. Tel. Co.	873 25	746 50	126 75		126 75
Hixton	Farmers Hixton & Northfield Tel. Co.	354 62	303 63	50 99		50 99
Ashton	Farmers Independent Tel. Co.	828 38	345 29	483 09	423 09	60 09
Caroline	Farmers Independent Tel. Assoc.	1,721 22	1,713 21	8 01		8 01
Kilbourn	Farmers Inter Co. Mut. Tel. Co.	3,663 16	3,009 24	653 92		653 92
Algoma	Farmers L. Shore T. Tr. & El. P. Co.	313 60	196 85	116 75		116 75

Lena.....	Farmers & Merchants Tel. Co.....	2,348 05	1,938 05	410 00	410 00
Cambria.....	Farmers Mut. Tel. Co.....	457 20	557 70	100 50	100 50
Highland.....	Farmers Ridge Tel. Co.....	138 00	138 00	.....	.....
Cochrane.....	Farmers Tel. Co.....	1,157 65	966 03	191 62	191 62
Edgerton.....	Farmers Tel. Co. of Porter.....	140 84	10 17	130 67	130 67
Hixton.....	Farmers Tel. Co. Line 8.....	44 75	38 75	6 00	6 00
Loomis.....	Farm & Village Tel. Co.....	1,122 64	1,092 45	30 19	30 19
Fifield.....	Feeleys Pike Lake Tel. Line.....	60 00	160 00	100 00	100 00
Ferryville.....	Ferryville Tel. Co.....	235 55	158 61	76 94	76 94
Fond du Lac.....	Fond du Lac Rural Tel. Co.....	4,365 00	2,240 00	2,125 00	1,825 00
Forestville.....	Forestville Tel. Co.....	829 55	508 00	321 55	148 00
Fremont.....	Fremont Tel. Co. ²	1,639 56	1,354 56	285 00	173 55
Georgetown.....	Georgetown & Jarrett Tel. Co.....	60 00	60 00	.....	285 00
Gillett.....	Gillett Rural Tel. Co.....	1,135 50	385 00	770 50	770 50
Goodrich.....	Goodrich Tel. Co.....	707 43	373 85	333 58	88 58
Green Lake.....	Green Lake Rural Tel. Co.....	1,070 00	433 64	636 36	321 36
Kilbourn.....	Grossman Tel. Co.....	452 00	190 00	262 00	315 00
Knowlton.....	Guenther, Chas. E.....	43 60	26 80	16 80	55 00
Hamburg.....	Hamburg Tel. Co.....	467 79	360 12	107 67	60 00
Hammond.....	Hammond Tel. Co.....	2,621 69	2,064 04	557 65	705 00
Hartford.....	Hartford Rural Tel. Co.....	906 14	512 15	393 99	377 38
Hartford.....	H. - Saylesville T. Co.....	460 00	270 60	189 40	106 80
Hawkins.....	Hawkins Tel. Co.....	1,306 26	415 79	890 47	890 47
Hazel Green.....	Hazel Green Exch. Co.....	926 04	898 24	27 80	27 80
Somers.....	Heidersdorf-Kreuscher T. Co.....	415 00	217 81	197 19	210 00
Boscobel.....	Hickory Grove Farm Tel. Co.....	2 50	47 50	45 00	45 00
Hillsdale.....	Hillsdale Western Tel. Co.....	934 27	956 58	22 31	22 31
Alma Center.....	Hixton & Alma C. Co. T. & T. Co.....	30 25	30 25	.....	.....
Houlton.....	Houlton Rural Tel. Co.....	588 69	550 98	37 71	37 71
Horicon.....	Horicon Tel. Co.....	538 07	213 51	324 56	132 50
Kewaunee.....	Horseshoe Tel. Co.....	1,239 48	491 95	747 53	166 09
Iron Ridge.....	Hubbard Farmers Tel. Co.....	314 00	130 00	184 00	191 00
Hudson.....	Hudson Prairie Tel. Co.....	788 32	449 18	339 14	285 00
Glenbeulah.....	Hulls Crossing Farm Tel. Co.....	41 77	43 96	2 19	2 19
Independence.....	Independence Tel. Co.....	2,127 30	673 29	1,454 01	1,312 50
Montford.....	Individual Tel. Exch.....	54 00	57 00	3 00	3 00
Cobb.....	Iowa Co. Tel. Co.....	1,019 32	794 04	225 28	225 28
Darlington.....	Iowa & LaFayette Co. Farm Tel. Co.....	1,600 00	1,000 00	600 00	600 00
Jefferson.....	Jefferson Mut. Tel. Co.....	1,310 40	746 39	564 01	378 00
Juda.....	Jefferson Tel. Co.....	2,276 50	1,941 46	335 04	150 00
					185 04

² No earnings or expenses reported.

³ Covers only 10½ months.

CONDENSED FORM, INCOME ACCOUNT, 1912—Continued.

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	Operating revenues.	Operating expenses.	Net operating revenue.	Deductions from net operating revenues.	Surplus.
Valders.....	Jerpin & Valders Tel. Co.....	\$1,024 87	\$980 18	\$44 69	.....	\$44 69
Johnsonville.....	Johnsonville Tel. Co.....	247 55	178 94	68 61	.....	68 61
Juneau.....	Juneau Tel. Co.....	1,770 00	1,170 12	599 88	\$444 00	155 88
Stoughton.....	Kegonsa Ind. Tel. Co.....	578 38	478 17	100 21	.....	100 21
Kendall.....	Kendall Tel. Exchange.....	2,019 40	1,785 90	233 50	.....	233 50
Algoma.....	Keodan Tel. Co.....	270 00	200 00	70 00	50 00	20 00
Kingston.....	Kingston Tel. Co.....	1,500 00	1,500 00	.....	.....	.....
Brandon.....	Ladoga & Brandon Tel. Co.....	110 00	110 00	.....	.....	.....
Waupun.....	Ladoga & Oak Center Tel. Co. ¹.....	.....	.....	.....	.....	.....
Gratiot.....	LaFayette Tel. Co.....	1,037 22	647 22	390 00	390 00	.....
Chippewa Falls.....	Lake Hallie Tel. Co.....	40 00	40 00	.....	.....	.....
Shullsburg.....	Lake Tel. Co.....	35 00	35 00	.....	.....	.....
Oakfield.....	Lamartine & Rock R. Tel. Co.....	7 00	7 00	.....	.....	.....
Lebanon.....	Lebanon Tel. Co.....	2,100 60	1,100 24	1,000 36	728 00	272 36
Manitowoc.....	Liberty-Newton Tel. Co.....	261 05	280 00	18 95	.....	18 95
Sheboygan.....	Lima Tel. Co.....	600 00	576 40	23 60	.....	23 60
Whitehall.....	Lincoln Farmers Tel. Co.....	1,506 86	857 37	649 49	502 97	146 52
Granton.....	Lindsey Tel. Co.....	757 26	886 92	129 66	.....	129 66
Wabeno.....	Linsy Brook Tel. Co.....	2,648 30	2,063 08	585 22	300 00	285 22
Sussex.....	Lisbon Tel. Co.....	1,875 69	1,749 92	125 77	104 00	21 77
Loganville.....	Loganville Tel. Co.....	1,320 00	956 00	364 00	.....	364 00
Lone Rock.....	Lone Rock Tel. Co.....	1,877 56	1,623 28	254 28	.....	254 28
Clam Falls.....	Lorain Co-op Tel. Co.....	32 32	22 86	9 46	.....	9 46
White Mound.....	Lorretta & Loganville Tel. Co.....	96 00	96 00	.....	.....	.....
Lamont.....	Lovetts Branch Tel. Co.....	56 00	56 00	.....	.....	.....
Granton.....	Lynn Tel. Co.....	845 00	622 33	222 67	.....	222 67
Manitowoc.....	Mani. & Northern Tel. Co.....	851 25	1,790 71	939 46	.....	939 46
Maplewood.....	Maplewood & Western Tel. Co.....	376 25	65 00	311 25	.....	311 25
Marathon.....	Marathon City Tel. Co.....	354 00	210 00	144 00	.....	144 00
Marathon.....	Marathon Ziegler Tel. Co.....	79 25	14 75	64 50	64 50	.....

Montello.....	Marquette Co. Tel. Co.....	2,537 38	2,050 50	477 88		477 88
Mayville.....	Mayville Rural Tel. Co.....	1,002 92	786 53	216 39	335 25	118 86
Chippewa Falls.....	Mellville Settlement Tel. Co.....	927 00	927 00			
Mercer.....	Mercer Tel. Co.....	90 00	90 00			
Sabin.....	Mill Creek Tel. Co.....	2,531 00	716 00	1,815 00		1,815 00
Mishicott.....	Mishicott Tel. Co.....	583 00	369 00	214 00		214 00
Modena.....	Modena Co-op Tel. Co.....	563 27	662 47	99 20		99 20
Montello.....	Montello Farmers Tel. Co.....	300 00	200 00	100 00		100 00
Oconto Falls.....	Morgan Tel. Co.....	228 28	130 84	97 44		97 44
Tigerton.....	Morris Tel. Co.....	381 96	275 68	108 28	74 05	34 23
Haven.....	Mosel & Centerville Tel. Co.....	1,258 19	1,824 35	566 16		566 16
Muscoda.....	Muscoda Mut. Tel. Co.....	1,907 47	2,145 10	237 63		237 63
Nelson.....	Nelson Farmers Tel. Co.....	1,859 79	1,372 03	487 76	507 41	19 65
Hales Corners.....	New Berlin Tel. Line ¹					
New Lisbon.....	New Lisbon Mut. Tel. Co.....	2,750 00	1,470 50	1,279 50	301 00	978 50
Newry.....	Newry Farmers Tel. Co.....	150 00	150 00			
Manitowoc.....	Newton-Manitowoc Tel. Co.....	180 00	108 00	72 00	62 00	10 00
Rube.....	Newton & Oman Tel. Co.....	140 17	52 88	87 29	70 00	17 29
Bayfield.....	North Shore Tel. Co.....	150 00		150 00	50 00	100 00
Blue River.....	Northwestern Tel. Co.....	35 00	30 00	5 00		5 00
Norwalk.....	Norwalk Ind. Tel. Co.....	1,362 33	390 47	971 86	644 28	327 58
Oak Ridge.....	Oak Ridge & Niebull Tel. Co.....	43 02	31 72	11 30		11 30
Platteville.....	Ocean Wave Tel. Co.....	50 00	50 00			
Rhinelanders	Oneida & Vilas Co. Tel. Co.....	663 96	458 62	205 34		205 34
Ormsby.....	Ormsby Land & Timber Co.....	50 75	60 50	9 75		9 75
Stanley.....	Otter Creek Mut. Tel. Co.....	63 00	63 00			
Owen.....	Owen Tel. Co.....	1,902 24	1,400 18	502 06	17 49	484 57
Endeavor.....	Oxford & New Haven Tel. Co.....	432 35	456 76	24 41		24 41
Wycocena.....	Pacific & Wycocena Farm Co-op. Tel. Co.....	356 34	330 86	25 48		25 48
Hixton.....	Pale Grove & Shady Glen Tel. Co.....	41 25	41 25			
McFarland.....	Peoples Tel. Co.....	1,677 81	1,228 08	449 73		449 73
Hollandale.....	Perry-Hollandale Tel. Co.....	447 51	267 00	180 51	100 00	80 51
Pigeon Falls.....	Pigeon Valley Farmers Tel. Co.....	818 94	792 26	26 68		26 68
Klevenville.....	Pine Bluff Tel. Co.....	1,277 12	640 00	637 12	666 00	28 88
Pittsville.....	Pittsville Tel. Co.....	925 25	690 30	234 95		234 95
Sheb. Falls.....	Plank Road Tel. Co.....	160 00	160 00			
Platteville.....	Platteville & Cornelia Tel. Co.....	314 61	309 77	4 84		4 84
Whitehall.....	Pleasant Valley Tel. Co.....	360 00	360 00			
Highland.....	Pompeys Pillar Tel. Co.....	51 00	51 00			
Kilbourn.....	Portage & Kilbourn Tel. Co.....	150 00	44 42	105 58		105 58

¹No earnings or expenses reported.

CONDENSED FORM, INCOME ACCOUNT, 1912 — Continued.

Italic figures denote deficits.

LOCATION,	NAME OF COMPANY.	Operating revenue.	Operating expenses.	Net operating revenue.	Deductions from net operating revenue.	Surplus.
Pt. Washington	Pt. Washington Tel. Co.	\$567 92	\$357 59	\$210 33		\$210 33
Port Wing	Port Wing Tel. Co.	1,400 05	1,140 74	259 31	\$150 71	108 60
Poynette	Poynette Farmers Co-op. Tel. Co.	365 10	340 00	25 10		25 10
Poy Sippi	Poy Sippi Tel. Co.	1,298 94	434 81	864 13	100 00	764 13
Blair	Preston's Farmers Tel. Co.	1,409 45	1,482 84	73 39		73 39
Princeton	Princeton Tel. Co.	2,601 95	1,126 22	1,475 73		1,475 73
Pittsville	Progress Tel. Co.	70 00	60 00	10 00		10 00
Pulaski	Pulaski Merch. & Farm. Tel. Co.	2,340 00	1,620 00	720 00	300 00	420 00
Quarry	Quarry Riverside Tel. Co.	60 20	56 30	3 90		3 90
Two Rivers	Range Line & Northern Tel. Co.	84 00	84 00			
Algoma	Rankin Tel. Co.	199 50	199 50			
Manitowoc	Rapids & Western Tel. Co.	850 21	476 72	373 49		373 49
Plymouth	Rathburn Tel. Lines	1,273 64	800 00	473 64		473 64
Greenwood	Beseberg Mut. Tel. Co.	510 81	507 55	3 26		3 26
Mineral Pt.	Rewey & Mineral Point Tel. Co. (1) ..					
Rib Lake	Rib Lake Tel. Co.	1,764 10	1,156 04	608 06	500 00	108 06
Rhineland	Rhineland Tel. Co.	4,772 16	3,524 42	1,247 74	649 55	598 19
Richmond	Richmond Tel. Co.	891 00	733 69	157 31		157 31
Excelsior	Richwood Farmers Tel. Co.	175 00	175 00			
Boaz	Richwood & Aken Tel. Co.	221 66	87 00	134 66		134 66
Ridgeway	R. Jonesdale & Hollandale Tel. Co.	97 00	116 90	19 90		19 90
Fairchild	Riverview Tel. Co.	396 00	375 00	21 00	50 00	29 00
Rock Falls	Rock Falls & Meridian Tel. Co.	1,126 94	810 60	316 34	281 24	85 10
Hartford	Rubicon Tel. Co.	548 40	152 70	394 70	240 00	154 70
Reedsburg	Rudd & Rood Tel. Co.	1,773 53	1,176 69	596 84		596 84
Rudolph	Rudolph Tel. Co.	1,522 00	377 20	1,144 80	657 89	486 91
Hammond	Rush E. & Pleasant Valley Tel. Co.	94 00	76 50	17 50		17 50
Ladysmith	Rusk Co. Rural Tel. Co.	2,114 63	1,641 88	472 75	849 99	377 24
Boscobel	Sanders Creek Tel. Co.	98 00	88 00	10 00		10 00
Sandusky	Sandusky Tel. Co.	5 50	4 00	1 50	11	1 39

Sturgeon Bay.....	Sawyer & Western Tel. Co.....	166 79	166 79				
Kiel.....	Schleswig Tel. Co.....	1,182 37	530 73	651 64	453 85		197 79
Shell Lake.....	Shell Lake Tel. Exch.....	1,320 00	480 00	840 00			840 00
Germania.....	Shields Tel. Co.....	249 00	285 05	36 05			36 05
Sawyer.....	Shiloh Tel. Co.....	722 07	467 19	254 88	188 68		66 29
Shullsburg.....	S. & Wardville Tel. Co.....	38 00	38 00				15 00
Manitowoc.....	Silver Creek Tel. Co.....	75 00	60 00	15 00			64 77
Baraboo.....	Skillet Falls Tel. Co.....	242 00	177 23	64 77			
La Crosse.....	Smith Conlie Tel. Co.....	95 00	95 00				
Highland.....	Social Ridge Tel. Co.....	39 00	39 00				
Somerset.....	Somerset Rural Tel. Co.....	1,182 02	1,043 68	138 34			138 34
Appleton.....	South Greenville Tel. Co.....	148 87	142 69	6 18			6 18
West Prairie.....	Southwest Prairie Tel. Co.....	87 00	87 00				
Blanchardville.....	South York Tel. Co.....	24 00	24 00				
Spooner.....	Spooner & Evergreen Tel. Co.....	142 40	137 30	5 10			5 10
Spooner.....	Spooner Tel. Co.....	2,952 00	2,240 00	712 00			712 00
Taylor.....	Springfield Farmers Tel. Co.....	1,290 79	1,106 42	184 37			184 37
Dodgeville.....	Spring Green & Wyoming T. Co.....	1,331 16	1,493 62	162 46			162 46
Stanley.....	Stanley & Northern Tel. Co.....	163 50	162 41	1 09			1 09
Swiss.....	St. Croix Farm. Mut. Tel. Co.....	506 75	492 85	13 90			13 90
Stratford.....	Stratford & Northern Tel. Co.....	1,460 17	1,015 30	444 87			444 87
Strum.....	Strum Tel. Co.....	658 72	481 36	177 36			177 36
Gardner.....	Sturgeon Bay & Gardner T. Co.....	244 68	161 50	83 18			83 18
South Range.....	Superior Rural Tel. Co.....	260 00	173 35	86 65			86 65
Soldiers Grove.....	Sylvan & Soldiers Grove Tel. Co.....	546 00	546 00				
Arcadia.....	Tamarack Tel. Co.....	1,084 64	833 93	250 71			250 71
Theresa.....	Theresa Union Tel. Co.....	5,916 96	3,985 17	1,931 79	1,331 10		600 69
Thorp.....	Thorp Tel. Co.....	1,757 25	732 92	1,024 33	397 00		627 33
Fairwater.....	Tinkham & Meilke Tel. Co.....	60 00	55 00	5 00			5 00
Stevens Point.....	Touron Tel. Co.....	30 00	30 00				
Shawano.....	Town Line Farm. Tel. Assoc.....	1,005 86	575 15	430 71	339 47		91 24
Sheboygan Falls.....	Town of Sheb. Falls R. R. Tel. Co.....	805 85	767 48	38 37			38 37
Unity.....	Unity & Southwestern R. Co.....	236 44	198 48	37 96			37 96
Unity.....	Unity & Western T. Co.....	317 87	316 95	92			92
Gay's Mills.....	Utica Farmers Tel. Co.....	463 36	501 40	38 04			38 04
Buena Vista.....	Valley Tel. Co.....	40 45	92 09	51 64			51 64
Sawyer.....	Viking Tel. Co.....	88 23	88 23				
Jonesdale.....	Waldwick, J. & Hollandale T. Co.....	190 00	170 00	20 00			20 00
Warrens.....	Warrens Land Co.....	1,976 09	1,122 82	853 27	300 00		553 27
Spooner.....	Washburn Co. Farm. Tel. Co.....	112 00	81 50	30 50	3 84		26 66

(1) No earnings or expenses reported.

CONDENSED FORM, INCOME ACCOUNT, 1912—Concluded.

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	Operating revenues.	Operating expenses.	Net operating revenue.	Deductions from net operating revenue.	Surplus.
Detroit Harbor.....	Washington Island Tel. Co.....					
Wausaukee.....	Wausaukee Tel. Co.....	\$1,170 75	\$840 07	\$330 68	\$266 89	\$63 79
Wautoma.....	W. & Mt. Morris Farm. T. Co.....	939 37	875 15	64 22		64 22
Woodman.....	Wexley Tel. Co.....	4,116 35	2,182 06	1,934 29	1,330 90	603 39
West Bend.....	W. Bend & Trenton Tel. Co.....	161 70	160 00	1 70		1 70
		198 00	194 14	3 86		3 86
W. Bloomfield.....	W. Bloomfield Mut. T. Co. ¹					
Clarno.....	West Clarno Tel. Co.....	215 04	191 67	23 37		23 37
Eastman.....	Western Crawford Co. Tel. Co.....	1,681 35	1,948 25	266 90		266 90
Cuba City.....	Western Tel. Co.....	130 00	130 00			
Cazenovia.....	Westford Tel. Co.....	251 14	232 65	18 49		18 49
Glenbeulah.....	West Greenbush Tel. Co.....	47 00	30 00	17 00		17 00
Cambridge.....	West Oakland Tel. Co.....	25 50	22 40	3 10		3 10
Two Rivers.....	West Shore Tel. Co.....	178 00	181 00	3 00		3 00
Spring Green.....	West Spring G. Tel. Co.....	426 59	122 61	303 98	312 00	8 02
Stanley.....	West Worden Mut. Tel. Co.....	18 75	18 75			
Weyauwega.....	Weyauwega Tel. Co.....	1,766 50	1,151 86	614 64		614 64
Wautoma.....	White R. Farm Tel. Co.....	146 16	100 30	45 86		45 86
Chippewa Falls.....	Wilcox Valley Tel. Co.....	154 63	133 85	78 78		78 78
Wild Rose.....	Wild Rose Tel. Co.....	1,934 43	1,126 20	808 23		808 23
Oshkosh.....	Wisc. & Northern R. R. Co. ²					
Wittenberg.....	Wittenberg Tel. Co.....	2,611 98	1,821 48	790 50	734 50	56 00
Fond du Lac.....	Woodhull Tel. Co.....	1,744 22	1,041 34	702 88	392 50	310 38
Wonewoc.....	Woodland Tel. Co.....	90 00	110 49	20 49		20 49
Huron.....	Yellow River Tel. Co.....	21 55	44 00	22 45		22 45
	Total.....	\$241,639 11	\$181,509 57	\$60,129 54	\$29,698 07	\$30,431 47

¹No earnings or expenses reported.²Operated with railroad property.

WISCONSIN TELEPHONE COMPANY EXCHANGE REPORTS.
 DETAILED OPERATING REVENUES BY OPERATING SYSTEMS, YEAR ENDING JUNE 30, 1912.

Italic figures denote deficits.

LOCATION.	Local subscribers telephone earnings.	Local pay station exchange earnings.	Rural telephone earnings.	Exchange connection earnings.	Toll connection earnings.	Misc. exchange system earnings.	Total operating revenues.
Algoma.....	\$3,524 61	\$0 65	\$75 00	\$769 14		\$1 28	\$4,370 68
Appleton.....	16,384 24	127 95	1,782 35	1,252 76		21 58	19,568 88
Ashland.....	11,366 59	32 35	226 57			36 71	11,662 22
Baraboo.....	9,647 21	42 70	1,170 94	975 21		11 17	11,847 23
Bayfield.....	3,745 39	1 30	135 90	213 41		5 80	4,101 80
Beaver Dam.....	14,356 86	33 90	3,757 54			47 14	18,195 44
Beloit.....	28,006 00	164 06		1,625 41		86 19	29,881 66
Berlin.....	6,472 62	2 00		604 67			7,079 29
Burlington.....	8,490 02	19 50	2,185 67	698 18	\$12 48	5 97	11,411 82
Burnett Jct.....	17 71	05	961 84				979 60
Cedarburg.....	2,846 68	4 15		101 46			2,952 29
Chippewa Falls.....	17,265 55	20 10	995 82	359 14		18 43	18,659 04
Columbus.....	6,194 14	12 90	5,171 17	297 55		1 16	11,676 92
Corliss.....	595 75	37 60	877 81				1,511 16
Darlington.....	3,326 53	35	344 48	261 57			3,932 93
Delavan.....	10,155 21	13 35	3,028 07		23 85	04	13,220 52
De Pere.....	8,299 13	6 45	4,316 66	85 73		12	12,708 09
Eau Claire.....	50,668 28	186 55	3,857 94	2,581 30		141 64	57,435 71
Elkhorn.....	159 55					159 55	159 55
Evansville ¹	1,020 79		352 87	125 75			1,499 41
Fond du Lac.....	57,538 47	644 60	684 73	2,857 98	29 22	112 53	61,867 53
Ft. Atkinson.....	10,042 72	10 85	2,669 27				12,722 84
Genoa Jct.....	1,912 63	2 10	2,435 35	49 13		13	4,399 34
Green Bay.....	58,828 81	652 95	3,854 77	624 60		108 01	64,069 14
Green Lake.....	1,516 03	6 40		231 08		03	1,753 48
Hartford.....	6,808 54	55	1,066 21	603 27		13	8,478 70
Hartland.....	3,438 85	143 10	486 74	20 49			4,089 18
Horicon.....	3,351 23		346 20	106 43			3,803 86
Hortonville.....	1,796 17	40	2,450 76	80 68			4,328 01
Hudson.....	7,781 47		46 67	77 44		8 41	7,913 99

¹ Report for two months ending June 30, 1912.

WISCONSIN TELEPHONE COMPANY EXCHANGE REPORTS.

DETAILED OPERATING REVENUES BY OPERATING SYSTEMS, YEAR ENDING JUNE 30, 1912—Continued.

Italic figures denote deficits.

LOCATION.	Local subscribers telephone earnings.	Local pay station exchange earnings.	Rural telephone earnings.	Exchange connection earnings.	Toll connection earnings.	Misc. exchange system earnings.	Total operating revenues.
Hurley.....	5,742 77	35					5,743 12
Janesville.....	22,505 08	267 35	2,247 20	31 92		35 13	25,086 68
Jefferson.....	5,056 20	3 30	120 68	282 00		04	5,462 22
Juneau.....	2,180 18	1 65	90 00	354 45			2,626 28
Kaukauna.....	7,886 40	7 00	106 52	307 47			8,307 39
Kewaunee.....	3,346 04	1 70		1,044 32			4,392 06
La Crosse.....	27,868 84	39 80	1,146 08	125 36		11 52	29,191 60
Lake Geneva.....	15,466 30	134 80	3,528 17			15 35	19,144 62
Lancaster.....	3,550 22	45					3,550 67
Lima Center.....	5 25		1,212 70				1,207 45
Madison.....	115,666 72	1,924 20	2,965 63	1,549 45		249 92	122,355 92
Manitowoc.....	26,799 83	38 70		1,794 20		118 76	28,751 49
Marinette.....	27,251 24	8 60	351 80	123 51		97 46	27,832 61
Mayville.....	4,495 95	1 10	1,385 23	251 31		27	6,133 86
Menomonie.....	12,837 16	15 35	5,541 40	348 89		28 72	18,771 52
Merrill.....	10,767 80	34 85	86 92	261 36		49 17	11,200 10
Milwaukee.....	1,271,233 84	74,804 03	16,687 85	400 19		1,140 83	1,364,266 74
Neenah.....	25,406 11	29 15	1,742 93	1,104 19		95 08	28,377 46
New London.....	5,277 54	12 75	87 07	928 13			6,305 49
North Freedom.....	914 79	47 05	873 85	601 59		06	2,437 34
Oconomowoc.....	12,567 52	11 45	1,023 00	410 25		08	14,012 30
Oconto.....	6,870 82	2 15	1 25	558 40		21 31	7,453 93
Oconto Falls.....	1,428 85			54 02			1,482 87
Omro.....	3,205 30	2 80	3,672 22			02	6,880 30
Oshkosh.....	72,149 53	805 55	1,669 50	747 02		166 38	75,537 98
Peshigo.....	1,909 37		428 38				2,337 75
Pt. Washington.....	6,058 50	10 45	50	144 00		12	6,212 57
Princeton.....	1,627 64	6 40		474 41			2,108 45
Racine.....	82,049 37	804 41	4,532 40			74 03	87,520 21
Red Granite.....	1,825 69	1 40	69 81	151 13			2,048 03

St. Martins.....	93 98		2,289 70				2,883 68
Shawano.....	5,399 49	3 85	152 53				5,555 87
Shullsburg.....	1,594 96	4 45	55 00	491 27			2,145 68
So. Milwaukee.....	6,097 55	18 65	1,489 13			1 33	7,606 66
Stanley.....	4,056 60		30 00	417 06			4,503 66
Stevens Point.....	15,224 58	48 35	318 47	271 03		39 14	15,901 57
Stoughton.....	8,687 76	2 35	3,681 85	58 56		4 44	12,434 96
Sturgeon Bay.....	10,441 67	8 15	584 93	1,076 55		14 00	12,125 30
Superior.....	46,576 79	229 70				61 43	46,867 92
Washburn.....	2,368 37	15		18 00			2,386 52
Watertown.....	16,981 60	8 75	551 92	1,719 19		42 26	19,303 72
Waukesha.....	23,828 24	47 95	3,753 79			24 11	27,654 09
Waupun.....	5,334 95	45 55	1,307 01	396 87			7,084 38
West Bend.....	5,464 69	7 80	442 70	1,077 30			6,992 49
Whitewater.....	9,044 78	3 45	1,962 59				11,010 82
Winneconne.....	448 35		82 50				530 85
Total.....	\$2,300,823 39	\$81,672 80	\$109,553 54	\$32,175 78	\$65 55	\$2,897 33	\$2,527,188 39

CLASSES A AND B EXCHANGE SYSTEMS.
 DETAILED OPERATING REVENUES, INDIVIDUAL OPERATING SYSTEMS, YEAR ENDING JUNE 30, 1912.

LOCATION.	NAME OF COMPANY.	Local subscribers telephone earnings.	Local pay station exchange earnings.	Rural telephone earnings.	Exchange connection earnings.	Toll connection earnings.	Miscellaneous exchange system earnings.	Total operating revenues.
Albany	United Tel. Co..... ⁽¹⁾	\$2,004 90		\$786 55	\$685 76	\$48 40		\$3,525 61
Antigo	Antigo Tel. Co..... ⁽¹⁾	16,364 57		2,936 53		1,626 55		20,927 65
Appleton.....	Fox River T. & T. Co.....	28,929 20	\$82 80	2,686 60	522 25		\$616 55	32,837 40
Ashland	Ashland Home Tel. Co..... ⁽¹⁾	17,950 90		858 00		315 24	25 73	19,149 87
Blanchardville.....	United Tel. Co..... ⁽¹⁾	2,040 70			1,237 50	77 81		3,356 01
Bruce.....	Chippewa Val. Tel. Co.....	1,107 23			110 33			1,217 56
Cameron.....	Chippewa Val. Tel. Co.....	278 24						278 24
Chippewa Falls.....	Chippewa Co. Tel. Co..... ⁽¹⁾	4,127 86	728 40	5,256 35				10,112 61
Green Bay.....	Fox River Tel. & Teleg. Co....	31,479 35	25 00	815 00			343 85	32,663 20
Ingram.....	Chippewa Val. Tel. Co.....	182 74						182 74
Janesville	Rock Co. Tel. Co.....	31,134 22	230 50	586 10		17 65	1,243 24	33,211 71
Kenosha.....	Kenosha Home Tel. Co.....	49,984 56	333 94	2,621 97				52,940 47
La Crosse.....	La Crosse Tel. Co.....	59,504 36	143 85	1,706 45	180 00	1,179 88	848 20	63,562 74
Ladysmith.....	Chippewa Valley Tel. Co.....	4,726 96			361 30		127 20	5,215 46
Marshfield.....	Marshfield Tel. Ex.....	10,640 92				1,203 40	1 50	11,845 82
Monroe.....	United Tel. Co..... ⁽¹⁾	11,667 10		2,128 95	978 50	1,184 29		15,958 84
Monticello.....	United Tel. Co..... ⁽¹⁾	1,380 60		54 00	568 16	51 31		2,954 07
Portage.....	Portage Tel. Co..... ⁽¹⁾	13,037 80		2,158 35				15,196 15
Prentice.....	Chippewa Val. Tel. Co.....	579 23			15 00			594 23
Rhineland.....	Rhineland Mut. Tel. Co... ⁽¹⁾	4,300 15		120 85	7 50	218 66	125 00	4,772 16
Sheboygan.....	Citizens Tel. Exch.....	40,359 80		1,008 00	788 20			42,156 00
Sheboygan Falls.....	Citizens Tel. Exch.....	3,462 23			1,151 67			4,613 90
Sparta.....	Monroe Co. Tel. Co..... ⁽¹⁾	7,958 72		6,390 73		841 44		15,190 89
Superior.....	Peoples Tel. Co.....	43,842 48	201 18	182 30	126 00	802 40		45,154 36
Wausau.....	Wausau Tel. Co.....	28,432 90			1,678 87			30,111 77
	Total	\$415,477 72	\$1,745 67	\$30,296 73	\$8,411 04	\$7,567 03	\$3,331 27	\$466,829 46

¹ Class B utility.

CLASS C. EXCHANGE SYSTEMS.
 DETAILED OPERATING REVENUES, INDIVIDUAL OPERATING SYSTEMS.
 YEAR ENDING JUNE 30, 1912.

LOCATION.	NAME OF COMPANY.	Exchange telephone earnings.	Earnings from connecting lines.	Miscellaneous change system earnings.	Total operating revenues.
Arcadia.....	Western Wis. Tel. Co.....	\$7,556 43	869 69	.....	\$7,626 42
Augusta.....	J. L Ball Est. Tel. Co.....	5,471 01	445 69	\$140 55	6,285 25
Baldwin.....	Baldwin Tel. Co.....	7,244 75	212 94	352 09	7,809 78
Bangor.....	Bangor Tel. Co.....	8,947 85	478 36	.....	9,426 21
Barron.....	Barron Co. Tel. Co.....	4,814 85	.....	.....	4,814 85
Birchwood.....	Rarron Co. Tel. Co.....	131 25	.....	.....	131 25
Rl. R. Falls.....	Central Wis. Tel. Co.....	19,598 15	504 16	.....	20,102 31
Blair.....	Western Wisconsin Tel. Co.....	251 70	31 93	.....	283 63
Bloomer.....	Bloomer Tel. Co.....	7,773 86	.....	19 41	7,793 27
Brodhead.....	Brodhead Tel. Co.....	8,265 11	393 840	.....	8,658 95
Brooklyn.....	Brooklyn Tel. Co.....	3,114 21	109 31	3 05	3,226 57
Burlington.....	Burr Bright & Wh. Tel. Co.....	3,713 09	571 96	.....	4,285 05
Cashton.....	New Cashton Tel. Co.....	5,419 45	253 71	.....	5,673 16
Centerville.....	Western Wis. Tel. Co.....	2,430 65	4 11	.....	2,434 76
Chilton.....	Eastern Wis. Tel. Co.....	6,187 03	.....	.....	6,187 03
Clinton.....	Clinton Tel. Co.....	6,715 39	357 58	135 24	7,208 21
Clintonville.....	Marion & Northern Tel. Co.....	3,698 25	452 30	.....	4,150 55
Cross Plains.....	Farmers Union Tel. Co.....	3,934 01	75 00	.....	4,009 01
De Pere.....	Fox R. Val Tel. & Telgr. Co.....	5,287 75	.....	.....	5,287 75
Dodgeville.....	New Union Tel. Co.....	6,036 16	687 75	178 63	6,902 54
Edgerton.....	Edgerton Tel. Co.....	7,616 50	500 52	875 50	8,992 52
Elkhorn.....	State Long Distance Tel. Co.....	8,491 49	898 61	.....	9,390 10
Ellsworth.....	Pierce Co. Tel. Co.....	5,188 79	1,414 14	.....	6,602 93
Elroy.....	Elroy Tel. Co.....	5,113 35	49 18	.....	5,162 53
Ettick.....	Western Wis. Tel. Co.....	1,309 56	12 67	.....	1,322 23
Evansville.....	Evansville Tel. Co ¹.....	.....	.....	.....	.....
Fountain City.....	Fountain City Tel. Co.....	3,354 00	12 14	.....	3,366 14
Galesville.....	Western Wis. Tel. Co.....	5,436 30	112 33	.....	5,548 63
Glenwood.....	West Wis. Tel. Co.....	5,876 65	338 37	11 20	6,226 22
Grand Rapids.....	Wood Co. Tel. Co.....	16,902 55	1,063 98	751 32	18,717 85
Granton.....	Badger St. Tel. & Teleg. Co.....	1,604 70	393 53	7 90	2,006 13
Hillsboro.....	Hillsboro Tel. Co.....	4,854 40	278 86	83 65	5,216 91
Independence.....	Western Wis. Tel. Co.....	1,255 47	31 12	.....	1,286 59
LaCrosse.....	La Crosse Interurb. Tel. Co.....	1,371 80	.....	90 11	1,371 80
Lake Mills.....	Interurban Tel. Co.....	6,759 25	333 90	20 90	7,114 05
Lodi.....	Lodi Tel. Exchange.....	3,954 00	332 64	11 90	4,298 54
Mapleton.....	Badger Tel. Co.....	4,759 06	998 51	.....	5,757 57
Marion.....	Marion & Northern Tel. Co.....	2,290 39	273 62	.....	2,564 01
Mauston.....	Mauston El. Service Co.....	5,634 50	306 32	90 11	6,030 93
Menomonee Falls.....	Menomonee Falls Tel. Co.....	5,411 95	175 80	181 99	5,769 74
Milton.....	Milton & Milton Jet. Tel. Co.....	9,708 48	303 56	.....	10,012 04
Mineral Point.....	Mineral Pt. Tel. Co.....	7,027 40	1,179 06	.....	8,206 46
Mt. Hope.....	Peoples Tel. Co.....	9,037 45	.....	.....	9,037 45
Mt. Horeb.....	Mt. Horeb Independ. Tel. Co.....	6,135 61	118 41	.....	6,254 02
Mt. Vernon.....	Mt. Vernon Tel. Co.....	6,419 85	415 45	56 30	6,891 60
Neillsville.....	Badger State Tel. & Telgr. Co.....	6,772 65	231 45	202 12	7,206 22
New Richmond.....	St. Croix Tel. Co.....	5,790 55	1,524 76	.....	7,315 31
Oakfield.....	Oakfield Tel. Co.....	5,409 06	.....	.....	5,409 06
Oostburg.....	Oostburg Tel. Co.....	2,060 05	287 55	.....	2,347 60
Oregon.....	Oregon Tel. Co. ²	2,963 93	65 14	47 78	3,076 85

¹Sold to Wis. Tel. Co. No report received.

²Reports covers seven months only.

CLASS C. EXCHANGE SYSTEMS.

DETAILED OPERATING REVENUES. INDIVIDUAL OPERATING SYSTEMS, 1912--Concluded.

LOCATION.	NAME OF COMPANY.	Exchange telephone earnings.	Earnings from connecting lines.	Miscellaneous exchange system earnings.	Total operating revenues.
Osseo	Osseo Tel. Co.	\$5,484 79	\$456 55		\$5,941 34
Park Falls	Glidden Tel. Co.	2,466 05			2,466 05
Plymouth	Plymouth Tel. Exchange....	5,467 60	918 68	\$592 85	6,979 13
Poynette	Poynette Tel. Co.	3,776 83	80 30	7 50	3,864 63
Prairie du Sac....	Troy & Honey Creek Tel.Co.	8,613 51	277 78		8,891 29
Prairie Farm....	P. F. Ridgel'd & Ballas T. Co	6,037 10	68 95		6,106 05
Reedsburg	Reedsburg Tel. Co.	8,523 79	305 50	167 14	8,996 43
Retreat	La Crosse Interurban Tel.Co.	50 65			50 65
Rice Lake	Barron Co. Tel. Co.	10,254 70			10,254 70
Richland Center.	Badger Tel. Co.	1,806 35	52 00		1,858 35
Richland Center.	Farmers Tel. Co.	8,925 62	74 95		9,000 57
Ripon	Ripon Tel. Co.	6,484 39	1,677 44		8,161 83
River Falls	Pierce Co. Tel. Co.	9,225 70	1,278 75		10,504 45
Roberts	Pierce Co. Tel. Co.	1,504 70	129 10		1,633 80
Rochester	Bur.-R. & Kansasville T.Co.	5,059 95	955 22		6,015 17
Spring Valley	Pierce Co. Tel. Co.	1,110 95	541 27		1,652 22
St. Croix Falls	St. Croix Valley Tel. Exch..	7,099 75			7,099 75
Sun Prairie	Interurban Tel. Co.	4,893 70	135 77	52 00	5,081 47
Tomah	Tomah Elec. & Tel. Co.	9,810 40	188 95		9,999 35
Tomahawk	T. Lt. Tel. & Imp. Co.	3,357 79	1,678 08		5,035 87
Trempeleau	Western Wis. Tel. Co.	1,471 65	22 94		1,494 59
Two Rivers	Two Rivers Tel. Co.	6,545 60		371 58	6,917 18
Viola	LaCrosse Int. Tel. Co.	3,558 61	518 21		4,076 82
Viroqua	Viroqua Tel. Co.	6,624 68	343 16	589 60	7,557 44
Walworth	Walworth Tel. Exch. Co.	5,118 21	656 53	23 30	5,798 04
Washburn	Bayfield Co. Tel. Co.	3,502 43	144 01		3,646 44
Waterloo	Interurban Tel. Co.	6,509 99	216 10	9 70	6,735 79
Watertown	Watertown Tel. Co.	5,682 80			5,682 80
Waupaca	Fox R. Val. Tel. & Telg.Co.	6,542 32	1,000 00	567 87	8,110 19
Westby	Westby Tel. Co.	6,239 98	218 14		6,458 12
Westfield	Westfield Farmers Tel. Co...	4,065 00	75 61	105 50	4,246 11
West Salem	LaCrosse Int. Tel. Co.	3,829 40	248 93		4,078 33
Whitehall	Western Wis. Tel. Co.	1,045 76	64 72		1,110 48
	Total	\$445,791 44	\$28,627 89	\$5,656 68	\$480,076 01

CLASS D. EXCHANGE SYSTEMS.
 DETAILED OPERATING REVENUES, INDIVIDUAL OPERATING SYSTEMS. YEAR
 ENDING JUNE 30, 1912.

LOCATION.	NAME OF COMPANY.	Exchange telephone earnings.	Earnings from connecting lines.	Miscellaneous exchange system earnings.	Total operating revenues.
Abbotsford.....	Abbotsford El. Lt. & Tel. Co.	\$2,554 16		\$93 56	\$2,647 72
Allenton.....	Allenton-Kohlsville Tel. Co.	2,779 89	\$395 77		3,175 66
Alma.....	Tenney Tel. Co.	3,850 13			3,850 13
Almond.....	Almond Tel. Co.	5,098 30	978 65	14 18	6,091 13
Amery.....	Amery Electric Co.	3,807 55	190 50	561 95	4,560 00
Amherst.....	Amherst Tel. Co.	3,314 84	344 89		3,659 73
Argyle.....	Argyle Tel. Co.	678 50	351 00	105 22	1,134 72
Arkansaw.....	Arkansaw Tel. Co.	2,640 00			2,640 00
Athens.....	Athens Tel. Co.	2,956 65	165 35	326 61	3,448 61
Baraboo.....	Farmers Mutual Tel. Co.	2,339 55		7 62	2,347 17
Belleville.....	Belleville Tel. Co.	3,200 00	60 00		3,260 00
Belmont.....	Bel. & Pleasant View Tel. Co.	2,083 21	80 54	29 00	2,192 75
Beloit.....	Beloit Farm Tel. Co.	6,404 22			6,404 22
Berlin.....	Berlin Tel. Co.	2,885 98			2,885 98
Big Bend.....	Prospect-Guthrie B. B. T. Co.	2,528 49	119 05	13 93	2,661 47
Black Earth.....	Black Earth Tel. Co.	3,082 53			3,082 53
Boscobel.....	Boscobel Tel. Co.	2,852 18	180 09	122 45	3,154 72
Brillon.....	Eastern Wis. Tel. Co.	1,491 68	31 40		1,523 08
Bristol.....	Bristol Tel. Co.	3,519 46	793 66		4,223 12
Butternut.....	Glidden Tel. Co.	557 75			557 75
Cadott.....	Cadott Tel. Co.	2,362 00	602 80		2,964 80
Cambria.....	Peoples Tel. Co.	2,418 79	235 00	29 34	2,683 13
Campbellsport.....	East Valley T. L. Co.	1,463 50	639 80		2,103 30
Camp Douglas.....	Juneau Electric Co.	192 18	19 96		212 14
Cecil.....	Cecil-Green Val'y T. Line Co.	2,367 50	103 18	172 72	2,643 40
Cedar Grove.....	Cedar Grove Tel. Co.	2,310 72	352 33	20 12	2,683 17
Clear Lake.....	Clear Lake Tel. Co.	2,534 76	217 44		2,752 20
Colby.....	Colby Tel. Co.	996 45	129 84	63 52	1,189 81
Coloma.....	Coloma Tel. Co.	2,726 00	52 54		2,778 54
Coon Valley.....	Coon Valley Farmers Tel. Co.	5,347 03	653 70		6,000 73
Crandon.....	Crandon Tel. Co.	3,154 60	529 79		3,684 39
Cuba City.....	Cuba City Tel. Exchange Co.	1,866 00			1,866 00
Cumberland.....	Cumberland Tel. Co.	4,092 60	270 45		4,363 05
Cumberland.....	McKinley Tel. Co.	2,650 65		1 30	2,651 95
Cushing.....	Equity Tel. Co.	3,029 98	267 95		3,297 93
Deerfield.....	Deerfield Tel. Co.	2,437 99			2,437 99
Defield.....	Eagle Tel. Co.	1,907 28	224 21		2,131 49
Dousman.....	Eagle Tel. Co.	2,597 25	94 46		2,691 71
Downsville.....	Downsville Tel. Co.	2,073 00	68 48		2,141 48
Durand.....	Home Tel. Co.	3,287 88	693 81	53 69	4,035 38
Durand.....	Inter County Tel. Co.	3,833 43			3,833 43
Eagle.....	Eagle Tel. Co.	3,363 48	326 39		3,689 87
East Troy.....	Eagle Tel. Co.	7,671 47	254 34		7,925 81
Eau Claire.....	Eau Claire County Tel. Co.	4,196 60	70 60		4,267 20
Eau Galle.....	Eau Galle Tel. Co.	2,159 75			2,159 75
Eden.....	Eastern Fond du Lac Tel. Co.	2,354 10	580 25		2,934 35
Eleva.....	Shaw Tel. Co.	2,126 56	24 00	16 50	2,167 06
Elkhart Lake.....	East Wisconsin Tel. Co.	1,102 15	73 53		1,175 68
Elkhorn, Rural.....	Eagle Tel. Co.	252 05			252 05
Fall Creek.....	Ludington Tel. Co.	2,140 75	596 43		2,737 18

CLASS D. EXCHANGE SYSTEMS.

DETAILED OPERATING REVENUES, INDIVIDUAL OPERATING SYSTEMS, 1912—Continued.

LOCATION.	NAME OF COMPANY.	Exchange telephone earnings.	Earnings from connecting lines.	Miscellaneous exchange system earnings.	Total operating revenues.
Fall River.....	Peoples Tel. Co.....	\$1,236 58	\$31 91	\$35 99	\$1,304 48
Fennimore.....	Fennimore Mutual Tel. Co.....	2,013 00	17 85	.....	2,030 85
Fennimore.....	Fennimore Tel. Co.....	725 65	125 21	.....	850 86
Florence.....	Michigan State Tel. Co.....	1,388 35	.....	.....	1,388 35
Fox Lake.....	Peoples Tel. Co.....	2,610 70	199 50	112 75	2,922 95
Frederick.....	Tri-State Tel. & Teleg. Co.....	636 04	181 40	183 10	1,000 54
Freistadt.....	Ozaukee-Washington Tel. Co.....	8,025 68	399 53	.....	8,425 21
Friendship.....	Friendship Tel. Co.....	2,290 00	360 00	.....	2,650 00
Genesee.....	Eagle Tel. Co.....	3,973 75	149 61	.....	4,123 36
Glidden.....	Glidden Tel. Co.....	839 60	.....	.....	839 60
Grantsburg.....	Tri-State Tel. & Teleg. Co.....	2,006 55	497 70	383 51	2,887 76
Green Bay.....	Brown County Tel. Co.....	3,211 46	645 85	118 40	3,975 71
Greenwood.....	Greenwood Tel. Co.....	1,782 35	374 43	271 79	2,428 57
Gresham.....	Marion & Northern Tel. Co.....	321 40	.....	.....	321 40
Hayward.....	Bell Tel. Manufacturing Co.....	3,312 00	20 00	.....	3,332 00
Hebron, Ill.....	Farmers New Era Tel. Co.....	2,837 47	449 40	.....	3,286 87
Hilbert.....	Eastern Wisconsin Tel. Co.....	581 10	40 28	.....	621 38
Hubertus.....	Hubertus Tel. Co.....	3,006 97	432 71	46 00	3,485 68
Iron River.....	Iron River W. Lt. & Pr. Co.....	2,582 37	397 84	.....	2,980 21
Jackson.....	Jackson Tel. Co.....	1,767 80	212 90	42 86	2,023 56
Johnson Creek.....	Rock River Tel. Co.....	4,822 92	320 87	8 70	5,152 49
Kiel.....	Eastern Wisconsin Tel. Co.....	2,202 05	122 70	.....	2,324 75
Knapp.....	Knapp Tel. Co.....	3,579 00	311 50	52 25	3,942 75
La Farge.....	La Farge Tel. Co.....	3,180 89	47 54	.....	3,228 43
La Grange.....	Eagle Tel. Co.....	1,750 96	24 34	.....	1,775 30
Lake City, Minn.....	Lake Pepin Tel. Co.....	2,947 40	1,805 77	.....	4,753 17
Lancaster.....	Farmers Tel. Co. of Beetown	2,478 83	1,830 70	6,640 31	10,949 84
Larsen.....	Larsen Tel. Co.....	4,425 45	1,441 24	.....	5,866 69
Limeridge.....	Peoples Tel. Co.....	4,800 00	125 00	.....	4,925 00
Little Chute.....	Fox River Valley T. & T. Co.....	904 00	452 75	31 20	1,387 95
Loyal.....	Clark Co. Tel. Co.....	4,444 25	261 28	.....	4,705 53
Luxemburg.....	Luxemburg Tel. Co.....	1,167 09	100 00	200 00	1,467 09
Manawa.....	Manawa Tel. Co.....	2,097 00	156 00	.....	2,253 00
Markesan.....	Markesan Tel. Co.....	3,789 00	468 00	.....	4,257 00
Mattoon.....	Mattoon Tel. Co.....	1,340 40	.....	.....	1,340 40
Mazomanie.....	Mazomanie Tel. Co.....	3,290 05	268 64	7 50	3,566 19
Medford.....	Medford Tel. Exchange.....	3,209 00	330 15	100 09	3,639 24
Mellen.....	Ashland Home Tel. Co.....	2,578 35	.....	.....	2,578 35
Merton.....	Merton Tel. Co.....	1,341 00	225 76	.....	1,566 76
Milltown.....	Milltown Mut. Tel. Co.....	2,353 81	.....	.....	2,353 81
Minocqua.....	Northern Tel. Co.....	2,050 00	130 00	.....	2,180 00
Mondovi.....	Mondovi Tel. Co.....	2,249 15	298 38	.....	2,547 53
Mt. Cavalry.....	Eastern Wis. Tel. Co.....	137 45	109 40	.....	246 85
Mukwanago.....	Eagle Tel. Co.....	2,398 10	133 74	.....	2,531 84
Necedah.....	Juneau Elec. Co.....	1,782 56	483 50	.....	2,266 06
Nelsonville.....	Nelsonville Tel. Co.....	2,175 42	52 58	544 12	2,782 12
Neosho.....	Eureka Tel. Co.....	4,283 70	57 81	545 89	4,887 40
New Auburn.....	New Auburn Tel. Co.....	1,857 44	60 00	.....	1,917 44
Newburg.....	Newburg Tel. Co.....	4,310 00	771 70	.....	5,081 70
New Holstein.....	Eastern Wis. Tel. Co.....	1,297 85	178 31	.....	1,476 16

CLASS D. EXCHANGE SYSTEMS.

DETAILED OPERATING REVENUES. INDIVIDUAL OPERATING SYSTEMS, 1912—Concluded.

LOCATION.	NAME OF COMPANY.	Exchange telephone earnings.	Earnings from connecting lines.	Miscellaneous exchange systems earnings.	Total operating revenues.
New Lisbon	Juneau Electric Co.....	\$1,781 40	\$36 31		\$1,817 71
New London	Fox River Valley T. & T. Co	1,314 45	381 25		1,695 70
Niagara	Michigan State Tel. Co.....	844 05			844 05
Northfield	Northfield Far. Tel. Co.....	2,029 12			2,029 12
North Lake	Badger Tel. Co.....	700 00	53 65	\$71 96	825 61
Norwalk	Monroe Co. Tel. Co.....	546 50	67 29		613 79
Oconto	Oconto Rural Tel. Co.....	3,562 60	106 07	42 81	3,711 48
Orfordville	Orfordville Tel. Co.....	4,084 30			4,084 30
Oscola	Oscola Far. Mut. Tel. Co.....	4,457 95	861 32		5,319 27
Oshkosh	Winnebago Co. Tel. Co.....	2,228 90			2,228 00
Oxford	Marquette & Adams Co. T.Co	2,627 14	112 50	137 56	2,877 20
Palmyra	Eagle Tel. Co.....	4,217 55	147 60		4,365 15
Pardeeville	Pardeeville Tel. Co.....	3,034 56	490 75	419 20	3,944 51
Peshtigo	Harmony Tel. Co.....	533 12	49 31		582 43
Pewaukee	Pewaukee-Sussex Tel. Co....	3,282 79	291 79		3,574 58
Pickett	Ittica Tel. Co.....	2,182 35	663 61		2,845 96
Plainfield	Union Tel. Co.....	5,463 95	1,147 98	36 50	6,648 43
Poynette	Leeds Far. Tel. Co.....	2,275 00			2,275 00
Prairie du Chien.	Union Tel. Co.....	4,438 60	450 15	49 12	4,937 87
Randolph	Peoples Tel. Co.....	3,724 95	751 21	92 35	4,568 51
Random Lake	Random Lake Tel. Co.....	2,972 16			2,972 16
Reedsville	Manitowoc & Western Tel.Co	3,476 33	451 89	1,442 67	5,370 89
Reeseville	Dodge Co. Tel. Co.....	3,566 78	162 85		3,729 63
Rice Lake	Rice Lake & Northern T. Co	2,390 62			2,390 62
Rio	Peoples Tel. Co.....	3,365 10	336 20	96 56	3,797 86
Ripon	Ripon Rural Tel. Co.....	3,902 76	99 24		4,002 00
Rosendale	Rosendale Tel. Co.....	3,289 70	395 49	18 00	3,703 19
Scandinavia	Scandinavia Tel. Co.....	4,148 14	224 74		4,372 88
Schleisingerville.	Washington Co. Tel. Co.....	3,163 05	341 42	155 20	3,659 67
Sharon	Sharon Tel. Co.....	4,161 40	277 25		4,438 65
Shiocton	Shiocton Tel. Co.....	3,580 00	1,000 00		4,580 00
Shullsburg	White Oak Tel. Co.....	1,118 68	66 85	5 25	1,190 78
Stetsonville	Midway Tel. Co.....	2,754 86	239 23	92 49	3,086 58
Stockbridge	Stockbridge & Sherwood T.Co	1,978 96	264 64		2,243 60
Sullivan	Sullivan Tel. Co.....	3,185 12	156 46		3,341 58
Thompson	Badger Tel. Co.....	550 00	111 96		661 96
Thompsonville	Franksville Tel. Co.....	2,280 72	480 05	192 40	2,953 17
Tigerton	Marion & Northern Tel. Co..	830 46	94 53		924 99
Union Grove	Union Grove Tel. Co.....	5,061 00	706 57		5,767 57
Waterford	Wind Lake Tel. Co.....	1,049 83			1,049 83
Waunakee	Waunakee Tel. Co.....	2,280 00	93 96		2,373 96
Waupaca	Rural Tel. Co.....	3,226 74	153 50		3,380 24
Wausau	Marathon Co. Tel. Co.....	806 60	3,149 17		3,955 77
Welcome	Matteson Tel. Co.....	1,727 83	166 60	132 70	1,967 13
Weyauwega	Fox River Valley T. & T. Co.	637 05	70 00		707 05
Wilton	Ontario & Wilton T. Co.....	3,059 88	88 30		3,148 18
Winslow, Ill.	Winslow & So. Wayne T. Co..	1,833 00	392 00		2,225 00
Wonewoc	Wonewoc Tel. Co.....	3,192 00	340 25		3,532 25
Wrightstown	Fox River Valley T. & T. Co.	2,281 25	245 00	1 75	2,528 00
Wyocena	Peoples Tel. Co.....	591 85	38 55	11 31	641 71
Total		\$391,823 76	\$41,493 45	\$13,954 00	\$447,271 21

WISCONSIN TELEPHONE COM-
OPERATING EXPENSES BY OPERATING
Central Of

Italic figures denote credits.

LOCATION.	OPERA				
	Superin- tendence.	Switch- board operators.	Miscellane- ous central office operating labor.	Rent of central office.	Directory expenses (excluding labor).
Algoma.....	\$49 37	\$518 95	\$21 39	\$76 17	\$4 27
Appleton.....	507 70	3,077 68	53 08	375 44	26 93
Ashland.....	275 30	1,168 93	59 20	299 48	21 75
Baraboo.....	183 81	1,558 17	143 35	92 27	19 53
Bayfield.....	67 45	505 39	47 07	56 38	9 95
Beaver Dam.....	228 43	1,692 12	91 66	198 29	21 77
Beloit.....	375 33	3,467 39	50 80	461 51	45 41
Berlin.....	211 03	1,149 73	26 30	64 68	10 26
Burlington.....	142 22	1,391 56	12 57	110 05	15 69
Burnett Junction...	10 15	242 55	09	45 72	1 59
Cedarburg.....	22 93	390 54	15 62	74 80	4 14
Chippewa Falls.....	211 02	1,790 67	34 18	230 99	21 06
Columbus.....	143 19	868 09	16 95	166 16	31 57
Corliss.....	15 20	390 95	10	115 47	2 04
Darlington.....	86 83	664 31	64 90	64 82	10 16
Delavan.....	144 76	1,682 29	88 55	159 40	17 66
De Pere.....	153 93	1,790 52	47 49	268 07	20 10
Eau Claire.....	868 71	5,432 93	242 11	381 89	107 68
Elkhorn.....	4 84			2 02	
Evansville ¹	24 07	185 05	12 97	15 01	
Fond du Lac.....	568 97	6,892 77	249 17	870 66	70 36
Ft. Atkinson.....	154 23	1,346 88	8 15	121 06	21 07
Genoa Junction.....	42 86	435 65	1 17	41 58	4 06
Green Bay.....	840 07	7,717 39	232 86	451 84	111 54
Green Lake.....	18 09	137 28	08	1 74	1 55
Hartford.....	164 13	851 04	35 17	89 22	18 42
Hartland.....	37 14	420 75	62 43	41 78	3 41
Horicon.....	67 10	473 34	8 82	40 56	3 90
Hortonville.....	51 16	473 46	18 14	78 98	3 69
Judson.....	111 27	853 55	24 93	112 81	8 00
Hurley.....	66 85	422 60	14	111 94	4 46
Janesville.....	472 04	3,665 95	119 85	363 19	82 83
Jefferson.....	66 21	434 01	31 74	65 48	5 90
Juneau.....	47 82	371 55	17 02	36 79	2 53
Kaukauna.....	165 40	784 38	22 99	233 36	7 98
Kewaunee.....	60 60	557 68	16 25	96 72	3 17
La Crosse.....	491 42	3,563 10	48 08	408 95	91 42
Lake Geneva.....	261 38	2,030 23	59	319 56	25 17
Lancaster.....	32 64	335 17	16 22	96 03	4 56
Lima Center ²			8 52	80 96	3 30
Madison.....	1,483 63	18,106 14	1,200 01	761 88	218 72
Manitowoc.....	191 93	2,302 33	46 24	425 66	20 47
Marinette.....	274 34	2,690 31	161 48	334 81	36 07
Mayville.....	73 43	551 79	33 36	83 60	6 55
Menomonie.....	188 61	1,249 42	38 95	240 76	21 62
Merrill.....	235 24	1,998 38	4 83	327 24	18 67
Milwaukee.....	11,257 69	162,854 02	11,955 98	11,620 40	15,589 74
Neenah.....	265 66	2,873 17	96 38	375 72	41 57
New London.....	89 12	852 72	31 27	99 70	7 26
North Freedom.....	12 07	247 89	39 60	61 93	1 89

¹ Report for 2 months ending June 30, 1912.

PANY EXCHANGE REPORTS,
SYSTEMS, YEAR ENDING JUNE 30, 1912.
fice (Traffic).

TION.			MAINTENANCE.			Total central office.
Power expenses. (excluding labor).	Miscellaneous central office supplies and expenses.	Total operation.	Central office equipment.	Central office buildings and grounds.	Total main-tenance.	
\$2 69	\$92 81	\$760 27	\$67 79	\$1 97	\$69 76	\$830 03
131 25	323 14	\$4,495 22	450 62	5 89	456 51	4,951 73
202 04	165 42	2,192 12	415 43	.....	415 43	2,607 55
.....	89 61	2,086 74	249 54	111 81	361 35	2,448 09
1 59	64 71	752 54	35 79	.....	35 79	788 33
236 99	124 40	2,593 66	409 87	.....	409 87	3,003 53
188 00	326 88	4,915 32	666 12	14 69	680 81	5,596 13
27 32	136 61	1,625 93	472 57	.....	472 57	2,098 50
14 44	69 25	1,755 78	100 11	.....	100 11	1,855 89
3 04	33 96	337 10	18 49	.....	18 49	355 59
1 58	53 46	563 07	82 08	.....	82 08	645 15
66 68	113 57	2,468 17	531 91	1 83	533 74	3,001 91
158 10	68 06	1,452 12	190 67	.....	190 67	1,642 79
.....	5 72	520 48	39 99	.....	39 99	569 47
23 12	76 41	990 55	287 64	3 45	291 09	1,281 64
158 47	117 76	2,368 89	203 04	5 00	208 04	2,576 93
243 64	155 04	2,678 79	145 81	1 50	147 31	2,826 10
150 36	381 54	7,565 22	1,155 03	76 22	1,231 25	8,796 47
.....	86	7 72	59 13	.....	59 13	66 85
.....	1 32	238 42	32 15	.....	32 15	270 57
291 31	524 25	9,467 49	2,145 65	192 26	2,337 91	11,805 40
59 85	69 43	1,780 67	159 70	.....	159 70	1,940 37
.....	71 48	596 80	46 94	.....	46 94	643 74
417 39	327 88	10,098 97	2,523 93	232 57	2,756 50	12,855 47
.....	7 96	166 70	33 62	.....	33 62	200 32
55 58	58 58	1,272 14	92 64	20 00	112 64	1,384 78
12 53	44 15	622 19	55 03	.....	55 03	677 22
.....	57 77	651 49	58 94	5 75	64 69	716 18
13 30	59 36	698 09	74 96	4 69	79 65	777 74
49 96	119 63	1,280 15	206 32	.....	206 32	1,486 47
.....	27 42	633 41	63 44	.....	63 44	696 85
357 95	300 53	5,362 34	1,017 65	84 35	1,102 00	6,464 34
2 17	42 33	647 84	157 65	40	158 05	805 89
4 35	47 84	527 90	35 82	.....	35 82	563 72
59 27	75 20	1,248 58	165 72	.....	165 72	1,414 30
38 39	57 08	829 89	20 43	.....	20 43	850 32
223 84	250 90	5,077 71	883 92	195 66	1,079 58	6,157 29
177 52	217 39	3,032 34	275 18	.....	275 18	3,307 52
5 21	82 38	572 21	119 21	.....	119 21	691 42
135 60	31 01	259 39	70 68	.....	70 68	330 07
691 65	1,411 67	23,873 70	4,110 55	204 91	4,315 46	28,189 16
50 00	108 57	3,145 20	271 17	.....	271 17	3,416 37
232 55	155 00	3,884 56	1,116 96	.....	1,116 96	5,001 52
115 97	69 96	834 66	123 31	.....	123 31	957 97
142 97	112 42	1,994 75	256 87	29	257 16	2,251 91
2 97	126 44	2,713 77	125 21	.....	125 21	2,838 98
6,557 20	8,661 21	228,496 24	28,025 56	1,574 01	29,599 57	258,095 81
298 32	174 08	4,124 90	575 50	170 50	746 00	4,870 90
21 84	93 63	1,195 54	134 38	.....	134 38	1,329 02
.....	34 86	398 24	34 01	.....	34 01	432 25

? Automatic central office equipment.

WISCONSIN TELEPHONE COM
OPERATING EXPENSES BY OPER
Wire Plant

Italic figures denote credits.

LOCATION.	OPERATION.			
	Wire plant operating labor.	Rent conduit pole and roof privileges.	Miscellaneous supplies and expenses.	Total operation.
Algoma	\$37 56			\$37 56
Appleton.....	509 21	\$15 00		524 21
Ashland.....	236 01			236 01
Baraboo.....	72 92			72 92
Bayfield.....	15 45	3 30		18 75
Beaver Dam.....	219 80			219 80
Beloit.....	268 80			268 80
Berlin.....	68 82			68 82
Burlington.....	61 18	5 40		66 58
Burnett Jct.....	13 75			13 75
Cedarburg.....	16 95	20		17 15
Chippewa Falls.....	123 39	4 06		127 45
Columbus.....	202 02	12 50		214 52
Corliss.....	<i>9 86</i>			<i>9 86</i>
Darlington.....	85 45			85 45
Delavan.....	178 41			178 41
De Pere.....	118 27	1 00		119 27
Eau Claire.....	641 21	2 70		643 91
Elkhorn.....	3 10			3 10
Evansville ¹	9 34			9 34
Fond du Lac.....	618 45			618 45
Ft. Atkinson.....	76 07			76 07
Genoa Jct.....	30 53			30 53
Green Bay.....	999 31	80		1,000 11
Green Lake.....	6 06			6 06
Hartford.....	95 82			95 82
Hartland.....	45 51			45 51
Horicon.....	45 76			45 76
Hortonville.....	32 48			32 48
Hudson.....	151 73			151 73
Hurley.....	117 97			117 97
Janesville.....	421 31			421 31
Jefferson.....	53 36			53 36
Juneau.....	17 41			17 41
Kaukauna.....	82 81			82 81
Kewaunee.....	22 36			22 36
La Crosse.....	515 66	17 00		532 66
Lake Geneva.....	276 50			276 50
Lancaster.....	64 71			64 71
Lima Cr.....	6 50			6 50
Madison.....	1,848 63	293 10		2,141 73
Manitowoc.....	135 24			135 24
Marinette.....	163 88	2 40		166 28
Mayville.....	63 55			63 55
Menomonie.....	149 55			149 55
Merrill.....	70 20			70 20
Milwaukee.....	4,396 39	26 65		4,423 04
Neenah.....	137 00			137 00
New London.....	35 19			35 19
No. Freedom.....	16 28			16 28

¹ Report covers two months ending June 30, 1912.

PANY EXCHANGE REPORTS.
ATING SYSTEMS, 1912.—Continued.
(Transmission).

MAINTENANCE.							Total wire plant.
Pole lines.	Aerial wire.	Aerial cable.	Under- ground conduits.	Under- ground cable.	Sub- marine cable.	Total mainte- nance.	
\$39.66	\$86 15	\$38 76	\$0 89			\$165 46	\$203 02
132 72	1,035 54	193 27	76 43			1,437 96	1,962 17
78 42	520 34	226 80		\$0 82		826 38	1,062 39
111 48	455 62	23 68				590 78	663 70
91	41 07	48 17				90 15	108 90
172 17	1,065 23	281 83				1,519 23	1,739 03
180 74	1,250 90	967 28	1 32	15 58		2,413 18	2,681 98
68 22	243 09	104 08			\$6 30	421 69	490 51
99 11	317 04	178 68				594 83	661 41
1 65	86 63	46				88 74	102 49
10 74	61 86	9 16				81 76	98 91
155 41	930 10	305 46	94	1 82		1,391 85	1,519 30
500 86	1,154 97	186 15				1,841 98	2,056 50
2 51	105 13	4 79				112 43	102 57
28 72	374 51	92 02		1 20		496 45	581 90
80 31	742 97	617 93		04		1,441 25	1,619 66
169 27	554 63	293 59				1,017 49	1,136 76
328 37	1,582 86	761 02	24 00			2,648 25	3,292 16
3 97	7 52	1 83				9 66	12 76
9 39	66 14	17 41				92 94	102 28
552 41	1,859 40	1,281 09	110 63	786 23		4,589 86	5,208 31
41 20	349 99	36 33				427 52	503 59
9 81	180 40	60			1 00	191 81	222 34
886 32	2,153 43	2,747 73	62 33	381 87	130 35	6,362 03	7,362 14
13 88	30 46	3 86				48 20	54 26
44 81	180 96	213 62				439 39	535 21
148 91	202 18	29 17				380 26	425 77
12 83	157 73	36 85				207 41	253 17
42 57	344 87	24 06				411 50	443 98
99 65	423 28	291 43				814 36	966 09
56 94	112 42	146 05				315 41	433 38
518 67	1,680 94	865 01	31 27	15 62		3,111 51	3,532 82
21 85	149 38	23 30				194 53	247 89
8 44	148 13	41 16	85			198 58	215 99
90 32	212 08	112 46			2 10	416 96	499 77
5 74	67 88	50 61				124 23	146 59
145 20	2,324 27	148 15	65 49	102 56		2,785 67	3,318 33
175 75	1,618 52	989 98				2,784 25	3,060 75
23 56	229 04	130 45	1 05	1 00		385 10	449 81
59	85 33	31				86 23	92 73
646 38	3,237 83	5,047 36	86 23	100 34		9,118 14	11,259 87
84 86	373 37	338 64		81	29 75	827 43	962 67
122 74	550 89	372 57	3 39			1,049 59	1,215 87
30 69	338 90	60 48				430 07	493 62
180 60	686 10	355 93				1,222 63	1,372 18
63 69	77 00	363 50				504 19	574 39
2,646 13	11,511 11	10,118 28	412 34	4,462 32	23 62	29,173 80	33,596 84
68 64	449 83	257 15	22 14	4 53		802 29	939 29
23 67	270 75	19 49				313 91	349 10
15 15	84 20	16 90				116 25	132 53

WISCONSIN TELEPHONE COM
OPERATING EXPENSES BY OPER.

Italic figures denote credits.

LOCATION.	Substation (Terminal.)					Total substation.
	OPERATION:				Maint. of substation equip.	
	Substation operating labor exchange.	Rent of substation equip.	Misc. supplies and expenses.	Total operation.		
Algoma	\$249 09	\$197 93	\$4 88	\$451 90	\$261 24	\$718 14
Appleton.....	2,216 60	889 00	19 84	3,124 94	1,750 84	4,875 78
Ashland.....	1,701 85	530 36	25 09	2,256 80	755 93	3,012 73
Baraboo.....	1,108 73	544 29	5 61	1,658 63	649 12	2,307 75
Bayfield.....	347 49	186 03	3 10	536 62	158 01	694 63
Beaver Dam.....	1,412 81	825 56	5 12	2,243 49	1,171 58	3,415 07
Beloit.....	2,316 08	1,353 51	3 19	3,672 78	1,237 18	4,909 95
Berlin.....	428 65	320 83	1 61	751 09	979 97	1,731 06
Burlington.....	613 66	519 07	4 64	1,137 37	483 66	1,621 03
Burnett Jct.....	71 90	44 36	3 26	119 52	57 79	177 31
Cedarburg.....	197 62	133 36	1 95	332 93	78 99	411 92
Chippewa Falls.....	995 34	845 37	2 63	1,843 34	646 87	2,490 21
Columbus.....	284 54	529 83	4 25	818 62	676 47	1,495 09
Corliss.....	85 42	68 89	.....	154 31	92 47	246 78
Darlington.....	179 19	178 55	1 24	358 98	539 16	898 14
Delavan.....	624 61	598 77	5 84	1,229 22	711 01	1,940 23
De Pere.....	598 06	575 71	5 72	1,179 49	462 11	1,641 60
Eau Claire.....	4,389 05	2,608 59	2 31	6,999 95	1,958 15	8,958 10
Elkhorn.....	64 78	7 19	.....	57 59	70 02	127 61
Evansville ¹	86 18	66 21	.....	152 39	41 00	193 39
Fond du Lac.....	4,680 47	2,804 58	24 19	7,509 24	2,117 23	9,626 47
Ft. Atkinson.....	733 11	576 87	9 55	1,319 53	956 24	2,275 77
Genoa Jct.....	152 23	199 29	4 33	355 85	450 97	806 82
Green Bay.....	6,121 28	2,904 41	21 29	9,046 98	3,577 94	12,624 92
Green Lake.....	69 56	79 53	.....	149 09	125 09	274 18
Hartford.....	248 76	383 95	1 88	634 59	339 33	973 92
Hartland.....	81 51	186 25	5 78	273 54	141 58	415 12
Horicon.....	182 36	172 37	3 18	357 91	285 03	642 94
Hortonville.....	144 91	196 20	9 17	350 28	358 39	708 67
Hudson.....	597 18	358 58	3 02	958 78	279 37	1,238 15
Hurley.....	208 73	260 19	18 88	487 80	282 49	770 29
Janesville.....	3,509 74	1,142 29	10 33	4,662 36	1,340 79	6,003 15
Jefferson.....	256 68	247 43	7 06	511 17	233 17	744 34
Juneau.....	118 05	118 85	5 55	237 45	127 15	364 60
Kaukauna.....	334 17	376 90	13 58	724 65	245 27	969 92
Kewaunee.....	92 98	199 29	4 50	296 77	128 47	425 24
La Crosse.....	5,742 41	1,331 53	4 43	7,078 37	1,980 35	9,058 72
Lake Geneva.....	403 49	867 57	10 49	1,281 55	589 36	1,870 91
Lancaster.....	183 85	160 91	9 25	354 01	263 76	617 77
Lima Center.....	31 46	54 79	.....	86 25	58 57	144 82
Madison.....	8,266 04	5,554 25	31 74	13,852 03	4,760 61	18,612 64
Manitowoc.....	1,420 69	1,304 42	4 81	2,729 92	751 81	3,481 73
Marinette.....	1,183 28	1,262 13	6 31	2,451 72	845 49	3,297 21
Mayville.....	359 41	277 96	1 60	638 97	488 40	1,127 37
Menomonie.....	966 07	850 88	4 15	1,821 10	1,022 24	2,843 34
Merrill.....	818 65	508 17	1 86	1,328 68	790 05	2,118 73
Milwaukee.....	66,047 24	62,119 23	468 00	128,634 47	51,431 64	180,066 11
Neenah.....	1,156 21	1,289 05	13 25	2,463 51	837 89	3,301 40
New London.....	420 68	285 68	2 39	708 75	462 06	1,170 81
North Freedom ..	155 76	110 28	1 52	267 56	106 64	374 20

¹ Report covers 2 months ending June 30, 1912.

PANY. EXCHANGE REPORTS.
ATING SYSTEMS, 1912—Continued.

Commercial.

Pay station salaries and commissions.	Collection salaries and commissions.	Collection supplies and expenses.	Uncollectible accounts.	Promotion of business salaries and commissions.	Promotion of business supplies and expenses.	Total commercial.
\$0 59	\$238 95	\$33 16	\$1 00	\$171 47	.....	\$445 17
16 96	1,512 82	194 64	10 84	345 17	.....	2,080 43
4 19	1,102 80	133 38	23 51	986 89	.....	2,255 77
2 84	790 10	53 50	8 92	92 18	.....	947 54
43	278 19	32 49	8 42	98 33	.....	417 86
11 13	950 03	103 50	53 75	110 04	.....	1,228 45
17 69	1,824 63	133 83	15 95	938 27	.....	2,930 37
2 33	505 73	90 98	6 86	245 66	.....	851 56
7 53	538 67	45 66	21 43	115 31	.....	728 60
14	18 22	2 79	8 33	1 46	.....	30 94
34	107 22	41 39	4 38	72 15	.....	225 48
8 61	803 02	51 72	57 65	168 79	.....	1,089 79
3 30	722 30	106 40	4 75	96 98	.....	933 73
5 02	35 27	19 63	15 34	4 11	.....	79 37
3 14	538 97	57 63	27 44	46 97	.....	674 15
4 42	568 40	63 86	17 03	319 75	.....	973 46
5 78	686 92	93 29	14 95	352 33	.....	1,153 27
25 58	2,683 03	447 94	150 20	1,208 78	.....	4,515 53
.....	11 09	1 47	10 10	2 02	.....	24 68
.....	49 84	4 11	.....	6 36	.....	60 31
62 13	2,016 04	249 16	215 76	823 11	.....	3,366 20
2 53	548 77	53 77	2 25	79 17	.....	686 49
11 02	137 58	21 33	42	48 82	.....	196 53
233 70	3,669 73	448 96	267 01	2,394 62	.....	7,014 02
22	216 63	9 53	.....	40 62	.....	267 00
1 18	465 28	26 12	5 39	121 20	.....	608 39
3 35	205 94	31 14	.....	50 26	.....	290 69
45	340 80	37 30	14 80	32 15	.....	425 50
56	233 54	51 87	.....	105 61	.....	391 58
1 82	488 86	63 47	74 25	119 75	.....	748 15
93	321 22	17 09	3 00	27 48	.....	369 72
46 26	2,566 25	161 20	191 86	2,388 35	.....	5,353 92
1 25	427 09	45 26	.....	83 35	.....	556 95
30	211 60	41 68	.....	64 73	.....	318 31
3 53	316 90	25 44	45 10	169 35	.....	560 32
49	281 74	19 39	8	83 03	.....	384 73
11 66	2,247 43	485 88	338 32	1,920 40	.....	5,003 69
10 54	834 66	84 84	27 10	155 25	.....	1,112 39
1 28	289 53	58 00	1 62	77 93	.....	428 36
30	27 64	2 65	15 40	1 46	.....	47 45
153 46	5,512 33	552 06	100 03	2,436 03	.....	8,753 91
7 37	923 85	82 59	13 31	292 54	.....	1,319 66
4 41	1,070 04	90 48	24 61	708 63	.....	1,898 17
79	401 98	66 60	13 09	138 45	.....	620 91
3 61	1,266 78	65 36	33 74	228 39	.....	1,597 88
5 48	681 10	66 93	6 55	167 20	.....	927 26
13,384 75	56,368 47	4,802 32	1,602 90	23,937 70	.....	100,096 14
5 35	1,355 57	90 58	4 93	295 19	.....	1,751 62
2 35	516 01	70 80	43 46	155 51	.....	788 13
27	31 12	10 86	92	13 00	.....	56 17

WISCONSIN TELEPHONE COMPANY
OPERATING EXPENSES, BY

LOCATION.	Gen					
	OPER					
	Salaries of general officers.	Salaries of general office clerks.	Miscel- laneous general office supplies and ex- penses.	Traveling expensés general officers.	Miscel- laneous general ex- penses.	Law ex- penses, general.
Algoma.....	\$45 15	\$20 93	\$4 01	\$11 62	\$8 70	\$11 48
Appleton.....	276 60	123 16	23 71	55 23	52 86	83 34
Ashland.....	189 34	84 02	16 25	37 93	36 34	46 06
Baraboo.....	133 43	60 04	11 53	21 18	25 60	56 80
Bayfield.....	42 57	18 47	3 61	6 96	8 17	10 26
Beaver Dam.....	199 22	88 83	17 16	35 95	38 45	49 72
Beloit.....	337 96	152 38	29 29	44 42	64 83	83 34
Berlin.....	114 15	48 64	9 56	26 06	21 84	27 08
Burlington.....	102 80	46 14	8 84	16 05	19 73	24 66
Burnett Junction.....	14 29	5 91	1 16	1 39	2 72	3 22
Cedarburg.....	30 02	12 95	2 52	6 84	5 75	7 13
Chipp. Falls.....	163 22	77 17	14 56	26 80	31 35	41 69
Columbus.....	128 77	64 57	12 10	21 63	25 08	36 39
Corliss.....	26 53	10 31	2 09	2 50	5 06	5 64
Darlington.....	77 56	38 26	7 08	10 75	14 92	20 09
Delavan.....	150 47	66 34	12 83	20 60	29 01	69 51
De Pere.....	142 05	65 53	12 52	33 11	27 33	46 16
Eau Claire.....	534 44	228 68	44 75	74 05	102 19	125 65
Elkhorn.....	8 27	5 83	1 00	1 10	1 77	2 91
Evansville.....	6 88	1 79	44	57	1 29	8 34
Fond du Lac.....	611 92	254 43	50 30	86 17	119 14	140 56
Fl. Atkinson.....	109 39	50 31	9 60	20 97	21 03	32 82
Genoa Junction.....	39 24	17 66	3 39	7 34	7 49	9 48
Green Bay.....	829 17	360 48	70 19	106 22	158 85	199 38
Green Lake.....	15 79	7 11	1 36	1 57	3 00	3 93
Hartford.....	70 90	33 16	6 30	18 09	13 62	18 19
Hartland.....	34 34	16 59	3 11	7 00	6 59	9 06
Horicon.....	40 51	17 89	3 45	15 51	7 73	9 67
Hortonville.....	49 94	22 53	4 32	18 12	9 53	12 29
Hudson.....	90 94	42 01	8 01	28 59	17 55	23 01
Hurley.....	45 48	26 84	3 94	8 28	8 71	11 12
Janesville.....	443 57	202 48	38 48	67 46	85 26	111 46
Jefferson.....	47 52	21 34	4 10	21 56	9 12	11 57
Juneau.....	30 60	13 05	2 57	8 38	5 87	7 34
Kaukauna.....	70 57	32 34	6 20	11 40	13 56	17 69
Kewaunee.....	35 90	16 45	3 16	3 62	6 92	8 95
La Crosse.....	513 80	231 63	44 55	58 77	98 82	129 25
Lake Geneva.....	191 35	89 65	16 88	28 30	54 06	120 54
Lancaster.....	43 74	20 13	3 82	26 09	8 40	10 78
Lima Center.....	12 22	5 37	1 06	1 22	2 37	2 91
Madison.....	1,386 89	623 93	119 86	191 53	267 86	388 08
Manitowoc.....	184 97	81 70	15 80	27 95	35 37	44 55
Marinette.....	231 93	104 61	20 03	41 84	44 53	56 69
Mayville.....	66 50	28 12	5 51	16 48	12 65	15 48
Menomonie.....	162 41	75 46	14 29	21 02	31 04	40 62
Merrill.....	130 50	63 75	11 95	29 53	25 27	34 46
Milwaukee.....	11,350 39	5,236 00	983 11	1,199 85	8,779 23	3,641 52
Neenah.....	218 95	100 19	19 14	28 58	42 08	54 41
New London.....	76 65	34 13	6 58	17 85	14 72	18 51
North Freedom.....	19 85	9 23	1 75	1 99	3 80	4 95

¹Report covers two months ending June 30, 1912.

EXCHANGE REPORTS.

OPERATING SYSTEMS, 1912—Continued.

OPERATING SYSTEMS, 1912—Continued.				Undistributed.			
OPERATION.				Total general.	Insur- ance.	Stationery and printing.	Total undis- tributed.
Railroad com- mission ex- penses.	Total opera- tion.	Mainte- nance general office equip- ment.	Mainte- nance build- ings, fixtures and grounds.				
\$2 09	\$103 98	\$0.93	.....	\$104 91	\$26 19	\$74 61	\$100 80
11 66	622 10	6 83	.....	628 93	309 72	254 05	563 77
8 08	418 02	4 53	.....	422 55	151 31	168 72	320 03
5 78	314 36	3 08	.....	317 44	33 72	231 58	265 30
1 77	91 81	1 00	.....	92 81	11 28	44 75	56 03
8 59	437 92	4 56	.....	442 48	32 64	354 34	386 98
14 74	726 96	7 72	.....	734 68	162 15	284 55	446 68
4 56	251 89	2 93	.....	254 82	14 88	158 05	172 93
4 41	222 63	2 44	.....	225 07	22 53	200 26	222 79
54	29 23	34	.....	29 57	3 33	5 29	8 62
1 22	66 43	69	.....	67 12	13 14	38 02	51 16
7 66	362 45	3 53	.....	365 98	66 01	216 43	282 44
7 00	295 54	2 30	.....	297 84	29 28	173 25	202 53
3 88	53 01	85	.....	53 86	5 88	7 81	13 69
3 86	172 52	1 59	.....	174 11	22 29	60 21	82 50
6 30	355 06	3 58	.....	358 64	49 40	241 05	290 45
6 50	333 20	3 09	.....	336 29	42 00	143 18	185 18
21 25	1,131 01	13 48	.....	1,144 49	148 18	882 39	1,030 57
83	21 71	.....	.....	21 71	3 78	3 92	7 70
06	19 37	41	.....	19 78	5 91	9 37	15 28
22 99	1,285 51	15 52	.....	1,301 03	355 15	799 16	1,154 31
4 97	249 09	2 51	.....	251 60	22 82	86 08	108 90
1 68	86 28	95	.....	87 23	9 00	64 46	73 46
33 99	1,758 28	21 63	.....	1,779 91	229 01	721 58	950 59
68	33 44	37	.....	33 81	15 48	10 45	25 93
3 29	163 55	1 54	.....	165 09	72 97	107 72	180 69
1 66	78 35	68	.....	79 03	9 81	49 69	59 50
1 67	96 43	1 00	.....	97 43	12 09	45 61	57 70
2 16	113 89	1 14	.....	120 03	21 21	98 31	120 02
4 17	214 28	2 00	.....	216 28	77 40	101 22	178 62
1 98	106 35	1 10	.....	107 45	.....	34 32	34 32
30 42	979 13	10 20	.....	989 33	95 92	257 68	353 60
2 06	117 27	1 11	.....	118 38	23 07	54 52	77 59
1 24	69 05	75	.....	69 80	13 71	33 77	47 48
3 18	154 94	1 58	.....	156 52	47 15	127 61	174 76
1 62	76 62	79	.....	77 41	19 20	30 73	49 93
22 65	1,099 47	11 91	.....	1,111 38	193 66	593 98	787 64
57 33	558 71	4 13	.....	562 84	87 66	298 15	385 81
1 94	114 90	97	.....	115 87	45 69	39 68	85 37
52	25 67	25	.....	25 92	17 61	10 27	27 88
60 41	3,038 56	32 44	.....	3,071 00	499 86	1,772 24	2,272 10
7 72	398 06	4 32	.....	402 38	105 00	381 23	486 23
10 05	509 68	5 60	.....	515 28	159 54	391 25	550 79
2 52	147 25	1 66	.....	148 92	19 47	81 98	101 45
7 29	352 13	3 62	.....	355 75	59 04	297 48	356 52
6 62	302 08	2 70	.....	304 78	48 67	141 75	190 42
2,244 84	33,434 94	388 84	\$8 39	33,832 17	4,286 06	12,599 17	16,885 23
9 83	473 18	4 87	.....	478 05	124 52	198 06	322 58
3 26	171 70	1 73	.....	173 43	12 42	77 90	90 32
88	42 45	44	.....	42 89	2 94	17 56	20 50

WISCONSIN TELEPHONE COM
OPERATING EXPENSES BY OPER
Summary of

LOCATION.	Total central office traffic.	Total wire plant, transmission.	Total substation, terminal.	Total commercial.
Algoma.....	\$830 03	\$203 02	\$713 14	\$445 17
Appleton.....	4,951 73	1,982 17	4,875 78	2,080 43
Ashland.....	2,607 55	1,062 39	3,012 73	2,255 77
Baraboo.....	2,448 09	663 70	2,307 75	947 54
Bayfield.....	788 33	108 90	694 63	417 86
Reaver Dam.....	3,003 53	1,739 03	3,415 07	1,228 45
Beloit.....	5,596 13	2,681 98	4,909 96	2,930 37
Berlin.....	2,098 50	490 51	1,731 06	851 56
Burlington.....	1,855 89	661 41	1,621 03	728 60
Burnett Jct.....	355 59	102 49	177 31	10 94
Cedarburg.....	645 15	98 91	411 92	225 48
Chippewa Falls.....	3,001 91	1,519 30	2,490 21	1,089 79
Columbus.....	1,642 79	2,056 50	1,495 09	933 73
Corliss.....	569 47	102 57	246 78	79 37
Darlington.....	1,281 64	581 90	898 14	674 15
Delavan.....	2,576 93	1,619 66	1,940 23	973 46
De Pere.....	2,826 10	1,136 76	1,641 60	1,153 27
Eau Claire.....	8,796 47	3,292 16	8,958 10	4,515 53
Elkhorn.....	66 85	12 76	127 61	24 68
Evansville.....	270 57	102 28	193 39	60 31
Fond du Lac.....	11,805 40	5,208 31	9,626 47	3,366 20
Ft. Atkinson.....	1,940 37	503 59	2,275 77	686 49
Genoa Jct.....	643 74	222 34	806 82	196 53
Green Bay.....	12,855 47	7,362 14	12,624 92	7,014 02
Green Lake.....	200 32	54 26	274 18	267 00
Hartford.....	1,384 78	535 21	973 92	608 39
Hartland.....	677 22	425 77	415 12	290 69
Horicon.....	716 18	253 17	642 94	425 50
Hortonville.....	777 74	443 98	708 67	391 58
Hudson.....	1,486 47	966 09	1,238 15	748 15
Hurley.....	696 85	433 38	770 29	369 72
Janesville.....	6,464 34	3,532 82	6,003 15	5,353 92
Jefferson.....	805 89	247 89	744 34	556 95
Juneau.....	563 72	215 99	364 60	318 31
Kaukauna.....	1,414 30	499 77	969 92	560 32
Kewaunee.....	850 32	146 59	425 24	384 73
La Crosse.....	6,157 29	3,318 33	9,058 72	5,003 69
Lake Geneva.....	3,307 52	3,060 75	1,870 91	1,112 39
Lancaster.....	691 42	449 81	617 77	428 36
Lima Center.....	330 07	92 73	144 82	47 45
Madison.....	28,189 16	11,259 87	18,612 64	8,753 91
Manitowoc.....	3,416 37	962 67	3,481 73	1,319 66
Marinette.....	5,001 52	1,215 87	3,297 21	1,898 17
Mayville.....	957 97	493 62	1,127 37	620 91
Menomonie.....	2,251 91	1,372 18	2,843 34	1,597 88
Merrill.....	2,838 98	574 39	2,118 73	927 26
Milwaukee.....	258,095 81	33,596 84	180,066 11	100,096 14
Neenah.....	4,870 90	939 29	3,301 40	1,751 62
New London.....	1,329 92	349 10	1,170 81	788 13
No. Freedom.....	432 25	132 53	374 20	56 17

PANY EXCHANGE REPORTS.
 ATING SYSTEMS, 1912.—Continued.
 Operating Expenses.

Total general.	Total undis-tributed.	Total of foregoing.	Depre-ciation.	Taxes.	Total operating expenses.
\$104 91	\$100 80	\$2,397 07	0	\$236 78	\$3,236 45
628 93	563 77	15,062 81	5,402 39	1,063 64	21,528 84
422 55	320 03	9,681 02	5,502 93	635 34	15,819 29
317 44	265 30	6,949 82	1,479 58	650 89	9,080 29
92 81	56 03	2,158 56	701 28	222 88	3,082 72
442 48	386 98	10,215 54	4,427 11	987 25	15,629 90
734 68	446 68	17,299 80	8,436 60	1,618 65	27,355 05
254 82	172 93	5,599 38	1,218 84	383 66	7,201 88
225 07	222 79	5,314 79	1,977 61	621 31	7,913 71
29 57	8 62	704 52	494 34	53 09	1,251 95
67 12	51 16	1,499 74	626 55	159 40	2,285 69
365 98	282 44	8,749 63	3,912 55	1,011 83	13,674 01
297 84	202 53	6,628 48	2,717 76	633 44	9,979 68
53 86	13 69	1,065 74	612 07	82 51	1,760 32
174 11	82 50	3,692 44	817 79	214 17	4,724 40
358 64	290 45	7,759 37	3,114 29	716 24	11,589 90
336 29	185 18	7,279 20	3,634 30	688 63	11,602 13
1,144 49	1,030 57	27,737 32	11,737 55	3,121 51	42,596 38
21 71	7 70	261 31	189 30	9 21	441 40
19 78	15 28	661 61	325 00	77 18	1,063 79
1,301 03	1,154 31	32,461 72	12,302 18	3,353 83	48,117 73
251 60	108 90	5,766 72	2,521 65	689 36	8,977 73
87 23	73 46	2,030 12	1,319 39	238 95	3,588 46
1,779 91	950 59	42,587 05	16,838 26	3,476 27	62,901 58
33 81	25 93	855 50	372 30	95 50	1,323 30
165 09	180 69	3,848 08	1,520 64	458 79	5,827 51
79 03	59 50	1,947 33	935 80	224 15	3,107 28
97 43	57 70	2,192 92	693 47	206 27	3,092 66
120 03	120 02	2,562 02	896 36	234 65	3,693 03
216 28	178 62	4,833 76	1,225 55	428 98	6,488 29
107 45	34 32	2,412 01	1,012 28	311 40	3,735 69
989 33	353 60	22,697 16	8,701 70	1,363 10	32,761 96
118 38	77 59	2,551 04	1,350 95	294 95	4,196 94
69 80	47 48	1,579 90	404 12	142 12	2,126 14
156 52	174 76	3,775 59	2,976 93	450 62	7,203 14
77 41	49 93	1,934 22	1,025 22	238 53	3,197 97
1,111 38	787 64	25,437 05	15,704 49	1,596 94	42,738 48
562 84	385 81	10,300 22	6,500 19	1,043 26	17,852 67
115 87	85 37	2,388 60	829 65	192 31	3,410 56
25 92	27 88	668 87	618 91	65 52	1,353 30
3,071 00	2,272 10	72,158 68	30,815 51	6,646 56	109,620 75
402 38	486 23	10,069 04	6,067 25	1,560 43	17,696 72
515 28	550 79	12,478 84	6,188 58	1,509 56	20,176 98
148 92	101 45	3,450 24	1,093 04	332 41	4,875 69
355 75	356 52	8,777 58	4,423 10	1,017 00	14,217 68
304 78	190 42	6,954 56	2,245 91	608 72	9,809 19
33,832 17	16,885 23	622,572 30	249,491 08	74,296 99	946,360 37
478 05	322 58	11,663 84	7,878 97	1,541 71	21,084 52
173 43	90 32	3,901 71	1,475 93	341 16	5,718 80
42 89	20 50	1,058 54	309 92	132 02	1,500 48

WISCONSIN TELEPHONE COM
OPERATING EXPENSES, BY OPERATING
Central Of

Italic figures denote credits.

LOCATION.	OPERA				
	Superin- tendence.	Switch board operators.	Miscellane- ous central office operating labor.	Rent of central office.	Directory expenses (excluding labor).
Oconomowoc.....	\$133 48	\$1,071 96	\$55 06	\$75 51	\$14 98
Oconto.....	86 53	801 59	55 23	118 92	10 68
Oconto Falls.....	87 71	123 69	06	31 27	1 44
Omro.....	74 32	576 34	54 89	50 25	14 36
Oshkosh.....	595 51	9,065 15	333 83	697 55	184 26
Peshtigo.....	21 30	387 30	08	47 85	3 29
Pt. Washington.....	95 02	702 18	83 43	132 40	6 90
Princeton.....	47 64	299 86	13 96	29 97	3 02
Racine.....	1,140 62	11,837 67	899 34	604 22	523 61
Red Granite.....	82 34	341 66	13 94	25 69	2 59
St. Martins.....	24 29	719 68	8 90	99 27	3 44
Shawano.....	70 25	616 59	53 75	64 78	7 26
Shullsburg.....	68 62	354 18	5 16	65 08	2 42
So. Milwaukee.....	151 18	688 49	3 77	254 44	11 58
Stanley.....	71 81	368 66	48 41	44 90	7 78
Stevens Point.....	213 26	1,385 65	40 94	171 74	21 08
Stoughton.....	146 01	1,421 38	47 57	100 47	13 49
Sturgeon Bay.....	170 49	1,549 29	58 65	243 29	23 47
Superior.....	593 83	7,659 71	299 36	836 00	583 10
Washburn.....	81 07	485 61	29 68	95 59	4 75
Watertown.....	252 18	2,127 09	35 07	355 36	14 81
Waukesha.....	282 46	2,591 98	168 48	263 22	33 08
Waupun.....	69 56	572 66	48 34	84 21	10 24
West Bend.....	95 03	571 80	64 10	45 43	4 03
Whitewater.....	156 85	1,328 12	31 83	265 01	13 42
Winneconne.....	5 88	7 12	05	12 50	48
Total.....	\$26,234 66	\$301,116 18	\$18,012 68	\$26,068 45	\$18,351 00

PANY EXCHANGE REPORTS.
SYSTEMS—Continued.
ice (Traffic)

TION.			MAINTENANCE.			
Power expenses (excluding labor).	Miscellaneous central office supplies and expenses.	Total operation.	Central office equipment.	Central office buildings and grounds.	Total main-tenance.	Total central office.
\$129 96	\$81 60	\$1,562 55	\$312 01	\$10 33	\$322 34	\$1,884 89
83 12	118 29	1,274 41	164 81	.....	164 81	1,439 22
3 23	49 12	296 52	62 51	.....	62 51	359 03
73 80	112 53	956 49	171 51	.....	172 01	1,128 50
672 33	316 54	11,865 17	2,825 19	42 15	2,867 34	14,732 51
41 95	32 54	534 31	38 00	2 00	40 00	574 31
47 17	65 65	1,130 75	174 06	95	175 01	1,305 76
6 26	67 76	468 47	47 41	.....	47 41	515 88
656 84	494 96	16,157 26	2,263 17	784 54	3,047 71	19,204 97
3 71	42 39	512 32	44 78	.....	44 78	557 10
.....	40 25	895 83	35 99	.....	35 99	931 82
33 21	78 59	924 43	179 00	.....	179 00	11,034 43
3 67	35 13	534 26	84 82	.....	84 82	619 08
97 50	72 07	1,279 03	133 91	.....	133 91	1,462 94
.....	57 22	598 78	161 49	.....	161 49	760 27
88 62	145 61	2,066 90	435 85	1 72	437 57	2,504 47
163 65	71 90	1,964 47	150 36	.....	150 36	2,114 83
64 26	126 17	2,235 62	351 20	.....	351 20	2,586 82
383 97	307 84	10,663 81	966 62	78 43	1,045 05	11,708 86
8 00	62 04	766 74	48 22	.....	48 22	814 96
131 99	170 23	3,086 73	370 01	.....	370 01	3,456 74
141 41	310 27	3,790 90	387 46	4 95	392 41	4,183 31
.....	68 19	853 20	193 27	25	193 52	1,046 72
6 16	60 89	847 44	26 08	.....	26 08	873 52
330 74	73 30	2,199 27	440 88	1 25	442 13	2,641 40
.....	9 24	35 27	10 84	.....	10 84	46 11
\$14,693 17	\$18,889 76	\$423,365 90	\$58,724 18	\$3,834 82	\$62,559 00	\$485,924 90

WISCONSIN TELEPHONE COM
OPERATING EXPENSES BY OPER
Wire Plant

Italic figures denote credits.

LOCATION.	OPERATION.			
	Wire plant operating labor.	Rent, conduit, pole & roof privileges.	Miscellaneous supplies & expenses.	Total operation.
Oconomowoc.....	\$117 15			\$117 15
Oconto.....	105 02			105 02
Oconto Falls.....	8 42			8 42
Omro.....	88 05			88 05
Oshkosh.....	737 94	\$35 80		773 74
Peshtigo.....	11 59			11 59
Port Washington.....	34 86			34 86
Princeton.....	20 04			20 04
Racine.....	1,229 16	55 00		1,284 16
Red Granite.....	11 01			11 01
St. Martins.....	16 18			16 18
Shawano.....	52 44			52 44
Shullsburg.....	61 15			61 15
South Milwaukee.....	71 34			71 34
Stanley.....	61 61			61 61
Stevens Point.....	271 76			271 76
Stoughton.....	130 62			130 62
Sturgeon Bay.....	243 29			243 29
Superior.....	315 71	9 79		325 50
Washburn.....	31 64			31 64
Watertown.....	112 23			112 23
Waukesha.....	125 85			125 85
Waupun.....	63 24			63 24
West Bend.....	26 27			26 27
Whitewater.....	174 70	4 05		178 75
Winneconne.....	42 97			42 97
Total.....	\$17,732 24	\$488 75		\$18,220 99

PANY EXCHANGE REPORTS.
 ATING SYSTEMS, 1912—Continued.
 (Transmission.)

MAINTENANCE.							Total wire plant.
Pole lines.	Aerial wire.	Aerial cable.	Under- ground condui's.	Under- ground cable.	Sub- marine cable.	Total mainte- nance.	
\$108 81	\$460 79	\$458 30	.....	\$2 97	.....	\$1,030 87	\$1,148 02
58 51	385 63	317 64	.....	.....	.....	761 78	866 80
11 55	87 29	11 32	.....	.....	.....	110 16	118 58
41 30	377 27	305 35	.....	.....	\$2 75	726 67	814 72
356 60	2,232 40	3,445 16	\$108 02	519 24	20 14	6,681 56	7,455 30
52 86	172 26	91 30	.....	.....	.....	316 42	328 01
33 70	138 01	39 86	.....	.....	.....	211 57	246 43
15 50	61 79	10 40	.....	.....	.....	66 89	86 93
430 42	3,934 30	3,273 58	60 39	561 78	.....	8,260 47	9,544 63
4 67	61 07	10 01	3 68	.....	.....	79 43	90 44
87	241 15	1 33	.....	03	.....	243 38	259 56
10 99	230 75	18 14	.....	.....	.....	259 88	312 32
82	201 08	72	.....	.....	.....	202 62	263 77
33 56	328 07	8 33	.....	.....	.....	369 96	441 30
65 19	229 62	94 74	.....	.....	.....	389 55	451 16
92 62	933 34	378 78	.....	.....	.....	1,404 74	1,676 50
93 25	643 19	206 33	.....	.....	.....	942 77	1,073 39
40 12	448 94	516 93	.....	.....	4 64	1,010 63	1,253 92
294 38	1,039 35	788 08	.....	16 09	.....	2,137 90	2,463 40
160 11	85 80	8 38	.....	.....	.....	254 29	285 93
28 00	618 18	171 39	.....	.....	.....	817 57	929 80
114 99	1,304 65	684 86	54	12 60	.....	2,117 64	2,243 49
17 77	211 43	129 34	2 26	.....	.....	360 80	424 04
7 13	97 37	40 07	.....	.....	.....	144 57	170 84
15 89	403 13	506 55	.....	.....	.....	925 57	1,104 32
48 00	13 33	9 05	.....	.....	10	70 48	113 45
\$11,094 24	\$55,713 16	\$39,976 37	\$1,021 67	\$6,987 55	\$220 75	\$115,013 74	\$133,234 73

WISCONSIN TELEPHONE COM
OPERATING EXPENSES BY OPER

Italic figures denote credits.

LOCATION.	Substation (Terminal.)					Total substation.
	OPERATION.				Maint. of substation equip.	
	Substation operating labor exchange.	Rent of substation equip.	Misc. supplies and expenses.	Total operation.		
Oconomowoc.....	\$528 41	\$635 58	\$4 17	\$1,168 16	\$615 32	\$1,783 48
Oconto.....	423 98	338 22	2 31	764 51	366 88	1,131 39
Oconto Falls.....	49 85	66 99	4 20	121 04	60 36	181 40
Omro.....	601 96	311 54	6 26	919 76	719 86	1,639 62
Oshkosh.....	3,691 97	3,425 33	38 33	7,155 63	3,174 34	10,329 97
Peshtigo.....	290 02	106 06	5 92	402 00	57 31	459 31
Pt. Washington..	219 32	281 48	2 64	503 44	167 99	671 43
Princeton.....	92 32	95 30	6 27	193 89	253 26	447 15
Racine.....	21,671 04	3,991 28	11 05	25,673 37	5,890 64	31,564 01
Red Granite.....	182 73	92 70	7 15	282 58	111 97	394 55
St. Martins.....	101 52	119 50	2 00	223 02	157 66	380 68
Shawano.....	495 68	240 19	13 48	749 35	312 05	1,061 40
Shullsburg.....	77 03	97 46	.....	174 49	178 18	352 67
So. Milwaukee...	439 23	344 89	4 59	788 71	402 69	1,191 40
Stanley.....	438 70	204 12	3 26	646 08	483 88	1,129 96
Stevens Point...	1,186 18	737 55	11 98	1,935 71	435 26	2,370 97
Stoughton.....	857 35	563 57	3 49	1,424 41	569 39	1,993 80
Sturgeon Bay...	443 03	549 19	7 29	999 51	356 78	1,356 29
Superior.....	5,656 98	2,121 45	4 84	7,783 27	2,369 01	10,152 28
Washburn.....	314 91	108 16	10 81	433 88	227 14	661 02
Watertown.....	872 23	875 46	22 40	1,770 09	487 94	2,258 03
Waukesha.....	1,748 60	1,253 57	3,59	3,005 76	-1,883 59	4,889 35
Waupun.....	332 16	319 97	8 46	660 59	467 08	1,127 67
West Bend.....	356 92	317 19	11 08	685 19	299 68	984 87
Whitewater.....	351 51	501 72	7 36	860 59	234 15	1,094 74
Winneconne.....	13 04	24 17	1 90	39 11	37 39	76 50
Total.....	\$164,094 78	\$114,915 50	\$1,006 70	\$280,016 98	\$108,478 75	\$388,495 73

PANY. EXCHANGE REPORTS.
ATING SYSTEMS, 1912—Continued.

Commercial.

Pay station salaries and commissions.	Collection salaries and commissions.	Collection supplies and expenses.	Uncollectible accounts.	Promotion of business salaries and commissions.	Promotion of business supplies and expenses.	To commercial.
\$3 28	\$585 57	\$27 31	\$8 83	\$293 57	.....	\$918 56:
6 62	502 10	88 08	17 76	224 34	.....	839 40:
15	126 31	31 43	10 07	96 17	.....	264 13.
1 38	391 51	47 73	5 87	210 34	.....	656 83:
119 93	2,937 68	266 72	156 03	1,536 50	.....	5,016 86:
20	40 32	9 09	2 50	48 22	.....	100 33:
63	373 09	41 45	6 08	155 91	.....	577 16:
6 67	160 20	22 10	11 68	91 98	.....	292 63:
64 99	5,429 33	550 06	432 80	2,585 78	.....	9,062 96:
28	137 98	50 94	21 91	53 48	.....	264 59:
37	121 08	8 84	1 25	27 29	.....	158 83:
4 21	443 79	51 86	3 00	188 60	.....	691 46:
32	194 06	27 46	.....	8 33	.....	230 17:
1 01	415 71	14 61	32 14	144 55	.....	608 02:
1 46	312 81	21 30	17	147 48	.....	483 22:
9 94	872 49	94 40	25 46	316 56	.....	1,318 85:
1 49	515 82	51 39	26 86	120 54	.....	716 10:
1 62	546 37	68 19	42	385 48	.....	1,001 24:
36 36	2,802 78	300 92	251 88	1,536 66	.....	4,928 60:
30	342 89	40 85	1 40	114 73	.....	500 17:
4 41	589 42	58 46	10 43	270 41	.....	933 13:
20 07	1,174 18	64 47	36 52	716 58	.....	2,011 82:
87	324 61	40 54	.....	188 30	.....	554 32:
54	257 52	16 45	.....	89 47	.....	363 98:
3 80	448 90	52 71	6 74	58 68	.....	570 83:
15 45	183 08	8 96	.....	26 94	.....	234 43:
\$14,365 07	\$118,170 28	\$11,605 35	\$4,564 93	\$52,179 69	.....	\$200,885 32

WISCONSIN TELEPHONE COMPANY
OPERATING EXPENSES, BY

LOCATION.	<i>Gen</i>					
	OPER					
	Salaries of general officers.	Salaries of general office clerks.	Miscel- laneous general office supplies and ex- penses.	Traveling expenses general offices.	Miscel- laneous general expenses.	Law expenses-- general.
Oconomowoc.....	\$114 72	\$56 65	\$10 54	\$26 99	\$22 14	\$33 04
Oconto.....	90 48	40 21	7 79	35 18	17 36	35 10
Oconto Falls.....	19 35	8 83	1 69	21 90	3 72	4 93
Omro.....	93 83	39 92	7 84	13 03	17 92	22 02
Oshkosh.....	781 18	372 98	70 43	85 12	150 59	502 50
Peshigo.....	30 43	12 86	2 53	3 73	5 82	7 08
Port Washington.....	57 97	25 29	4 91	23 00	11 35	13 77
Princeton.....	29 20	13 19	2 52	7 27	5 60	7 23
Racine.....	1,522 07	724 52	139 42	249 82	296 72	569 82
Red Granite.....	28 30	11 80	2 32	27 05	5 38	6 46
St. Martins.....	43 39	17 72	3 55	4 18	8 27	9 90
Shawano.....	65 47	31 09	5 88	19 11	12 67	16 72
Shullsburg.....	33 64	15 08	2 91	18 25	6 48	8 26
So. Milwaukee.....	76 02	33 48	6 47	9 79	14 50	18 29
Stanley.....	60 73	26 99	5 23	25 99	11 65	14 89
Stevens Point.....	159 66	75 84	14 31	23 81	30 88	40 83
Stoughton.....	124 97	55 75	10 73	22 43	23 99	30 49
Sturgeon Bay.....	126 55	55 37	10 74	63 99	24 26	30 37
Superior.....	610 71	282 80	53 72	88 25	117 83	751 95
Washburn.....	46 09	20 34	3 95	11 32	8 82	11 22
Watertown.....	154 71	67 34	13 06	28 44	29 58	36 49
Waukesha.....	276 09	125 16	23 95	48 80	53 02	67 47
Waupun.....	66 12	27 84	5 47	12 42	12 62	15 31
West Bend.....	50 20	21 52	4 21	13 16	9 90	11 95
Whitewater.....	114 02	52 41	10 00	18 44	21 84	28 64
Winneconne.....	10 26	4 01	82	9 19	1 96	2 24
Total.....	\$24,665 81	\$11,277 51	\$2,142 81	\$3,486 68	\$11,362 63	\$8,241 29

EXCHANGE REPORTS.
OPERATING SYSTEMS. 1912—Continued.

eral.					Undistributed.		
ATION.		Maintenance general office equipment.	Maintenance build- ings, fixtures and grounds.	Total general.	Insur- ance.	Stationery and printing.	Total undis- tributed.
Railroad Com- mission ex- penses.	Total oper- ation.						
\$5 83	\$269 91	\$2 27	.....	\$272 18	\$61 80	\$163 55	\$225 35
3 89	230 01	2 07	.....	232 08	60 20	121 42	181 62
88	61 30	44	.....	61 74	8 88	21 72	30 60
3 71	198 27	2 20	.....	200 47	15 72	172 21	187 93
37 93	2,000 73	16 21	.....	2,016 94	424 91	889 51	1,314 42
1 18	63 63	77	.....	64 40	58 62	9 73	68 35
2 38	138 67	1 39	.....	140 06	30 72	119 39	150 11
1 28	66 29	63	.....	66 92	14 61	50 72	65 33
78 53	3,580 90	29 22	.....	3,610 12	359 39	1,494 98	1,854 37
1 06	82 37	71	.....	83 08	4 89	35 96	40 85
1 58	88 59	1 30	.....	89 89	6 63	12 37	19 00
3 12	154 06	2 49	.....	156 55	24 18	79 19	103 37
1 45	86 07	80	.....	86 87	23 79	26 48	50 27
3 14	161 69	1 88	.....	163 57	45 27	105 25	150 52
2 61	148 09	1 41	.....	149 50	14 37	47 74	62 11
7 69	353 02	3 53	.....	356 55	128 66	238 58	367 24
5 36	273 72	2 88	.....	276 60	73 32	243 41	316 73
5 26	316 54	2 98	.....	319 52	66 54	147 10	213 64
27 85	1,933 11	13 50	.....	1,946 61	259 90	560 58	820 48
1 93	103 67	1 07	.....	104 74	17 01	43 08	60 09
6 29	335 91	3 80	.....	339 71	62 46	236 90	299 36
12 11	606 60	6 63	.....	613 23	81 28	583 92	665 20
2 56	142 34	1 67	.....	144 01	22 92	130 95	153 87
2 06	113 00	1 25	.....	114 25	26 82	63 60	90 42
5 11	250 46	2 59	.....	253 05	61 48	184 82	246 30
35	28 83	30	.....	29 13	7 08	16 51	23 59
\$2,896 54	\$64,073 23	\$694 22	\$8 39	\$64,775 84	\$9,801 18	\$28,875 61	\$38,676 79

WISCONSIN TELEPHONE COM.
OPERATING EXPENSES BY OPER.
Summary of

LOCATION.	Total central office, traffic.	Total wire plant, transmission.	Total substation, terminal.	Total commercial.
Oconomowoc.....	\$1,884 89	\$1,148 02	\$1,783 48	\$918 56
Oconto.....	1,439 22	866 80	1,131 39	839 40
Oconto Falls.....	359 03	118 58	181 40	264 13
Omro.....	1,128 50	814 72	1,639 62	656 83
Oshkosh.....	14,732 51	7,455 30	10,329 97	5,016 86
Peshigo.....	574 31	328 01	459 31	100 33
Pt. Washington.....	1,305 76	246 43	671 43	577 16
Princeton.....	515 88	86 93	447 15	292 63
Racine.....	19,204 97	9,544 63	31,564 01	9,062 96
Red Granite.....	557 10	90 44	394 55	264 59
St. Martins.....	931 82	259 56	380 68	158 83
Shawano.....	1,103 43	312 32	1,061 40	691 46
Shullsburg.....	619 08	263 77	352 67	230 17
South Milwaukee.....	1,462 94	441 30	1,191 40	608 02
Stanley.....	760 27	451 16	1,129 96	483 22
Stevens Point.....	2,504 47	1,676 50	2,370 97	1,318 85
Stoughton.....	2,114 83	1,073 39	1,993 80	716 10
Sturgeon Bay.....	2,586 82	1,253 92	1,356 29	1,001 24
Superior.....	11,708 86	2,463 40	10,152 28	4,928 60
Washburn.....	814 96	285 93	661 02	500 17
Watertown.....	3,456 74	929 80	2,258 03	933 13
Waukesha.....	4,183 31	2,243 49	4,889 35	2,011 82
Waupun.....	1,046 72	424 04	1,127 67	554 32
West Bend.....	873 52	170 84	984 87	363 98
Whitewater.....	2,641 40	1,104 32	1,094 74	570 83
Winneconne.....	46 11	113 45	76 50	234 43
Total.....	\$485,924 90	\$133,234 73	\$388,495 73	\$200,885 32

PANY EXCHANGE REPORTS.
ATING SYSTEMS, 1912.—Concluded.
Operating Expenses.

Total general.	Total undistributed.	Total of foregoing.	Depreciation.	Taxes.	Total operating expenses.
\$272 18	\$225 35	\$6,232 48	4,489 58	\$764 23	\$11,486 29
232 08	181 62	4,690 51	1,766 37	404 19	6,861 07
61 74	30 60	1,015 48	128 60	80 13	1,224 21
200 47	187 93	4,628 07	1,665 19	372 61	6,665 87
2,016 94	1,314 42	40,866 00	20,734 03	4,096 59	65,696 62
64 40	68 35	1,594 71	572 20	126 95	2,293 86
140 06	150 11	3,090 95	1,213 69	336 80	4,641 44
66 92	65 33	1,474 84	539 71	113 88	2,128 43
3,610 12	1,854 37	74,841 06	38,501 01	4,770 91	118,112 98
83 08	40 85	1,430 61	220 66	110 55	1,761 82
89 89	19 00	1,839 78	628 81	142 57	2,611 16
156 55	103 37	3,428 53	937 06	287 61	4,653 20
86 87	50 27	1,602 83	425 63	117 01	2,145 47
163 57	150 52	4,017 75	2,202 27	412 15	6,632 17
149 50	62 11	3,036 22	630 28	243 47	3,909 97
356 55	367 24	8,594 58	2,949 49	881 95	12,426 02
276 60	316 73	6,491 45	2,682 70	674 38	9,848 53
319 52	213 64	6,731 43	2,784 69	657 65	10,173 77
1,946 61	820 48	32,020 23	9,831 43	2,543 04	44,394 70
104 74	60 09	2,426 91	968 68	129 79	3,525 38
339 71	299 36	8,216 77	2,680 09	1,047 15	11,944 01
613 23	665 20	14,606 40	6,397 74	1,499 88	22,504 02
144 01	153 87	3,450 63	1,465 89	381 78	5,298 30
114 25	90 42	2,597 88	1,098 49	379 55	4,075 92
253 05	246 30	5,910 64	2,457 74	600 61	8,968 99
29 13	23 59	523 21	130 23	28 78	682 22
\$64,775 84	\$38,676 79	\$1,311,993 31	\$553,781 03	\$137,465 46	\$2,003,239 80

CLASSES A AND B—
OPERATING EXPENSES, INDIVIDUAL OPERATING

Italic figures denote credits.

LOCATION.	NAME OF COMPANY.	<i>Central</i>				
		OPERATION.				
		Central office opera- tion labor.	Rent of central office.	Rent of central office equip- ment.	Miscel- laneous office sup. and ex- penses.	Total oper- ation.
Albany.....	United Tel. Co. ²	\$769 18	\$20 84	\$3 25	\$26 43	\$819 70
Antigo.....	Antigo Tel. Co. ²	2,977 30	285 00	302 83	363 76	3,928 89
Appleton.....	Fox River Tel. & Teleg. Co.	5,846 33	600 00	.....	1,287 55	7,733 88
Ashland.....	Ashland Home Tel. Co. ²	3,374 93	452 00	.....	761 45	4,588 38
Blanchardville...	United Tel. Co. ²	1,074 25	117 00	25	10 24	1,181 26
Bruce.....	Chippewa Valley Tel. Co....	291 18	74 09	.....	1 25	366 52
Cameron.....	Chippewa Valley Tel. Co....	231 26	71 20	.....	.....	302 46
Chip. Falls.....	Chippewa County Tel. Co. ²	2,124 16	363 19	.....	95 44	2,582 79
Green Bay.....	Fox River Tel. & Teleg. Co.	5,861 56	600 00	.....	904 94	7,366 50
Ingram.....	Chippewa Valley Tel. Co....	74 22	21 02	.....	.....	95 24
Janesville.....	Rock County Tel. Co.	10,526 40	360 00	.....	805 17	11,691 57
Kenosha.....	Kenosha Home Tel. Co.	5,052 44	.....	.....	1,024 10	6,076 54
La Crosse.....	La Crosse Tel. Co.	7,883 11	525 00	.....	2,558 76	10,966 87
Ladysmith.....	Chippewa Valley Tel. Co.	356 31	141 25	.....	10 96	508 52
Marshfield.....	Marshfield Tel. Co.	2,686 02	480 00	11 60	197 09	3,374 71
Monroe.....	United Tel. Co. ²	2,926 07	154 00	54	188 45	3,269 06
Monticello.....	United Tel. Co. ²	500 68	100 08	25	40 58	641 59
Portage.....	Portage Tel. Co. ²	2,111 10	.....	.....	417 02	2,528 12
Prentice.....	Chippewa Valley Tel. Co.	177 84	87 28	.....	.....	265 12
Rhineland.....	Rhineland Mut. Tel. Co. ²	760 00	20 84	.....	71 92	852 76
Sheboygan.....	Citizens Tel. Exchange.....	4,001 06	978 14	.....	124 55	5,103 75
Sheboygan Falls..	Citizens Tel. Exchange.....	570 42	222 82	.....	20 65	813 89
Sparta.....	Monroe County Tel. Co. ²	1,509 60	264 00	.....	44 94	1,818 54
Superior.....	Peoples Tel. Co.	8,373 43	120 00	.....	1,409 43	9,902 86
Wausau.....	Wausau Tel. Co. ¹	3,162 94	725 00	.....	1,273 36	5,161 30
	Total.....	\$73,221 79	\$6,782 75	\$318 72	\$11,617 56	\$91,940 82

¹ All manual except Wausau.

² Class B utility.

EXCHANGE SYSTEMS.
SYSTEMS, YEAR ENDING JUNE 30, 1912.

Office (Traffic) ¹				Wire Plant (Transmission)				
MAINTENANCE.			Total central office expense.	OPERATION.			MAINTENANCE.	
Central office equipment.	Central office bldgs. fix. and grounds.	Total maintenance.		Wire plant operating labor.	Misc. sup. and expenses—exchange.	Total operation.	Over-head lines.	Under-ground lines.
\$33 61		\$33 61	\$853 31	\$45 63	\$21 43	\$67 06	\$*100 45	
461 75		461 75	4,390 64	39 30	20 78	60 08	940 89	
			7,733 88	399 81		399 81	6,042 17	
404 26		404 26	4,992 64	1,461 34	480 02	1,941 36	1,702 76	
66 74		66 74	1,248 00	46 17	2 51	48 68	42 56	
13 97		13 97	380 49	10 92		10 92	21 60	
14 69		14 69	317 15	5 11		5 11	5 30	
229 01		229 01	2,811 80				881 01	
			7,366 50	114 78		114 78	\$6,333 11	
13 00		13 00	108 24	1 93		1 93	95	
1,249 08		1,249 08	12,940 65		54 00	54 00	2,439 21	\$30 45
779 91	\$798 43	1,578 34	7,654 88	165 09	28 00	193 09	3,794 07	39 64
1,102 13		1,102 13	12,069 00	2,507 01	995 25	3,502 26	448 09	59 82
219 51		219 51	728 03	6 35		6 35	181 10	
51 36		51 36	3,426 07	1,101 91	50 73	1,152 64	74 70	2 45
329 20		329 20	3,598 26	177 18	131 89	309 07	446 27	
78 56		78 56	720 15	20 49	3 53	24 02	77 69	
196 55	59 30	255 85	2,783 97		63 40	63 40	965 63	
23 10		23 10	288 22		2 89	2 89	45 39	
29 12		29 12	881 88	33 65		33 65	131 29	
643 71		643 71	5,747 46	167 02		167 02	1,939 51	226 51
129 16		129 16	943 05	12 50		12 50	142 95	
265 94	85 73	351 67	2,170 21	370 47	136 70	507 17	183 35	62 94
986 17	94 01	1,080 18	10,983 04	1,188 65		1,188 65	2,404 21	81 48
1,483 29		1,483 29	6,644 59	328 10		328 10	\$1,052 92	
\$8,803 82	\$1,037 47	\$9,841 29	\$101,782 11	\$8,206 30	\$1,988 24	\$10,194 54	\$30,347 18	\$503 29

³ Includes underground conduit and cable.
⁴ Includes both manual and automatic.

CLASSES A. & B.
OPERATING EXPENSES—INDIVIDUAL.

LOCATION.	NAME OF COMPANY.	Wire Plant (Con- cluded.)		Substa- tion	
		MAINTENANCE (Con- cluded.)	Total wire plant expenses.	OPERA-	
				Total main- tenance.	Substation operating labor.	Rent of substa- tion equip- ment.
Albany.....	United Tel. Co. ¹	\$100 45	\$167 51	\$43 74	\$107 05
Antigo.....	Antigo Tel. Co. ¹	940 89	1,000 97	118 30	.....
Appleton.....	Fox River T. & T. Co.....	6,042 17	6,441 98	.....	.....
Ashland.....	Ashland Home Tel. Co. ¹	1,702 76	3,644 12	1,463 75	.....
Blanchardville...	United Tel. Co. ¹	42 56	91 24	41 55	70 80
Bruce.....	Chippewa Valley Tel. Co.....	21 60	32 52	6 62	30 28
Cameron.....	Chippewa Valley Tel. Co.....	5 30	10 41	57	7 36
Chippewa Falls...	Chippewa Co. Tel. Co. ¹	831 01	831 01	.....	.....
Green Bay.....	Fox River Tel. & Teleg. Co.....	6,333 11	6,447 89	.....	.....
Ingram.....	Chippewa Valley Tel. Co.....	95	2 88	97	5 73
Janesville.....	Rock Co. Tel. Co.....	2,469 66	2,523 66	7 20	.....
Kenosha.....	Kenosha Home Tel. Co.....	3,833 71	4,026 80	1,212 42	837 22
La Crosse.....	La Crosse Tel. Co.....	507 91	4,010 17	1,202 50	.....
Ladysmith.....	Chippewa Valley Tel. Co.....	181 10	187 45	14 43	126 01
Marshfield.....	Marshfield Tel. Exch.....	77 15	1,229 79	39 67	54 73
Monroe.....	United Tel. Co. ¹	446 27	755 34	222 85	242 49
Monticello.....	United Tel. Co. ¹	77 69	101 71	59 62	50 95
Portage.....	Portage Tel. Co. ¹	965 63	1,029 03	.....	255 00
Prentice.....	Chippewa Valley Tel. Co.....	45 39	48 28	3 33	14 54
Rhinelanders...	Rhinelanders Mut. Tel. Co. ¹ ...	131 29	164 94	101 94	105 85
Sheboygan.....	Citizens Tel. Exch.....	2,166 02	2,333 04	572 81	937 08
Sheboygan Falls.	Citizens Tel. Exch.....	142 95	155 45	72 25	55 94
Sparta.....	Monroe Co. Tel. Co. ¹	246 29	753 46	207 96	211 28
Superior.....	Peoples Tel. Co.....	2,485 69	3,674 34	1,536 48	.....
Wausau.....	Wausau Tel. Co.....	1,052 92	1,381 02	868 45	544 20
	Total.....	\$30,850 47	\$41,045 01	\$7,797 41	\$3,656 51

¹Class B utility.

EXCHANGE SYSTEMS.
OPERATING SYSTEMS, 1912—Continued.

Terminal.				Commercial.			
Terminal.		Total maintenance.	Total sub-station expenses.	Collection expense.	Uncollectable accounts, reserve charge.	Promotion business expenses.	Total commercial.
Miscellaneous supplies and expenses, exchange.	Total operation.						
\$15 37	\$126 16	\$51 71	\$217 87	\$3 65		\$14 36	\$18 01
	118 30	192 73	311 03	461 43		15 00	476 43
				1,015 00			1,015 00
998 03	2,461 78	174 43	2,636 21	790 00		5 87	795 87
66 74	179 09	42 00	221 09	4 92		48 34	53 26
	36 90	29 53	66 43	13 85			13 85
	7 93	20 76	28 69	8 46			8 46
		1,019 76	1,019 76	347 55	\$371 60	63 00	782 15
				1,089 00		171 00	1,260 00
	6 70	2 23	8 93	3 44			3 44
	7 20	1,591 29	1,598 49	1,121 60	120 70	531 81	1,774 11
	2,049 64	2,715 14	4,764 78	2,172 29	46 80	713 10	2,932 19
2,800 13	4,092 63	879 11	4,971 74	1,513 10	485 83	1,540 71	3,539 64
	140 44	231 43	371 87	565 41	14 67	4 00	584 08
	22 88	22 32	139 60	272 59		32 51	305 10
	91 54	278 53	835 41	420 01	18 88	70 69	509 58
	22 67	40 65	173 89	5 98		15 10	21 08
		715 56	970 56	306 63			306 63
		39 90	57 77	12 98			12 98
	2 75	84 11	294 65	229 09			229 09
	1,509 89	1,723 89	3,233 78	2,363 55	58 68	11 04	2,433 27
	128 19	246 27	374 46	46 66	20 00	1 42	68 08
	419 24	930 99	1,350 23	350 00			350 00
	1,536 48	1,331 64	2,868 12	1,242 10		1,482 37	2,724 47
	533 64		1,946 29	1,395 63			1,395 63
\$4,643 75	\$16,097 67	\$12,363 98	\$28,461 65	\$15,754 92	\$1,137 16	\$4,720 32	\$21,612 40

CLASSES A AND B.
OPERATING EXPENSES, INDIVIDUAL

LOCATION.	NAME OF COMPANY.	Gen.			
		OPER			
		General office salaries.	General office rent.	Miscellaneous general office supplies and expenses.	Miscellaneous general expenses.
Albany	United Tel. Co. ¹	\$338 70	\$10 36	\$15 26	\$25 95
Antigo	Antigo Tel. Co. ¹	6,520 38			17 80
Appleton	Fox River Tel. & Teleg. Co.	1,134 79		73 40	
Ashland	Ashland Home Tel. Co. ¹	480 00		27 60	962 47
Blanchardville.	United Tel. Co. ¹	229 61	8 78	73 36	270 72
Bruce	Chippewa Valley Tel. Co.				
Cameron	Chippewa Valley Tel. Co.				
Chip. Falls	Chippewa County Tel. Co. ¹	431 21	86 49		76 24
Green Bay	Fox River Tel. & Teleg. Co.	1,409 02		79 10	
Ingram	Chippewa Valley Tel. Co.				
Janesville	Rock County Tel. Co.	700 00		174 27	
Kenosha	Kenosha Home Tel. Co.	894 24			85 86
La Crosse	La Crosse Tel. Co.	6,312 00		426 92	553 75
Ladysmith	Chippewa Valley Tel. Co.	107 76			2 50
Marshfield	Marshfield Tel. Exchange	1,265 00	240 00	134 04	40 00
Monroe	United Tel. Co. ¹	2,011 36	111 25	72 39	2145 39
Monticello	United Tel. Co. ¹	187 60	7 64	8 20	225 59
Portage	Portage Tel. Co. ¹	1,500 00			264 12
Prentice	Chippewa Valley Tel. Co.				
Rhineland	Rhineland Mut. Tel. Co. ¹	737 99	20 84	126 73	10 00
Sheboygan	Citizens Tel. Exchange	527 54		21 65	27 00
Sheb. Falls	Citizens Tel. Exchange	70 05		2 87	3 58
Sparta	Monroe County Tel. Co. ¹	500 00			
Superior	Peoples Tel. Co.	2,134 43		632 45	78 55
Wausau	Wausau Tel. Co.	1,400 00		288 84	1,550 15
	Total	\$28,891 68	\$485 36	\$2,157 08	\$3,939 67

¹ Class B utility.

EXCHANGE SYSTEMS.
OPERATING SYSTEMS, 1912—Continued.

eral.				Undistributed.					
ATION,				Injuries and damages.	Insur- ance.	Sta- tionery and printing.	Stores depart- ment ex- penses.	Utility equip- ment ex- penses.	Total undis- tributed.
Law ex- penses general.	Total opera- tion.	Mainte- nance general office bldgs., fixtures and grounds.	Total general ex- penses.						
	\$390 27	\$0 53	\$390 80		\$3 00	\$14 84	\$33 07	\$0 39	\$51 30
\$138 74	6,676 92	24 00	6,700 92		157 78	121 05		336 15	614 98
59 00	1,267 19		1,267 19	\$71 00	182 16	25 00			278 16
105 18	1,575 25		1,575 25		423 02	170 40		345 58	939 00
	382 47	9 48	391 95			13 37	41 64		55 65
						4 61			4 61
						85			85
21 09	614 94		614 94	4 70	15 24	84 28	63 62	232 08	399 92
72 29	1,560 41		1,560 41	73 00	290 00	27 00			390 00
						25			25
100 00	974 27		974 27	2 00	640 00	115 56	182 04	571 11	1,510 71
435 44	1,415 54		1,415 54		154 51	615 29			769 80
121 00	7,413 67		7,413 67	213 00	400 00	433 76	154 75	1,740 48	2,941 99
	110 26		110 26		24 10	56 21			80 31
113 56	1,792 60	44 35	1,836 95		234 11	18 00	180 00	19 01	451 12
1 25	2,341 64	11 13	2,352 77		45 63	98 18	133 36	91 32	368 49
	229 03	43	229 46		5 00	8 04	18 20	25	31 49
	1,764 12		1,764 12		214 53	134 85			349 38
					6 00	80			6 80
	895 56	1 50	897 06		67 05		36 70		103 75
	576 19		576 19	432 86	509 09	301 42			1,243 37
	76 50		76 50		28 00	28 01			56 01
	500 00		500 00			128 40			128 40
12 00	2,857 43	90 40	2,947 83		609 22			260 01	870 13
	3,238 99		3,238 99		573 88				573 88
\$1,179 46	\$36,653 25	\$181 82	\$36,835 07	\$796 56	\$4,582 32	\$2,400 17	\$843 38	\$3,597 92	\$12,220 35

² Includes Railroad Commission expenses.

CLASSES A. AND B.
OPERATING EXPENSES, INDIVIDUAL
Summary of

LOCATION.	NAME OF COMPANY.	Total central office.	Total wire plant.	Total substa- tion.
Albany.....	United Tel. Co ¹	1,853 31	\$167 51	\$217 87
Antigo.....	Antigo Tel. Co ¹	4,390 64	1,000 97	311 03
Appleton.....	Fox River T. & T. Co.....	7,733 88	6,441 98	.....
Ashland.....	Ashland Home Tel. Co ¹	4,992 64	3,644 12	2,636 21
Blanchardville...	United Tel. Co ¹	1,248 00	91 24	221 09
Bruce.....	Chippewa Val. Tel. Co.....	380 49	32 52	66 43
Cameron.....	Chippewa Val. Tel. Co.....	317 15	10 41	28 69
Chippewa Falls...	Chippewa Co. Tel. Co ¹	2,811 80	831 01	1,019 76
Green Bay.....	Fox River Tel. & Teleg. Co.....	7,366 50	6,447 89	.....
Ingram.....	Chippewa Val. Tel. Co.....	108 24	2 88	8 93
Janesville.....	Rock Co. Tel. Co.....	12,940 65	2,523 66	1,598 49
Kenosha.....	Kenosha Home Tel. Co.....	7,654 88	4,026 80	4,764 78
La Crosse.....	La Crosse Tel. Co.....	12,069 00	4,010 17	4,971 74
Ladysmith.....	Chippewa Val. Tel. Co.....	728 03	187 45	371 87
Marshfield.....	Marshfield Tel. Exch.....	3,426 07	1,229 79	139 60
Monroe.....	United Tel. Co ¹	3,598 26	755 34	835 41
Monticello.....	United Tel. Co ¹	720 15	101 71	173 89
Portage.....	Portage Tel. Co ¹	2,783 97	1,029 03	970 56
Prentice.....	Chippewa Val. Tel. Co.....	283 22	48 28	57 77
Rhinelanders.....	Rhinelanders Mut. Tel. Co ¹	881 88	164 94	294 65
Sheboygan.....	Citizens Tel. Exch.....	5,747 46	2,333 04	3,233 78
Sheboygan Falls..	Citizens Tel. Exch.....	943 05	155 45	374 46
Sparta.....	Monroe Co. Tel. Co ¹	2,170 21	753 46	1,350 23
Superior.....	Peoples Tel. Co.....	10,983 04	3,674 34	2,868 12
Wausau.....	Wausau Tel. Co.....	6,644 59	1,381 02	1,946 29
	Total.....	\$101,782 11	\$41,045 01	\$28,461 65

¹Class B utility.

EXCHANGE SYSTEMS.

OPERATING SYSTEMS, 1912—Concluded.

Operating Expenses.

Total commercial.	Total general.	Total undistributed.	Total of fore-going.	Depreciation.	Contingencies.	Taxes.	Total operating expenses.
\$18 01	\$390 80	\$51 30	\$1,698 80	\$416 29	\$81 13	\$86 98	\$2,283 20
476 43	6,700 92	614 98	13,494 97	675 11	.....	482 90	14,652 98
1,015 00	1,267 19	278 16	16,736 21	5,517 09	.....	841 48	23,094 78
795 87	1,575 25	939 00	14,583 09	.....	.....	461 28	15,044 37
53 26	391 95	55 65	2,061 19	309 42	62 64	82 06	2,515 31
13 85	.....	4 61	497 90	235 44	.....	29 08	762 42
8 46	.....	85	365 56	91 13	.....	6 95	463 64
782 15	614 94	399 92	6,459 58	2,000 00	.....	253 92	8,713 50
1,260 00	1,560 41	390 00	17,024 80	6,195 37	.....	666 81	23,886 98
3 44	.....	25	123 74	89 20	.....	4 57	217 51
1,774 11	974 27	1,510 71	21,321 89	.....	1,025 03	858 12	23,205 04
2,932 19	1,415 54	769 80	21,563 99	16,196 94	.....	1,352 16	39,107 09
3,539 64	7,413 67	2,941 99	34,946 21	13,362 36	.....	1,692 01	50,006 58
584 08	110 26	80 31	2,062 00	896 46	.....	125 18	3,083 64
305 10	1,836 95	451 12	7,388 63	2,205 67	.....	251 66	9,845 96
509 58	2,352 77	368 49	8,419 85	3,869 24	433 53	342 98	13,065 60
21 08	229 46	31 49	1,277 78	280 20	56 81	49 74	1,664 53
306 63	1,764 12	349 38	7,203 69	4,272 06	.....	376 54	11,852 29
12 98	.....	6 80	414 05	159 01	.....	14 48	587 54
229 09	897 06	103 75	2,571 37	840 80	.....	112 25	3,524 42
2,433 27	576 19	1,243 37	15,567 11	10,987 53	.....	1,159 65	27,714 29
68 08	76 50	56 01	1,673 55	428 68	.....	113 88	2,216 11
350 00	500 00	128 40	5,252 30	3,520 11	.....	302 77	9,075 18
2,724 47	2,947 83	870 13	24,067 93	7,528 00	861 77	1,128 86	33,586 56
1,395 63	3,238 99	573 88	15,180 40	11,304 07	.....	968 65	27,453 12
\$21,612 40	\$36,835 07	\$12,220 35	\$241,956 59	\$91,374 18	\$2,520 91	\$11,764 96	\$347,616 64

CLASS C. EX
OPERATING EXPENSES, INDIVIDUAL OPER

LOCATION.	NAME OF COMPANY.	Central Office		
		OPERATION.		
		Central office operating labor.	Central office supplies and expenses.	Total operation.
Arcadia.....	Western Wis. Tel. Co.....	\$636 00	\$199 68	\$835 68
Augusta.....	J. L. Ball Est. Tel. Co.....	845 35	93 76	939 11
Baldwin.....	Baldwin Tel. Co.....	1,548 44		1,548 44
Bangor.....	Bangor Tel. Co.....	1,622 69	186 09	1,808 78
Barron.....	Barron Co. Tel. Co.....	1,085 00	286 31	1,371 31
Birchwood.....	Barron Co. Tel. Co.....			
Black River Falls.....	Central Wis. Tel. Co.....	4,115 50	1,907 54	6,023 04
Blair.....	Western Wis. Tel. Co.....	240 00	91 27	331 27
Bloomer.....	Bloomer Tel. Co.....	1,225 59	30 08	1,255 67
Brodhead.....	Brodhead Tel. Co.....	1,986 92	215 73	2,202 65
Brooklyn.....	Brooklyn Tel. Co.....	1,137 76	249 80	1,387 56
Burlington.....	B. Brighton & Wheeland T. Co.....	665 20	27 32	692 52
Cashot.....	New Cashot Tel. Co.....	646 25	175 72	821 97
Centerville.....	Western Wis. Tel. Co.....	492 00	88 58	580 58
Chilton.....	Eastern Wis. Tel. Co.....	1,722 11	30 90	1,753 01
Clinton.....	Clinton Tel. Co.....	1,155 18	303 57	1,458 75
Clintonville.....	Marion & Northern Tel. Co.....	615 00	349 20	964 20
Cross Plains.....	Farmers Union Tel. Co.....	883 33	296 70	1,180 03
De Pere.....	Fox. Riv. Val. Tel. & Teleg. Co.....	1,395 00	757 98	2,152 98
Dodgeville.....	New Union Tel. Co.....	1,309 52	444 68	1,754 20
Edgerton.....	Edgerton Tel. Co.....	1,523 10	319 21	1,842 31
Elkhorn.....	State Long Distance Tel. Co.....	1,791 79	299 14	2,090 93
Elkworth.....	Pierce Co. Tel. Co.....	990 00	273 63	1,263 63
Elroy.....	Elroy Tel. Co.....	963 25	275 71	1,239 96
Etrick.....	Western Wis. Tel. Co.....	360 00	110 53	470 53
Evansville.....	Evansville Tel. Co. ¹			
Fountain City.....	Fountain City Tel. Co.....	795 00	175 60	970 60
Galesville.....	Western Wis. Tel. Co.....	975 00	153 52	1,128 52
Glenwood.....	West Wis. Tel. Co.....	1,617 58	684 49	2,302 07
Grand Rapids.....	Wood Co. Tel. Co.....	3,091 63	1,178 54	4,270 17
Granton.....	Badger St. Tel. & Teleg. Co.....	526 91	96 02	622 93
Hillsboro.....	Hillsboro Tel. Co.....	587 50	32 59	620 09
Independence.....	Western Wis. Tel. Co.....	497 10	91 51	588 61
La Crosse.....	La Crosse Interurban Tel. Co.....	180 00	35 32	215 32
Lake Mills.....	Interurban Tel. Co.....	810 75	137 74	948 49
Lodi.....	Lodi Tel. Exchange.....	479 90	154 29	634 19
Mapleton.....	Badger Tel. Co.....	658 00	105 62	763 62
Marion.....	M. and Northern Tel. Co.....	480 00	144 43	624 43
Mauston.....	Mauston El. Service Co.....	738 03	1,315 10	2,053 13
Menomonee Falls.....	Menomonee Falls Tel. Co.....	601 18	9 64	610 82
Milton.....	Milton and Milton Jct. Tel. Co.....	1,775 13	355 85	2,130 98
Mineral Point.....	Mineral Point Tel. Co.....	1,379 53	745 94	2,125 47
Mt. Hope.....	Peoples Tel. Co.....	1,406 79	189 15	1,595 94
Mt. Horeb.....	Mt. Horeb Ind. Tel. Co.....	610 46	214 90	825 36
Mt. Vernon.....	Mt. Vernon Tel. Co.....	1,040 00	274 00	1,314 00
Nellsville.....	Badger St. Tel. & Teleg. Co.....	1,005 16	421 57	1,426 73
New Richmond.....	St. Croix Tel. Co.....	1,911 33	611 78	2,523 11
Oakfield.....	Oakfield Tel. Co.....	722 40		722 40
Oostburg.....	Oostburg Tel. Co.....	533 25	188 55	721 80
Oregon.....	Oregon Tel. Co. ²	302 00	299 60	601 60

¹ Sold to Wis. Tel. Co.—No report received.

CHANGE SYSTEMS.
 AILING SYSTEMS. YEAR ENDING JUNE 30, 1912.

(Traffic).		Wire Plant (Transmission).			Substation (Terminal)		
Maintenance central office buildings, fixtures and grounds.	Total central office expenses.	Operation of wire plant.	Maintenance of wire plant.	Total wire plant expenses.	Operation of substation equipment.	Maintenance of substation equipment.	Total substation expenses.
\$47 23	\$882 91		\$36 85	\$36 85	\$310 96	\$674 88	\$985 84
152 94	1,092 05	\$280 0	274 58	554 58	550 37	254 45	804 82
	1,548 44		362 20	362 20		195 20	195 20
	1,808 78		830 39	839 39	518 02	124 05	637 07
	1,371 31				652 76	477 15	1,129 91
					108 93		108 93
	6,023 04						
24 82	356 09		6 73	6 73	11 81	47 93	59 74
100 00	1,355 67	205 82	237 43	443 25	180 30	508 30	688 60
63 43	2,266 08	388 64	373 64	762 28	515 58	196 16	711 74
76 29	1,463 85	139 40	60 14	199 54	371 32	33 98	405 30
2 23	694 75	5 40	728 14	733 54	271 75	6 86	278 61
	821 97	1 75	161 05	162 80	118 44	536 00	654 44
19 18	599 76	2 50	8 84	11 34	62 70	289 94	352 64
26 01	1,779 02	217 29		217 29	459 82	1 65	461 47
8 54	1,467 29	180 00	479 48	659 48	825 93	249 89	1,075 82
12 00	976 20	31 22	9 21	40 43	24 12	8 60	32 72
	1,180 03	790 09	845 15	1,635 24		55 32	55 32
	2,152 98	2,567 46		2,567 46			
117 86	1,872 06	219 10	1,236 61	1,435 71	642 63	346 64	939 27
42 52	1,884 83	143 00	604 42	747 42	279 04	106 82	385 86
	2,090 93	1,140 34	128 99	1,269 33	376 47	318 57	695 04
40 89	1,304 52		80	80	574 59	320 80	1,395 39
	1,239 96	510 04	871 16	1,381 20	403 61	201 24	604 85
13 26	483 79	2 00	1 00	3 00	33 51	114 13	147 64
30 00	1,000 60		2,190 00	2,190 00			
40 98	1,169 50	2 50	19 47	21 97	146 20	675 45	821 65
39 14	2,341 21		18 35	18 35		24 91	24 91
2,191 91	6,462 08	616 34	3,877 14	4,493 48	2,005 78	332 42	2,338 20
20 22	643 15	38 93	306 10	345 03	90 52	28 84	119 36
155 43	775 52		731 99	731 99	84 00	327 83	411 83
14 52	603 13		67	67	35 84	227 08	262 92
	215 32	47 16		47 16	2 41		2 41
363 54	1,312 03		537 75	537 75	8 00	303 39	311 39
14 91	649 10		436 31	436 31	163 00	250 97	413 97
193 89	957 51	169 10	326 10	495 20	387 34	73 12	460 46
36 76	661 19	18 72	25 71	44 43	25 21	4 60	29 81
101 22	2,154 35	1,960 07	665 34	2,625 41			
	610 82	138 45	535 90	674 35	426 83	203 20	630 03
65 10	2,196 08	534 31	1,259 26	1,793 57	516 25	166 19	682 44
196 23	2,321 70		512 16	512 16	183 92	238 81	422 73
	1,595 94	1,467 56	3,019 98	4,487 54			
41 34	866 70	65 00	990 66	1,055 66	260 57	58 27	318 84
175 83	1,489 83	538 95	157 34	696 29	277 35	789 42	1,066 78
354 90	1,781 63	192 02	871 04	1,063 06	513 77	331 50	845 27
23 20	2,546 31	886 88	19 10	905 98	539 70	89 40	629 10
154 70	877 10		1,489 35	1,489 35			
40 76	762 56	25 30	202 90	228 20	40 48	79 81	120 29
43 57	645 17		167 64	167 64		265 66	265 66

*Covers only seven months.

CLASS C. EX.
OPERATING EXPENSES. INDIVIDUAL.

LOCATION.	NAME OF COMPANY.	Com- mercial.	Gen.		
			OPER.		
			Total com- mercial ex- penses.	General office salaries.	Miscel- laneous general ex- penses.	Law ex- penses— general.
Arcadia.....	Western Wisconsin Tel. Co.	\$62 98	\$360 00	\$102 65	.....
Augusta.....	J. L. Ball Estate Tel. Co.	101 95	900 00	146 74	.....
Baldwin.....	Baldwin Tel. Co.	.....	400 00	264 08	.....
Bangor.....	Bangor Tel. Co.	.....	590 00	149 05	.....
Barron.....	Barron County Tel. Co.	.....	780 00	92 76	.....
Birchwood.....	Barron County Tel. Co.	.....	.....	.....	.....
Black River Falls	Central Wisconsin Tel. Co.	.....	800 00	188 40	.....
Blair.....	Western Wisconsin Tel. Co.	9 50	24 00	8 79	.....
Bloomer.....	Bloomer Tel. Co.	.....	258 00	203 99	.....
Brodhead.....	Brodhead Tel. Co.	344 47	200 00	1 25	\$79 05.
Brooklyn.....	Brooklyn Tel. Co.	90 97	120 00	21 08	.....
Black River Falls	B. Brighton & Wheatl'd T. Co.	16 74	250 00	65 23	.....
Cashton.....	New Cashton Tel. Co.	.....	360 00	58 89	.....
Centerville.....	Western Wisconsin Tel. Co.	157 65	120 00	26 53	.....
Chilton.....	Eastern Wisconsin Tel. Co.	.....	.....	.....	.....
Clinton.....	Clinton Tel. Co.	218 80	180 00	801 87	22 19 ¹
Clintonville.....	Marion & Northern Tel. Co.	.....	822 60	.....	.....
Cross Plains.....	Farmers Union Tel. Co.	.....	140 50	.....	26 01
De Pere.....	Fox R. Val. Tel. & Teleg. Co.	.....	229 21	36 70	15 54
Dodgeville.....	New Union Tel. Co.	103 70	256 14	109 60	.....
Edgerton.....	Edgerton Tel. Co.	603 00	553 00	56 00	.....
Elkhorn.....	State Long Distance Tel. Co.	82 50	225 00	533 75	177 43
Ellsworth.....	Pierce County Tel. Co.	51 17	652 50	31 26	31 95
Eroy.....	Eroy Tel. Co.	70 00	360 00	30 00	25 00
Ettrick.....	Western Wisconsin Tel. Co.	14 19	120 00	34 58	.....
Evansville.....	Evansville Tel. Co. ¹	.....	.....	.....	.....
Fountain City.....	Fountain City Tel. Co.	.....	.....	.....	.....
Galesville.....	Western Wis. Tel. Co.	41 69	168 00	93 41	.....
Glenwood.....	West Wis. Tel. Co.	583 38	718 00	73 97	.....
Grand Rapids.....	Wood County Tel. Co.	608 58	1,560 00	553 17	.....
Granton.....	Badger State Tel. & T. Co.	85 00	292 50	79 37	.....
Hillsboro.....	Hillsboro Tel. Co.	.....	794 70	10 00	.....
Independence.....	Western Wis. Tel. Co.	6 06	120 00	26 43	.....
La Crosse.....	La Crosse Interurban T. Co.	75	78 46	12 57	.....
Lake Mills.....	Interurban Tel. Co.	99 07	400 00	92 62	21 67
Lodi.....	Lodi Tel. Exchange.....	103 58	1,000 00	.....	.....
Mapleton.....	Badger Tel. Co.	430 00	90 00	79 64	.....
Marion.....	Marion & Northern Tel. Co.	.....	578 95	.....	.....
Mauston.....	Mauston Electric Service Co.	.....	446 50	151 77	.....
Menomonee Falls	Menomonee Falls Tel. Co.	215 25	600 00	142 34	27 48.
Milton.....	M. & Milton Jct. Tel. Co.	652 55	.....	.....	.....
Mineral Point.....	Mineral Point Tel. Co.	.....	.....	1,363 80	.....
Mt. Hope.....	Peoples Tel. Co.	.....	460 58	516 30	.....
Mt. Horeb.....	Mt. Horeb Ind. Tel. Co.	60 00	163 00	.....	.....
Mt. Vernon.....	Mt. Vernon Tel. Co.	217 10	.....	199 06	.....
Neillsville.....	Badger St. Tel. & Teleg. Co.	251 49	585 00	158 75	.....
New Richmond.....	St. Croix Tel. Co.	.....	591 25	96 90	.....
Oakfield.....	Oakfield Tel. Co.	.....	185 00	.....	.....
Oostburg.....	Oostburg Tel. Co.	.....	540 00	6 58	.....
Oregon.....	Oregon Tel. Co. ²	.....	.....	.....	.....

¹ Sold to Wis. Tel. Co.—No report received.

CHANGE SYSTEMS.
OPERATING SYSTEMS, 1912—Continued.

eral.			Undistributed.						
Railroad Commission expenses.	Total operation.	Maintenance general office equipment build'gs fixtures and grounds.	Total general expenses.	Injuries and damages.	Insurance.	Stationery and printing.	Stores department expenses.	Utility equipment expenses.	Total undistributed.
	\$462 65	\$2 27	\$464 92	\$10 00	\$3 00				\$13 00
	1,046 74		1,046 74		36 80	\$17 00	\$23 00	\$218 13	294 93
	664 08		664 08		133 93				133 93
	739 05		739 05			44 00			44 00
	872 76		872 76		89 37				89 37
	988 40	126 00	1,114 40		127 04	38 88	622 05	284 73	1,072 70
	32 79		32 79		14 40	20			14 60
	461 99		461 99			72 86		313 15	386 01
\$12 40	292 70		292 70		38 23	22 53	29 18	11 27	101 21
	141 08		141 08						
	315 23		315 23		13 00	18 58			31 58
	418 89		418 89		8 00	36 15			44 15
	146 53		146 53			1 00			1 00
	1,004 06		1,004 06		24 60		39 96		64 56
	822 60	83 12	905 72						
	166 51		166 51			25 40			25 40
	281 45		281 45	22 00	85 12	102 00			209 12
7 90	373 64		373 64	285 00	22 50			228 18	535 68
	609 00		609 00		28 20	9 00		14 50	51 70
	936 18		936 18		83 65			9 55	93 20
	715 71		715 71		6 30		94 60		100 90
	415 00	10 00	425 00	325 00	44 00	26 36	26 44		421 80
	154 58		154 58			1 00			1 00
						10 50			10 50
	261 41		261 41			1 40			1 40
	791 97		791 97		12 00			391 60	403 60
12 00	2,125 17		2,125 17	1 50	31 80	138 55	42 45		214 30
	371 87		371 87			16 45	33 63	35 23	85 31
	804 70	3 00	807 70			71 97	37 44	69 56	178 97
	146 43		146 43			1 00			1 00
	91 03		91 03						
	514 29	3 64	517 93		8 00		56 00	897 25	961 25
	1,000 00		1,000 00					242 39	242 39
	169 64		169 64		29 25	100 00		292 66	421 91
	578 95		578 95						
	598 27	490 48	1,088 75		97 13	81 97			179 10
	769 82		769 82					3 95	3 95
				164 65			24 00		188 65
	1,363 80		1,363 80		187 37			163 90	351 27
	976 88		976 88						
	163 00		163 00	16 20				123 62	139 82
	199 06		199 06						
	743 75		743 75	6 00		59 98	67 27	70 00	203 25
	688 15		688 15		80 50	31 75			112 25
	185 00		185 00			107 60			107 60
	81 16		81 16	6 00		18 97		10 00	28 97
	627 74		627 74			28 50			34 50

² Covers only seven months.

CLASS C.
OPERATING EXPENSES, INDIVIDUAL
Summary of

LOCATION.	NAME OF COMPANY.	Total central office.	Total wire plant.	Total substation.	Total commercial.
Arcadia.....	Western Wis. Tel. Co.....	\$882 91	\$36 85	\$985 84	\$62 98
Augusta.....	J. L. Ball Est. Tel. Co.....	1,092 05	554 58	804 82	101 95
Baldwin.....	Baldwin Tel. Co.....	1,548 44	362 20	195 20	.....
Bangor.....	Bangor Tel. Co.....	1,808 78	830 39	637 07	.....
Barron.....	Barron Co. Tel. Co.....	1,371 31	.....	1,129 91	.....
Birchwood.....	Barron Co. Tel. Co.....	.....	.....	108 93	.....
Blk. River Falls.....	Central Wis. Tel. Co.....	6,023 04	.....	.....	.....
Blair.....	Western Wis. Tel. Co.....	356 09	6 73	59 74	9 50
Bloomer.....	Bloomer Tel. Co.....	1,355 67	443 25	688 60	.....
Brodhead.....	Brodhead Tel. Co.....	2,266 08	762 28	711 74	344 47
Brooklyn.....	Brooklyn Tel. Co.....	1,463 85	199 54	405 30	90 97
Burlington.....	B. Brighton & W. T. Co.....	694 75	733 54	278 61	16 74
Cashton.....	New Cashton Tel. Co.....	821 97	162 80	654 44	.....
Centerville.....	Western Wis. Tel. Co.....	599 76	11 34	352 64	157 65
Chilton.....	Eastern Wis. Tel. Co.....	1,779 02	217 29	461 47	.....
Clinton.....	Clinton Tel. Co.....	1,467 29	659 48	1,075 82	218 80
Clintonville.....	Marion & Nor. Tel. Co.....	976 20	40 43	32 72	.....
Cross Plains.....	Farmers Union Tel. Co.....	1,180 03	1,635 24	55 32	.....
De Pere.....	Fox R. Val. Tel. & T. Co.....	2,152 98	2,567 46	.....	.....
Dodgeville.....	New Union Tel. Co.....	1,872 06	1,455 71	989 27	103 70
Edgerton.....	Edgerton Tel. Co.....	1,884 83	747 42	385 86	603 00
Elkhorn.....	St. Long Distance Tel. Co.....	2,090 93	1,269 33	695 04	82 50
Ellsworth.....	Pierce Co. Tel. Co.....	1,304 52	80	1,395 39	51 17
Elroy.....	Elroy Tel. Co.....	1,239 96	1,381 20	604 85	70 00
Ettrick.....	Western Wis. Tel. Co.....	483 79	3 00	147 64	14 19
Evansville.....	Evansville Tel. Co. ¹.....	.....	.....	.....	.....
Fountain City.....	Fountain City Tel. Co.....	1,000 60	2,190 00	.....	.....
Galesville.....	Western Wis. Tel. Co.....	1,169 50	21 97	821 65	41 69
Glenwood.....	West Wis. Tel. Co.....	2,341 21	18 35	24 91	583 38
Grand Rapids.....	Wood Co. Tel. Co.....	6,462 08	4,493 48	2,338 20	608 58
Granton.....	Bad. State Tel. & Tel. Co.....	643 15	345 03	119 36	85 00
Hillsboro.....	Hillsboro Tel. Co.....	775 52	731 99	411 83	.....
Independence.....	Western Wis. Tel. Co.....	603 13	67	262 92	6 06
La Crosse.....	La Crosse Inter. Tel. Co.....	215 32	47 16	2 41	75
Lake Mills.....	Interurban Tel. Co.....	1,312 03	537 75	311 39	99 07
Lodi.....	Lodi Tel. Exch.....	649 10	436 31	413 97	103 58
Mapleton.....	Badger Tel. Co.....	957 51	495 20	460 46	430 00
Marion.....	M. & Northern Tel. Co.....	661 19	44 43	29 81	.....
Mauston.....	Mauston Elec. Service Co.....	2,154 35	2,625 41	.....	.....
Menomonee Falls.....	Menomonee Valley Tel. Co.....	808 67	674 35	630 03	215 25
Milton.....	M. & Milton Jct. Tel. Co.....	2,196 08	1,793 57	682 44	652 55
Mineral Point.....	Mineral Pt. Tel. Co.....	2,321 70	512 16	422 73	.....
Mt. Hope.....	Peoples Tel. Co.....	1,595 94	4,487 54	.....	.....
Mt. Horeb.....	Mt. Horeb Ind. Tel. Co.....	866 70	1,055 66	318 84	60 00
Mt. Vernon.....	Mt. Vernon Tel. Co.....	1,489 83	696 29	1,066 78	217 10
Neillsville.....	Badger St. Tel. & Teg. Co.....	1,781 63	1,063 06	845 27	251 49
New Richmond.....	St. Croix Tel. Co.....	2,546 31	905 98	629 10	.....
Oakfield.....	Oakfield Tel. Co.....	877 10	1,489 85	.....	.....
Oestburg.....	Oestburg Tel. Co.....	762 56	228 20	120 29	.....
Oregon.....	Oregon Tel. Co. ²	645 17	167 64	265 66	.....

¹ Sold to Wis. Tel. Co—No report received.

EXCHANGE SYSTEMS.

OPERATING SYSTEMS, 1912—Continued.

Operating Expenses.

Total general.	Total undistributed.	Total of foregoing.	Depreciation.	Contingencies extraordinary.	Taxes.	Total operating expenses.
\$464 92	\$13 00	\$2,446 50			\$213 48	\$2,659 98
1,046 74	294 93	3,895 07	\$291 21		136 62	4,322 90
664 08	133 93	2,903 85			185 94	3,089 79
739 05	44 00	4,059 29	1,680 00		217 09	5,956 38
872 76	89 37	3,463 35	991 07		95 81	4,550 23
		108 93	1 03		4 11	114 07
1,114 40	1,072 70	8,210 14	4,446 17		529 22	13,185 53
32 79	14 60	479 45			14 51	493 96
461 99	386 01	3,335 52	1,674 08	\$280 02	177 22	5,466 84
292 70	101 21	4,478 48			197 76	4,676 24
		2,300 74	650 00		85 22	3,035 96
141 08		2,070 45	600 00		105 03	2,775 48
315 23	31 58	2,102 25	1,200 00		141 80	3,444 05
418 89	44 15	1,268 92			60 87	1,329 79
146 53	1 00	2,457 78	1,382 12		123 95	3,963 85
		4,490 01	1,083 36		151 01	5,724 38
1,004 06	64 56	1,955 07	1,050 42		75 14	3,080 63
905 72		3,062 50			86 68	3,149 18
166 51	25 40	5,211 01	1,150 75		121 08	6,482 84
281 45	209 12	5,330 06			178 49	5,508 55
373 64	535 68					
		4,281 81	1,312 82		225 14	5,819 77
609 00	51 70	5,167 18			188 04	5,355 22
936 18	93 20	3,568 49			160 81	3,729 30
715 71	100 90	4,142 81			129 06	4,271 87
425 00	421 80	804 20			33 05	837 25
154 58	1 00					
		3,201 10			94 36	3,295 46
	10 50	2,317 62			143 21	2,460 83
261 41	1 40	4,163 42			148 97	4,312 39
791 97	403 60	16,241 81			414 87	16,656 68
2,125 17	214 30					
		1,649 72	300 00		50 15	1,999 87
371 87	85 31	2,906 01			124 14	3,030 15
807 70	178 97	1,020 21			32 17	1,052 38
146 43	1 00	356 67			34 29	390 96
91 03		3,739 42			176 48	3,915 90
517 93	961 25					
		2,845 35			99 29	2,944 64
1,000 00	242 39	2,934 72	1,147 12		130 40	4,212 24
169 64	421 91	1,314 38	162 40	692 33	40 49	2,209 60
578 95		6,047 61	1,870 98		131 81	8,049 90
1,088 75	179 10	3,102 07	1,000 00		139 58	4,241 65
769 82	3 95					
		5,513 29	727 93		225 54	6,466 76
	188 65	4,971 66			196 10	5,167 76
1,363 80	351 27	7,080 36			21 79	7,082 15
976 88		2,604 02			139 81	2,743 83
163 00	139 82	3,669 06			183 09	3,852 15
199 06						
		4,888 45	1,500 00		181 11	6,569 56
743 75	203 25	4,881 79	1,297 20		181 64	6,360 63
688 15	112 25	2,659 05	997 05		128 02	3,784 12
185 00	107 60	1,767 76	557 68		52 99	2,378 43
627 74	28 97	1,112 97				1,112 97
	34 50					

² Covers only seven months.

CLASS C. EX
OPERATING EXPENSES, INDIVIDUAL OPER

LOCATION.	NAME OF COMPANY.	Central Office		
		OPERATION.		
		Central office operat- ing labor.	Central office supplies and expenses.	Total operation.
Osseo.....	Osseo Tel. Co.....	\$1,250 65	\$495 02	\$1,745 67
Park Falls.....	Glidden Tel. Co.....	560 00	84 14	644 14
Plymouth.....	Plymouth Tel. Exch.....	1,384 72	415 22	1,799 94
Poynette.....	Poynette Tel. Co.....	445 17	517 23	962 40
Prairie du Sac....	Troy & Honey Creek Tel. Co....	1,257 93	472 36	1,730 29
Prairie Farm.....	P. F. Ridgeland & Dallas T. Co.	1,695 00	259 05	1,954 05
Reedsburg.....	Reedsburg Tel. Co.....	1,037 18	241 12	1,278 30
Retreat.....	La Crosse Interurban Tel. Co....	420 00	6 15	426 15
Rice Lake.....	Barron Co. Tel. Co.....	2,040 00	315 26	2,355 26
Richland Center..	Badger Tel. Co.....	180 20	.....	180 20
Richland Center..	Farmers Tel. Exch.....	3,200 95	620 22	3,821 17
Ripon.....	Ripon Tel. Co.....	2,925 10	133 07	3,058 17
River Falls.....	Pierce Co. Tel. Co.....	1,187 96	123 82	1,311 78
Roberts.....	Pierce Co. Tel. Co.....	503 13	125 49	628 62
Rochester.....	Burlington-R. & Kanv. Tel. Co.	940 80	41 14	981 94
Spring Valley....	Pierce Co. Tel. Co.....	540 00	35 82	575 82
St. Croix Falls....	St. Croix Valley Tel. Exch.....	1,162 87	149 21	1,312 08
Sun Prairie.....	Interurban Tel. Co.....	815 00	12 36	827 36
Tomah.....	Tomah Elec. & Tel. Co.....	1,327 75	109 52	1,437 27
Tomahawk.....	T. Lt. Tel. & Impr. Co.....	1,049 73	435 15	1,484 88
Trempealeau.....	Western Wis. Tel. Co.....	366 00	105 50	471 50
Two Rivers.....	Two Rivers Tel. Co.....	1,680 00	200 00	1,880 00
Viola.....	La Crosse Int. Tel. Co.....	420 00	6 15	426 15
Viroqua.....	Viroqua Tel. Co.....	873 50	341 79	1,215 29
Waiworth.....	Waiworth Tel. Exch. Co.....	739 95	82 33	822 28
Washburn.....	Bayfield Co. Tel. Co.....	1,066 00	236 37	1,302 37
Waterloo.....	Interurban Tel. Co.....	932 57	22 01	954 58
Watertown.....	Watertown Tel. Co.....	1,148 44	.....	1,148 44
Waupaca.....	Fox R. Val. Tel. & Teleg. Co....	2,783 00	1,194 64	3,977 64
Westby.....	Westby Tel. Co.....	804 50	120 00	924 50
Westfield.....	Westfield Farmers Tel. Co.....	1,073 31	100 00	1,173 31
West Salem.....	La Crosse Int. Tel. Co.....	989 00	219 23	1,208 23
Whitehall.....	Western Wis. Tel. Co.....	315 96	98 44	414 40
	Total.....	\$88,795 98	\$21,947 69	\$110,743 67

CHANGE SYSTEMS.

ATING SYSTEMS. 1912—Continued.

<i>(Traffic).</i>		<i>Wire Plant (Transmission).</i>			<i>Substation (Terminal).</i>		
Maintenance central office equipment, buildings, fixtures and grounds.	Total central office expenses.	Operation of wire plant.	Maintenance of wire plant.	Total wire plant expenses.	Operation of substation equipment.	Maintenance of substation equipment.	Total substation expenses.
.....	\$1,745 67	.....	.....	.....	.....	.....	.....
\$52 94	697 08	\$112 70	\$63 09	\$175 79	\$207 85	\$67 71	\$275 56
.....	1,799 94	1,120 79	.....	1,120 79	560 39	.....	560 39
296 58	1,258 98	370 48	221 37	591 85	196 86	238 45	435 31
.....	1,730 29	202 03	2,287 17	2,489 20	33 78	200 00	233 78
.....	1,954 05	.....	286 88	286 88	.....	479 20	479 20
419 59	1,697 89	3 30	284 19	287 49	359 63	316 60	676 23
2 55	428 70	.....	.....	.....	30	.....	30
.....	2,355 26	.....	.....	.....	1,228 19	346 67	1,574 86
40	180 60	.....	.....	.....	.....	.....	.....
.....	3,935 51	.....	215 85	215 35	.....	172 46	172 46
114 34	3,400 82	119 91	138 21	258 12	328 78	79 06	407 84
342 65	1,355 38	18 45	4 92	23 37	617 82	1,090 53	1,708 35
43 60	640 98	.....	39 86	39 86	111 37	99 13	210 50
12 36	1,056 65	.....	850 16	850 16	820 52	8 38	828 90
74 71	.....	.....	.....	.....	.....	.....	.....
.....	603 70	.....	.....	.....	21 25	54 01	75 26
27 88	1,312 08	570 14	.....	570 14	668 55	.....	668 55
.....	1,385 60	.....	599 14	599 14	.....	353 27	353 27
558 24	1,437 27	.....	1,500 00	1,500 00	.....	497 52	497 52
.....	1,665 79	76 37	460 43	536 80	.....	.....	.....
180 91	.....	.....	.....	.....	.....	.....	.....
.....	495 63	2 00	3 50	5 50	46 56	151 31	197 87
24 13	2,080 00	.....	.....	.....	.....	.....	.....
200 00	428 70	.....	.....	.....	30	.....	30
2 55	1,454 44	534 02	526 03	1,060 05	55 69	118 36	174 05
239 15	1,160 45	98 85	343 77	442 62	212 70	383 55	596 25
338 17	.....	.....	.....	.....	.....	.....	.....
.....	1,344 26	696 85	201 74	898 59	533 09	48 65	581 74
41 89	1,367 93	.....	936 78	936 78	25 00	368 69	393 69
413 35	1,148 44	.....	1,361 26	1,361 26	.....	112 02	112 02
.....	3,977 64	1,848 13	.....	1,848 13	.....	.....	.....
.....	1,139 67	83 40	89 62	173 02	389 04	246 29	635 33
215 17	.....	.....	.....	.....	.....	.....	.....
.....	1,269 61	.....	.....	.....	.....	.....	.....
96 30	1,215 03	393 42	5 30	398 72	277 19	30	277 49
6 80	433 35	.....	3 40	3 40	44 92	224 80	269 72
18 95	.....	.....	.....	.....	.....	.....	.....
\$8,768 56	\$119,512 23	\$19,776 18	\$36,039 24	\$55,815 42	\$19,734 61	\$15,696 40	\$35,431 01

CLASS C. EX
OPERATING EXPENSES, INDIVIDUAL OPERAT

LOCATION.	NAME OF COMPANY.	<i>Gen</i>			
		OPERA			
		<i>Com- mercial.</i>	General office salaries.	Miscel- laneous general exp'nses.	Law expenses general.
Total com- mercial exp'nses.					
Osseo.....	Osseo Tel. Co.....	\$470 25	\$243 00	\$2,402 23	
Park Falls.....	Glidden Tel. Co.....	60 00	300 00	651 40	
Plymouth.....	Plymouth Tel. Exch.....		90 00	986 49	
Poynette.....	Poynette Tel. Co.....	42 95		17 93	
Prairie du Sac.....	Troy & Honey Creek Tel. Co.....	106 86	937 00		\$117 80
Prairie Farm.....	P. F. Ridgel. & Dal. T. Co.....		387 10	294 87	
Reedsburg.....	Reedsburg Tel. Co.....	109 45	380 00	57 96	
Retreat.....	La Crosse Interurban T. Co.....	80			
Rice Lake.....	Barron Co. Tel. Co.....		780 00	143 20	
Richland Ctr.....	Badger Tel. Co.....				
Richland Ctr.....	Farmers Tel. Exch.....		15 69		
Ripon.....	Ripon Tel. Co.....	93 54	533 00	505 38	
River Falls.....	Pierce Co. Tel. Co.....	233 98	1,325 81	143 51	53 25
Roberts.....	Pierce Co. Tel. Co.....	20 62	217 50	7 18	10 65
Rochester.....	Burl. R. & K. Tel. Co.....	14 70	300 00	121 30	
Spring Valley.....	Pierce Co. Tel. Co.....	44 55	217 50	7 19	10 65
St. Croix Falls.....	St. Croix Val. Tel. Exch.....	31 55	640 00		
Sun Prairie.....	Interurban Tel. Co.....	77 37	400 00	92 61	21 66
Tomah.....	Tomah Elec. & Tel. Co.....	101 88	690 00	1,086 77	6 00
Tomahawk.....	T. Lt. Tel. & Impr. Co.....	64 72	318 82	71 02	
Trempealeau.....	Western Wis. Tel. Co.....	58 81	120 00	27 02	
Two Rivers.....	Two Rivers Tel. Co.....			1,380 00	200 00
Viola.....	La Crosse Int. Tel. Co.....	368 26	313 85	50 29	
Viroqua.....	Viroqua Tel. Co.....	342 47	322 05	99 10	
Walworth.....	Walworth Tel. Exch. Co.....	285 38	125 00	65 48	100 00
Washburn.....	Bayfield Co. Tel. Co.....	197 50	200 00	16 67	
Waterloo.....	Interurban Tel. Co.....	55 08	400 00	92 62	21 67
Watertown.....	Watertown Tel. Co.....			156 13	
Waupaca.....	Fox R. V. Tel. & Teleg. Co.....		286 53	40 09	15 54
Westby.....	Westby Tel. Co.....	285 50	248 67	161 14	
Westfield.....	Westfield Farmers Tel. Co.....	3 75	97 00		
West Salem.....	La Crosse Int. Tel. Co.....	35 68	313 84	50 29	
Whitehall.....	Western Wis. Tel. Co.....	21 50	120 00	26 18	
	Total.....	\$8,409 27	\$28,195 25	\$15,373 93	\$983 54

CHANGE SYSTEMS.

ING SYSTEMS, 1912.—Continued.

eral.			Undistributed.						
TION.		Maintenance, general office equip- ment, build'gs, fixtures and grounds.	Total general expenses	Injuries and damag- es.	Insur- ance.	Station- ery and print- ing.	Stores department exp'nses.	Utility equip- ment expenses	Total undis- tributed.
Railroad commission ex- penses.	Total opera- tion.								
.....	\$2,645 23	.....	\$2,645 23	.....	\$18 00	\$12 87	.....	.....	\$30 87
.....	951 40	.....	951 40	.....	.....	22 25	.....	.....	22 25
.....	1,076 49	.....	1,076 49	\$150 25	189 67	29 70	\$620 82	.....	990 24
.....	17 93	.....	17 93	.....	.....	14 16	\$107 85	\$172 50	294 51
\$2 85	1,057 65	.....	1,057 65	85 00	.....	.....	.....	415 49	500 49
.....	681 97	.....	681 97	.....	16 25	.....	.....	.....	16 25
.....	237 96	.....	237 96	.....	23 40	35 00	.....	501 99	560 39
.....	923 20	.....	923 20	.....	78 38	.....	.....	.....	78 38
.....	.....	.....	.....	.....	.....	9 00	.....	103 70	112 70
172 67	188 36	.....	188 36	.....	.....	.....	.....	.....	.....
.....	1,038 38	.....	1,038 38	.....	30 95	66 66	1 05	6 60	105 26
.....	1,522 57	.....	1,522 57	.....	7 57	.....	60 33	.....	67 90
.....	235 33	.....	235 33	.....	5 25	.....	.....	.....	5 25
.....	421 30	.....	421 30	.....	.....	16 23	.....	.....	16 23
.....	235 34	.....	235 34	.....	18 00	.....	.....	.....	18 00
.....	640 00	.....	640 00	30 00	88 64	123 76	.....	277 61	520 01
.....	514 27	\$3 65	517 92	.....	9 25	.....	18 00	1,720 92	1,748 17
45 65	1,828 42	.....	1,828 42	.....	111 09	.....	.....	17 10	128 19
.....	389 84	.....	389 84	.....	63 31	151 42	20 76	.....	235 49
.....	147 02	.....	147 02	.....	.....	7 00	.....	.....	7 00
.....	1,580 00	200 00	1,780 00	15 80	.....	200 00	.....	.....	215 80
.....	364 14	.....	364 14	50 00	.....	.....	.....	369 80	419 80
.....	421 15	53 39	474 54	.....	.....	.....	13 72	214 39	228 11
.....	290 48	20 00	310 48	.....	17 55	50 55	40 00	20 77	128 87
.....	216 67	.....	216 67	.....	12 50	.....	.....	9 64	22 14
.....	514 29	3 64	517 93	.....	.....	.....	12 00	3,830 76	3,842 76
.....	156 13	.....	156 13	.....	.....	.....	.....	.....	.....
.....	342 16	.....	342 16	26 00	23 14	25 00	.....	.....	74 14
.....	409 81	.....	409 81	.....	10 80	4 50	.....	.....	15 30
.....	97 00	259 68	356 68	.....	6 00	35 68	36 00	20 00	97 68
.....	364 13	.....	364 13	.....	6 69	.....	20 00	.....	26 69
.....	146 18	.....	146 18	.....	.....	1 00	.....	.....	1 00
\$334 63	\$44,887 35	\$1,258 87	\$46,146 22	\$1,193 40	\$1,940 63	\$1,888 38	\$2,046 35	\$11,060 94	\$18,129 70

CLASS C-
OPERATING EXPENSES, INDIVIDUAL

Summary of

LOCATION.	NAME OF COMPANY.	Total central office.	Total wire plant.	Total sub-station.	Total commercial.
Osseo.....	Osseo Tel. Co.....	\$1,745 67	.....	.....	\$470 25
Park Falls.....	Glidden Tel. Co.....	697 08	\$175 79	\$275 56	60 00
Plymouth.....	Plymouth Tel. Exch.....	1,799 94	1,120 79	560 39	.....
Poynette.....	Poynette Tel. Co.....	1,258 98	591 85	435 31	42 95
Prairie du Sac.....	Troy & Honey Ck. Tel. Co.	1,730 29	2,489 20	233 78	106 86
Prairie Farm.....	P. Farm. R. & D. Tel. Co..	1,954 05	286 88	479 20	.....
Reedsburg.....	Reedsburg Tel. Co.....	1,697 89	287 49	676 23	109 45
Retreat.....	La Crosse Interur. Tel. Co.	428 70	.....	30	80
Rice Lake.....	Barron Co. Tel. Co.....	2,355 26	.....	1,574 86	.....
Richland Center.....	Badger Tel. Co.....	180 60	215 35	172 46	.....
Richland Center.....	Farmers Tel. Exch.....	3,935 51	1,187 70	721 66	.....
Ripon.....	Ripon Tel. Co.....	3,400 82	258 12	407 84	93 54
River Falls.....	Pierce Co. Tel. Co.....	1,355 38	23 37	1,708 35	233 98
Roberts.....	Pierce Co. Tel. Co.....	640 98	39 86	210 50	20 62
Rochester.....	Burlington R. & K. T. Co.	1,056 65	850 16	828 90	14 70
Spring Valley.....	Pierce Co. Tel. Co.....	603 70	.....	75 26	44 55
St. Croix Falls.....	St. Croix Val. Tel. Exch...	1,312 08	570 14	668 55	31 55
Sun Prairie.....	Interurban Tel. Co.....	1,385 60	599 14	353 27	77 37
Tomah.....	Tomah Elec. & Tel. Co.....	1,437 27	1,997 52	.....	101 88
Tomahawk.....	Tom'k Lt. Tel. & Imp. Co.	1,665 79	536 80	.....	64 72
Trempealeau.....	Western Wis. Tel. Co.....	495 63	5 50	197 87	58 81
Two Rivers.....	Two Rivers Tel. Co.....	2,080 00	.....	.....	.....
Viola.....	La Crosse Int. Tel. Co.....	1,558 07	699 78	520 05	368 26
Viroqua.....	Viroqua Tel. Co.....	1,454 44	1,060 05	174 05	342 47
Walworth.....	Walworth Tel. Exch. Co...	1,160 45	442 62	596 25	285 38
Washburn.....	Bayfield County Tel. Co...	1,344 26	898 59	581 74	197 50
Waterloo.....	Interurban Tel. Co.....	1,367 93	936 78	393 69	55 08
Watertown.....	Watertown Tel. Co.....	1,148 44	1,361 26	112 02	.....
Waupaca.....	Fox R. Val. Tel. & Tg. Co.	3,977 64	1,848 13	.....	.....
Westby.....	Westby Tel. Co.....	1,139 67	173 02	635 33	285 50
Westfield.....	Westfield Farmers Tel. Co.	1,269 61	1,734 89	572 59	3 75
West Salem.....	La Crosse Inturb. Tel. Co.	1,215 03	398 72	277 49	35 68
Whitehall.....	Western Wis. Tel. Co.....	433 35	3 40	269 72	21 50
Total.....		\$120,839 45	\$59,935 31	\$36,747 49	\$8,409 27

EXCHANGE SYSTEMS.

OPERATING SYSTEMS, 1912—Concluded.

Operating Expenses.

Total general.	Total undistributed.	Total of foregoing.	Depreciation.	Contingences extraordinary.	Taxes.	Total operating expenses.
\$2,645 23	\$30 87	\$4,892 02	.....	.....	\$117 38	\$5,009 40
951 40	22 25	2,182 08	.....	.....	65 83	2,247 91
1,076 49	990 24	5,547 85	.....	.....	255 73	5,803 58
17 93	294 51	2,641 53	\$1,000 00	.....	96 00	3,737 53
1,057 65	500 49	6,118 27	.....	.....	230 87	6,349 14
681 97	16 25	3,418 35	.....	.....	42 85	2,461 20
237 96	560 39	3,569 41	1,981 47	.....	240 88	5,791 76
.....	.....	429 80	.....	.....	1 27	431 07
923 20	78 38	4,931 70	1,531 69	.....	204 62	6,668 01
.....	112 70	681 11	.....	.....	45 26	726 37
188 36	.....	6,033 23	.....	.....	208 32	6,241 55
1,038 38	105 26	5,303 96	1,178 00	.....	203 29	6,685 25
1,522 57	67 90	4,911 55	.....	.....	249 94	5,161 49
235 33	5 25	1,152 54	.....	.....	36 71	1,189 25
421 30	16 23	3,187 94	600 00	.....	143 53	3,931 47
235 34	18 00	976 85	.....	.....	41 19	1,018 04
640 00	520 01	3,742 33	1,400 00	.....	183 56	5,325 89
517 92	1,748 17	4,681 47	.....	.....	122 06	4,803 53
1,828 42	128 19	5,493 28	2,996 65	.....	180 31	8,670 24
389 84	235 49	2,892 64	1,133 04	.....	153 29	4,178 97
147 02	7 00	911 83	.....	.....	37 36	949 19
1,780 00	215 80	4,075 80	.....	.....	153 23	4,229 03
364 14	419 80	3,930 10	.....	.....	101 90	4,032 00
424 54	228 11	3,733 66	.....	.....	194 56	3,928 22
310 48	128 87	2,924 05	528 43	.....	148 23	3,600 71
216 67	22 14	3,260 90	.....	.....	93 66	3,354 56
517 93	3,842 76	7,114 17	.....	.....	156 78	7,270 95
156 13	.....	2,777 85	1,500 00	.....	142 33	4,420 18
342 16	74 14	6,242 07	464 48	.....	264 67	6,971 22
409 81	15 30	2,658 63	1,278 17	.....	166 56	4,103 36
356 68	97 68	4,035 20	438 70	.....	79 72	4,553 62
364 13	26 69	2,317 74	.....	.....	102 05	2,419 79
146 18	1 00	875 15	.....	.....	27 77	902 92
\$46,146 22	\$18,129 70	\$290,207 44	\$43,104 02	\$972 35	\$11,198 64	\$345,482 45

CLASS D.
OPERATING EXPENSES, INDIVIDUAL

LOCATION.	NAME OF COMPANY.	Central office expense, manual.	Wire plant expense.	Sub-station expense.	Commercial expense.
Abbotsford.....	Abbotsford Elec. L. & T. Co.	\$805 59	\$1,191 02	\$376 61	.....
Allenton.....	Allenton-Kohlsville T. Co.	.....	.....	.....	\$249 91
Alma.....	Tenney Tel. Co.	660 00	3,020 02	.....	.....
Almond.....	Almond Tel. Co.	1,134 21	187 18	506 10	38 15
Amery.....	Amery Elec. Co.	843 95	1,030 52	.....	693 60
Amherst.....	Amherst Tel. Co.	1,293 30	237 38	191 94	300 25
Argyle.....	Argyle Tel. Co.	532 40	267 60	150 10	25 40
Arkansaw.....	Arkansaw Tel. Co.	345 00	657 67	.....	.....
Athens.....	Athens Tel. Co.	873 21	382 68	.....	18 25
Baraboo.....	Far. Mut. Tel. Co.	1,294 18	364 14	129 33	.....
Belleville.....	Belleville Tel. Co.	960 00	1,200 00	.....	.....
Belmont.....	Belmont & Pleasant V. T. Co.	807 15	711 56	77 38	.....
Beloit.....	Beloit Farm Tel. Co.	1,625 41	1,200 00	217 71	.....
Berlin.....	Berlin Tel. Co.	.....	604 79	.....	.....
Big Bend.....	Prospect Guthrie B. B. T. Co.	1,123 75	1,632 71	.....	.....
Black Earth.....	Black Earth Tel. Co.	917 50	500 00	250 90	.....
Boscobel.....	Boscobel Tel. Co.	1,414 90	188 18	313 52	.....
Brillon.....	Eastern Wis. Tel. Co.	415 67	56 77	80 43	.....
Bristol.....	Bristol Tel. Co.	805 99	189 92	654 22	58 40
Butternut.....	Glidden Tel. Co.	205 00	126 45	139 64	15 00
Cadott.....	Cadott Tel. Co.	1,640 00	310 86	.....	19 57
Cambria.....	Peoples Tel. Co.	687 06	326 93	604 52	.....
Campbellsport.....	East Valley Tel. Co.	315 00	1,552 10	86 50	.....
Camp Douglas.....	Juneau Elec. Co.	138 25	15 10	.....	.....
Cecil.....	Cecil Green Val. T. L. Co.	401 43	196 88	.....	.....
Cedar Grove.....	Cedar Grove Tel. Co.	597 86	186 20	391 03	96 18
Clear Lake.....	Clear Lake Tel. Co.	540 00	566 18	.....	272 18
Colby.....	Colby Tel. Co.	776 75	320 00	8 25	.....
Coloma.....	Coloma Tel. Co.	524 00	.....	.....	.....
Coon Valley.....	Coon Valley Far. Tel. Co.	1,406 82	391 88	544 08	48 90
Crandon.....	Crandon Tel. Co.	792 50	838 39	.....	.....
Cuba City.....	Cuba City Tel. Exch. Co.	1,200 00	.....	.....	.....
Cumberland.....	Cumberland Tel. Co.	519 64	333 35	204 57	.....
Cumberland.....	McKinley Tel. Co.	516 00	216 17	.....	.....
Cushing.....	Equity Tel. Co.	893 14	136 32	87 24	35 20
Deerfield.....	Deerfield Tel. Co.	480 00	225 00	.....	.....
Delafield.....	Eagle Tel. Co.	502 83	298 82	241 87	212 49
Dousman.....	Eagle Tel. Co.	501 85	319 46	328 65	174 62
Downsville.....	Downsville Tel. Co.	434 00	.....	.....	.....
Durand.....	Home Tel. Co.	532 06	1,858 81	.....	.....
Durand.....	Inter County Tel. Co.	557 00	2,481 99	450 00	.....
Eagle.....	Eagle Tel. Co.	757 19	370 89	147 64	166 50
East Troy.....	Eagle Tel. Co.	1,180 43	744 80	873 59	539 16
Eau Claire.....	Eau Claire Co. Tel. Co.	1,440 00	737 18	.....	.....
Eau Galle.....	Eau Galle Tel. Co.	408 00	662 96	.....	.....
Eden.....	Eastern Fond du Lac T. Co.	1,320 00	684 41	.....	100 00
Eleva.....	Shaw Tel. Co.	517 13	154 50	.....	30 50
Elkhart Lake.....	East Wis. Tel. Co.	667 77	132 09	158 76	.....
Elkhorn.....	Eagle Tel. Co.	.....	9 44	20 49	3 1
Fall Creek.....	Ludington Tel. Co.	519 00	177 45	180 00	150 0

¹Includes two years' taxes.

EXCHANGE SYSTEMS.
OPERATING SYSTEMS, YEAR ENDING JUNE 30, 1912.

General expense.	Undistrib- uted expense.	Total of foregoing.	Depreci- ation.	Conting- encies.	Taxes.	Total operating expenses.
\$182 60	\$24 80	\$2,580 62			\$97 10	\$2,647 72
990 06		1,239 97	\$658 00		62 57	1,960 54
	20 00	3,700 02			105 00	3,805 02
407 05		2,272 69	1,507 43		120 05	3,900 17
262 57	202 02	3,032 66	1,203 33	\$16 00	103 65	4,355 64
173 50	127 67	2,324 04		346 00	95 23	2,765 27
	21 00	996 50		300 00		1,296 50
316 15		1,318 82			61 00	1,379 82
216 28	17 80	1,508 22	312 72		126 74	1,947 68
442 67		2,230 32				2,230 32
	212 50	2,372 50	480 00		72 00	2,924 50
78 85	25 23	1,700 17			10 20	1,710 37
364 67	114 00	3,521 79	300 00		120 02	3,941 81
682 57	2 95	1,290 31	600 00		69 28	1,959 59
95 51	32 37	2,884 34			100 37	2,984 71
151 47	36 31	1,856 18			76 90	1,933 08
	12 50	1,929 10			77 85	2,006 95
		552 87	334 98		33 48	921 33
306 60	31 77	2,046 90			100 04	2,146 94
		486 09			14 00	500 09
219 00	246 50	2,435 93			92 72	2,528 65
614 45		2,232 96			79 12	2,312 08
133 95	56 80	2,144 35			44 25	2,188 60
148 32		301 67			2 73	304 40
162 00	83 11	843 42				843 42
215 06	84 30	1,570 63	632 54	70 00	109 39	2,382 56
182 00	354 10	1,914 46	675 50		70 80	2,660 76
72 22	11 12	1,188 34				1,188 34
493 05	23 55	1,040 60	500 00		74 73	1,615 33
415 75	172 20	2,979 63	849 64		150 07	3,979 34
528 70	55 00	2,214 59			93 00	2,307 59
220 89		1,420 89				1,420 89
1,827 22	39 22	2,923 40			100 86	3,024 26
262 39		994 56			93 37	1,087 93
85 71	79 00	1,316 61			82 89	1,399 50
900 00	138 00	1,743 00			63 44	1,806 44
242 68		1,498 69	342 00		42 95	1,883 64
323 56		1,648 14	456 00		57 25	2,161 39
822 15	8 00	1,264 15			53 80	1,317 95
	1,294 18	3,685 05	102 00		82 87	3,869 92
90 00	16 80	3,595 79			70 00	3,665 79
525 79		1,968 01	741 00		93 04	2,802 05
1,111 13		4,449 11	1,425 00		178 92	6,053 03
242 38	2,107 38	4,526 94	200 00		108 06	4,835 00
944 71		2,015 67		100 00	7 06	2,122 73
235 29	22 15	2,361 85			73 36	2,435 21
578 02	32 50	1,312 65	317 36		51 50	1,681 51
		958 62	366 42		26 34	1,351 38
40 44		73 55	57 00		7 15	137 70
250 00	404 22	1,680 67	350 00		64 96	2,095 63

CLASS D.
OPERATING EXPENSES, INDIVIDUAL

LOCATION.	NAME OF COMPANY.	Central office expense. manual.	Wire plant expense.	Sub-station expense.	Com-mercial expense.
Fall River.....	Peoples Tel. Co.....	\$595 63	\$194 80	\$260 45	.....
Fennimore.....	Fennimore Mut. Tel. Co.....	855 25	1,039 54	299 38	.....
Fennimore.....	Fennimore Tel. Co.....	.....	.....	.....	.....
Florence.....	Mich. State Tel. Co.....	722 66	269 86	.....	.....
Fox Lake.....	Peoples Tel. Co.....	762 94	334 40	692 28	.....
Frederick.....	Tri-State T. & T. Co.....	551 45	70 07	127 57	\$15 54
Freistadt.....	Ozaukee Washington T. Co.....	2,136 30	2,339 81	.....	.....
Friendship.....	Friendship Tel. Co.....	1,808 75	.....	.....	25 00
Genesee.....	Eagle Tel. Co.....	611 58	433 43	554 02	367 44
Glidden.....	Glidden Tel. Co.....	390 50	148 25	145 50	15 00
Grantsburg.....	Tri-State T. & T. Co.....	1,017 43	315 14	183 77	4 72
Green Bay.....	Brown Co. Tel. Co.....	1,392 54	923 46	103 56	.....
Greenwood.....	Greenwood Tel. Co.....	535 00	.....	460 80	144 72
Gresham.....	Marion & Northern T. Co.....	192 00	1 15	35	.....
Hayward.....	Bell Tel. Mfg. Co.....	1,260 00	.....	.....	.....
Hebron, Ill.....	Farmers New Era Tel. Co.....	870 00	.....	.....	.....
Hilbert.....	Eastern Wis. Tel. Co.....	380 38	38 95	46 92	.....
Hubertus.....	Hubertus Tel. Co.....	810 21	176 91	363 09	14 50
Iron River.....	Iron River W. L. & P. Co.....	780 00	55 40	.....	504 60
Jackson.....	Jackson Tel. Co.....	242 75	63 96	18 75	19 11
Johnson Creek.....	Rock River Tel. Co.....	845 00	521 04	.....	.....
Kiel.....	Eastern Wis. Tel. Co.....	615 38	62 13	193 29	.....
Knapp.....	Knapp Tel. Co.....	1,260 00	1,296 00	.....	461 75
La Farge.....	La Farge Tel. Co.....	1,450 00	62 50	.....	.....
La Grange.....	Eagle Tel. Co.....	451 00	243 28	235 95	86 43
Lake City, Minn.....	Lake Pepin Tel. Co.....	1,545 33	153 14	148 56	.....
Lancaster.....	Far. Tel. Co. of Beetown.....	2,730 27	3,102 55	31 62	216 10
Larsen.....	Larsen Tel. Co.....	2,126 15	2,615 75	.....	.....
Limeridge.....	Peoples Tel. Co.....	600 00	500 00	400 00	200 00
Little Chute.....	Fox Riv. Val. T. & T. Co.....	526 40	.....	.....	.....
Loyal.....	Clark County Tel. Co.....	2,145 80	138 00	207 25	250 00
Luxemburg.....	Luxemburg Tel. Co.....	600 00	360 00	75 00	.....
Manawa.....	Manawa Tel. Co.....	540 00	.....	.....	.....
Markesan.....	Markesan Tel. Co.....	1,740 15	256 87	498 98	.....
Mattoon.....	Mattoon Tel. Co.....	.....	.....	.....	.....
Mazonanie.....	Mazonanie Tel. Co.....	1,539 83	680 38	239 98	.....
Medford.....	Medford Tel. Exchange.....	1,320 58	432 07	180 94	60 00
Mellen.....	Ashland Home Tel. Co.....	673 52	467 13	273 00	60 00
Merton.....	Merton Tel. Co.....	420 00	.....	.....	.....
Milltown.....	Milltown Mut. Tel. Co.....	516 40	.....	.....	.....
Minocqua.....	Northern Tel. Co.....	720 00	180 00	.....	.....
Mondovi.....	Mondovi Tel. Co.....	582 03	286 65	79 84	.....
Mt. Calvary.....	Eastern Wis. Tel. Co.....	289 21	2 27	11 95	.....
Mukwanago.....	Eagle Tel. Co.....	588 00	91 48	170 46	218 69
Necedah.....	Juneau Elec. Co.....	506 99	634 04	55 76	.....
Nelsonville.....	Nelsonville Tel. Co.....	1,242 00	21 00	.....	755 61
Neosho.....	Eureka Tel. Co.....	810 00	.....	.....	.....
New Auburn.....	New Auburn Tel. Co.....	614 37	29 00	18 22	7 50
Newburg.....	Newburg Tel. Co.....	700 00	1,580 00	340 00	50 00
New Holstein.....	Eastern Wis. Tel. Co.....	464 45	65 44	94 90	.....

EXCHANGE SYSTEMS.
OPERATING SYSTEMS, 1912.—Continued.

General expense.	Undistrib- uted expense.	Total of foregoing.	Deprecia- tion.	Contin- gencies.	Taxes.	Total operating expenses.
\$307 22		\$1,358 10			\$38 21	\$1,396 31
	\$21 70	2,215 87			82 54	2,298 41
825 05		825 05			21 60	846 65
59 39		1,031 91	\$342 99		30 13	1,405 03
614 45	185 30	2,589 37			84 14	2,673 51
80 10	21 25	865 98	48 23	\$30 70	16 56	961 47
		4,476 11			170 08	4,646 19
40 00	4,153 00	6,026 75	400 00		32 36	6,459 11
687 57		2,654 04	969 00		121 66	3,744 70
		699 25			20 89	720 14
182 05	43 74	1,746 85	128 35		51 32	1,926 52
78 64	83 39	2,581 59	56 72		67 96	2,673 82
136 15	60 35	1,337 02		267 55	52 73	1,775 37
2 87		196 37	53 38		5 84	255 59
15 00	15 00	1,290 00			83 37	1,373 37
325 49	45 00	1,240 49	450 00		78 51	1,769 00
		466 25	144 81		12 55	623 61
77 82	24 70	1,467 23	115 07		84 62	1,666 92
1,133 33	85 58	2,558 91			71 30	2,630 21
1,097 47		1,442 04			65 37	1,507 41
966 29	77 95	2,410 28	600 00			3,010 28
		870 80	493 38		45 75	1,409 93
769 42	47 09	3,834 17			108 58	3,942 75
300 00	450 90	2,263 40			69 41	2,332 81
202 23		1,218 89	285 00		35 78	1,539 67
1,377 98	6 25	3,231 26			107 59	3,338 85
1,476 88	4,124 20	8,681 62			30 29	8,711 91
35 40	31 60	4,808 90				4,808 90
2,000 00	10 00	3,710 00	97 00			3,807 00
46 73	25 20	598 33	30 62		36 15	665 09
300 00	987 77	4,028 82			82 06	4,110 88
359 56		1,394 56			22 53	1,417 09
153 41	381 00	1,074 41			55 94	1,130 35
	1,173 60	3,669 60			90 38	3,759 98
1,016 40		1,016 40				1,016 40
81 90	156 00	2,698 09	360 92		122 18	3,181 19
	74 95	2,068 54	714 62		85 87	2,869 03
1,473 65		2,947 30			69 14	3,007 44
50 00	20 50	490 50	210 00		5 86	706 36
1,138 95		1,655 35	626 10		52 60	2,334 05
660 00		1,560 00			52 44	1,612 44
114 48		1,063 00			47 50	1,110 50
		303 43	60 89		2 86	367 18
283 11		1,351 74	399 00	11 00	50 10	1,811 84
294 06	13 75	1,504 60			30 48	1,535 08
250 00	307 00	2,575 61			44 31	2,619 92
701 46		1,511 46	1,400 00		112 12	3,023 58
377 82	10 50	1,057 41			146 37	1,203 78
300 00	330 00	3,300 00			96 97	3,396 97
		624 79	267 79		38 38	930 96

CLASS D. EX
OPERATING EXPENSES INDIVIDUAL.

LOCATION.	NAME OF COMPANY.	Central office expense manual.	Wire plant expense.	Substation expense.	Commercial expense.
New Lisbon.....	Juneau Elec. Co.....	\$468 49	\$739 47	\$44 94	.....
New London.....	Fox Riv. Val. T. & T. Co....	1,049 56	729 61	.....	.....
Niagara.....	Michigan State Tel. Co.....	540 00	140 06	.....	.....
Northfield.....	Northfield Far. Tel. Co.....	672 00	216 58	246 16	\$3 53
North Lake.....	Badger Tel. Co.....	456 85	184 67	57 86	60 00
Norwalk.....	Monroe Co. Tel. Co.....	259 94	29 78	80 00	.....
Oconto.....	Oconto Rural Tel. Co.....	401 67	359 79	303 63	238 59
Orfordville.....	Orfordville Tel. Co.....	1,620 00	132 40	.....	.....
Osceola.....	Osceola Far. Mut. Tel. Co....	2,620 17	827 26	.....	.....
Oshkosh.....	Winnebago Co. Tel. Co.....	.....	330 11	512 02	32 81
Oxford.....	Marquette & Ad'ms Co. T. Co.	1,410 00	683 18	.....	.....
Palmira.....	Eagle Tel. Co.....	914 94	694 81	674 94	474 60
Pardeeville.....	Pardeeville Tel. Co.....	920 60	229 40	195 65	547 86
Peshigo.....	Harmony Tel. Co.....	300 00	.....	30 80	15 18
Pewaukee.....	Pewaukee-Sussex Tel. Co....	1,318 18	493 24	174 81	.....
Pickett.....	Utica Tel. Co.....	105 89	192 50	.....	.....
Plainfield.....	Union Tel. Co.....	2,649 15	246 24	970 27	.....
Poynette.....	Leeds Farmers Tel. Co.....	430 00	340 00	.....	180 00
Prairie du Chien	Union Tel. Co.....	1,390 94	260 73	238 05	45
Randolph.....	Peoples Tel. Co.....	1,107 10	458 44	939 54	.....
Random Lake..	Random Lake Tel. Co.....	480 00	1,854 99	618 33	155 71
Reedsville.....	Manitowoc & Western T. Co.	2,383 34	.....	291 08	.....
Reeseville.....	Dodge Co. Tel. Co.....	420 00	1,267 74	.....	.....
Rice Lake.....	Rice Lake & North E. T. Co.	9 25	33 60	8 60	351 42
Rio.....	Peoples Tel. Co.....	914 26	307 71	684 79	.....
Ripon.....	Ripon Rural Tel. Co.....	822 28	361 95	539 41	189 74
Rosendale.....	Rosendale Tel. Co.....	112 19	425 84	122 35	75 00
Scandinavia.....	Scandinavia Tel. Co.....	1,110 00	2,101 52	.....	.....
Schleisingerville	Washington Co. T. Co.....	1,388 05	444 61	.....	.....
Sharon.....	Sharon Tel. Co.....	780 00	1,176 25	.....	.....
Shiocton.....	Shiocton Tel. Co.....	250 00	.....	.....	700 00
Shullsburg.....	White Oak Tel. Co.....	333 10	464 23	.....	39 70
Stetsonville.....	Midway Tel. Co.....	543 32	438 64	439 62	126 92
Stockbridge.....	Stockbridge & Sherwood T. Co.	510 76	377 55	.....	165 00
Sullivan.....	Sullivan Tel. Co.....	815 82	714 65	.....	.....
Thompson.....	Badger Tel. Co.....	392 08	147 79	54 04	50 65
Thompsonville..	Franksville Tel. Co.....	214 72	74 28	135 20	21 10
Tigerton.....	Marion & Northern T. Co....	377 60	6 28	4 44	.....
Union Grove.....	Union Grove Tel. Co.....	1,042 10	1,088 50	.....	.....
Waterford.....	Wind Lake Tel. Co.....	500 00	.....	.....	.....
Waunakee.....	Waunakee Tel. Co.....	420 00	900 00	.....	.....
Waupaca.....	Rural Tel. Co.....	1,134 50	.....	47 00	163 05
Wausau.....	Marathon Co. Tel. Co.....	.....	1,482 83	.....	.....
Welcome.....	Matteson Tel. Co.....	480 00	300 00	.....	20 33
Weyauwega.....	Fox River Val. T. & T. Co....	1,558 37	657 18	.....	.....
Wilton.....	Ontario & Wilton Tel. Co....	733 15	428 18	366 69	168 27
Winslow.....	Winslow & S. Wayne T. Co....	600 00	175 00	.....	200 00
Wonewoc.....	Wonewoc Tel. Co.....	890 40	474 65	620 10	.....
Wrightstown.....	Fox River Val. T. & T. Co....	1,049 56	729 61	.....	.....
Wyocena.....	Peoples Tel. Co.....	282 19	94 41	166 09	.....
Total.....	.....	\$122,333 07	\$71,817 85	\$22,493 62	\$10,704 06

CHANGE SYSTEMS.
OPERATING SYSTEMS, 1912.—Concluded.

General expense.	Undistributed expense.	Total of foregoing.	Depreciation.	Contingencies.	Taxes.	Total operating expenses.
\$208 02	\$22 50	\$1,483 42			\$33 80	\$1,517 22
100 87	34 14	1,914 18	\$142 91		43 49	2,100 58
25 93		705 99	179 36		17 65	903 00
105 43	10 75	1,254 44			54 92	1,309 36
	14 50	773 88			18 72	792 60
	20 00	389 72	179 63		12 99	582 34
604 83		1,808 51	514 15		33 69	2,356 35
197 07	16 24	1,965 71			138 52	2,104 23
853 85	1,395 31	5,696 59			129 62	5,826 21
360 00	20 55	1,255 49	330 00			1,585 49
125 00	363 20	2,581 38	200 00	\$314 00	67 28	3,162 66
728 01		3,397 30	1,026 00		128 81	4,552 11
993 96	7 00	2,894 47	310 33		65 18	3,269 98
105 70		451 68			25 25	451 93
79 40	38 52	2,104 15			88 32	2,192 47
241 50	31 15	571 04			65 49	636 53
	107 58	3,973 24	673 56		123 73	4,770 53
90 00	205 00	1,245 00	545 00	70 00	32 00	1,892 00
	65 65	1,955 82	1,890 00		117 72	3,963 54
921 68		3,426 76			125 06	3,551 82
208 13	44 06	3,361 22			63 90	3,425 12
1,379 49	459 92	4,513 83			134 27	4,648 10
	1 50	1,689 24			71 59	1,760 83
194 02		596 89	293 52		52 22	842 63
921 68		2,828 44			106 41	2,934 85
101 57	15 25	2,030 20	1,300 00		77 89	3,408 09
362 06	7 25	1,104 69	11 32		119 88	1,235 89
192 87	47 85	3,452 24			96 87	3,549 11
		1,832 66	328 02		87 34	2,248 02
1,071 98	37 35	3,065 58			100 98	3,166 56
900 00	400 00	4,500 00	100 00	300 00	80 00	4,980 00
		837 03			16 65	853 68
218 15	7 80	1,774 45	954 62	39 13	71 96	2,840 16
	30 00	1,083 31			60 29	1,143 60
508 90	12 77	2,052 14	681 89		98 52	2,832 55
	8 32	651 88			14 23	666 11
1,713 31	226 70	2,395 31			67 94	2,463 25
199 07		587 39	147 58	14 40		749 37
453 69	96 22	2,680 51			143 04	2,823 55
268 79	98 82	867 61	450 00	221 00	28 31	1,566 92
	8 00	1,328 00				1,328 00
121 55		1,466 10	388 89		69 78	1,924 77
1,149 75	38 05	2,670 63			102 02	2,772 65
586 57	25 00	1,411 90			45 48	1,457 39
51 83	14 20	2,281 58	143 53		20 07	2,445 18
241 00	165 64	2,103 93	688 50		138 39	2,929 82
110 93	9 00	1,094 93			35 14	1,130 07
164 24		2,149 39	600 00			2,749 39
103 97	82 10	1,965 24	142 91		65 72	2,173 87
153 62		696 31			24 06	720 37
\$54,048 16	\$20,264 12	\$301,660 88	\$32,886 51	\$2,485 40	\$9,504 68	\$346 537 47

TOLL SYSTEMS. STATEMENT OF OPERATING

LOCATION.	NAME OF COMPANY.	Total operating revenues.	OPERATING		
			Central		
			OPERATION.		
		Central office operating labor.	Central office supplies and expenses.	Total operation.	
Ashland	Ashland Home Tel. Co. ²	\$1,401 80	\$185 50		\$185 50
Neillsville	Badger State Tel. & T. Co.	2,275 68	130 47		130 47
Janesville	Badger Teleg. & Tel. Co.	12,322 19	867 54	\$3,479 73	4,347 27
Barron	Barron County Tel. Co.	4,207 75			
Ladysmith	Chippewa Valley Tel. Co.	2,441 45	1,331 45	178 08	1,509 53
Sheboygan	Citizens Tel. Co.	5,794 86	613 80	484 77	1,098 57
Chilton	Eastern Wis. Tel. Co.	9,189 54	1,197 45		1,197 45
Richland Center	Farmers Tel. Exch.	294 83			
Green Bay	Fox Riv. V. Tel. & Teleg. Co.	1,664 12	120 00		120 00
Ashland	Glidden Tel. Co.	707 25	60 00		60 00
Kenosha	Kenosha Home Tel. Co.	3,429 59	2,841 99	576 05	3,418 04
La Crosse	La Crosse Interurban Tel. Co.	4,643 17			
La Crosse	La Crosse Tel. Co.	1,214 85			
Marion	Marion & Northern Tel. Co.	801 60	120 00	6 30	126 30
Sparta	Monroe County Tel. Co.	2,595 83	645 96		645 96
Ashland	No. Wis. Toll Lines.	4,141 87	261 52		261 52
Portage	Portage Tel. Co.	2,746 18	360 00		360 00
Poynette	Poynette Tel. Co.	623 03	26 06	210 85	236 91
Reedsburg	Reedsburg Tel. Co.	849 32	376 39	67 35	443 74
Janesville	Rock County Tel. Co.	236 55	75 00		75 00
St. Croix Falls	St. Croix Valley Tel. Co.	1,849 76	581 43	74 61	656 04
Monroe	United Tel. Co. ³	2,449 49	2 42	1 91	4 33
Arcadia	Western Wis. Tel. Co.	638 52	89 08	9 76	98 84
Westfield	Westfield Farmers Tel. Co.	155 27	35 00		35 00
Brodhead	Brodhead Tel. Co.	383 83	120 00		120 00
Milwaukee	Wisconsin Tel. Co.	781,247 95	125,061 33	17,855 08	142,916 41
	Total	\$848,306 28	\$135,102 39	\$22,944 49	\$158,046 88

¹All manual except United Tel. Co.²No apportionment in detail.

REVENUES AND EXPENSES, YEAR ENDING JUNE 30, 1912.

EXPENSES.

<i>Office (Traffic)</i> ¹		<i>Wire Plant (Transmission)</i>			<i>Substation.</i>		
Maintenance central office equipment, buildings, fixtures and grounds.	Total central office.	Operation of wire plant.	Maintenance of wire plant.	Total wire plant.	Operation of substation equipment.	Maintenance of substation equipment.	Total substation.
	\$185 50		\$355 58	\$355 58	\$14 00		\$14 00
\$131 25	4,347 27	\$261 72	2,447 03	2,447 03	46 45	\$11 43	57 88
		1,304 64	449 08	1,753 72			
10	1,509 63	4 03	137 67	141 70	104 94	9 35	114 29
260 38	1,358 95	70 51	88 83	159 34			
	1,197 45	608 86		608 86	583 77		583 77
			7 25	7 25	13 28		14 24
	120 00					96	
	60 00		316 26	316 26	29 50		29 50
	3,418 04				470 94		470 94
		172 08		172 08	50		50
		32 06		32 06			
	126 30	30 46	10 16	40 62	24 60	6 76	31 36
	645 96		88 22	88 22	14 49		14 49
	261 52	1,228 94	1,126 45	2,355 39	310 82	51 24	362 06
	360 00		75 65	75 65			
	236 91	50 40	105 52	155 92	13 45		13 45
21 75	465 49		1 81	1 81			
	75 00		3 95	3 95			
	656 04	65 50		65 50			
	4 33	37 34	73 01	110 35	28 56	22 52	51 08
1 33	100 17	50 44	62 35	112 79	6 75	27 50	34 25
	35 00	6 25	23 75	30 00	1 00		1 00
	120 00				62 00		62 00
5,432 88	148,349 29	19,084 91	62,417 61	81,502 52	39,987 75	2,590 56	42,578 31
\$5,847 69	\$163,632 85	\$22,746 42	\$67,790 18	\$90,798 32	\$41,712 80	\$2,720 32	\$44,433 12

³Automatic.

TOLL SYSTEM. STATEMENT OF OPERATING
OPERATING

LOCATION.	NAME OF COMPANY.	Commer- cial.	Gen		
			OPERATION.		
			Total commer- cial expenses.	General office salaries.	Miscel- laneous general expenses.	Total operation.
Ashland	Ashland Home Tel. Co. ²				
Neillsville	Badger State T. & T. Co.	\$510 71	\$292 50	\$79 88	\$371 88
Janesville	Badger Teleg. & Tel. Co.		1,320 00	782 43	2,102 43
Barron	Barron County Tel. Co.	433 57		68 31	68 31
Ladysmith	Chippewa Valley Tel. Co.	447 02			
Sheboygan	Citizens Tel. Co.	851 16	102 91	9 50	112 41
Chilton	Eastern Wis. Tel. Co.				
Richland Center	Farmers Tel. Exch.				
Green Bay	Fox Riv. Val. Tel. & Teleg. Co.				
Ashland	Glidden Tel. Co.	60 00		29 70	29 70
Kenosha	Kenosha Home Tel. Co.	1,229 92	209 76	115 73	325 49
La Crosse	La Crosse Interurban Tel. Co.	798 04	313 85	50 29	364 14
La Crosse	La Crosse Tel. Co.	305 78			
Marion	Marion & Northern Tel. Co.		110 16		110 16
Sparta	Monroe County Tel. Co.	25 00	50 00		50 00
Ashland	No. Wis. Toll Lines	240 00	480 00	97 68	577 68
Portage	Portage Tel. Co.				
Poynette	Poynette Tel. Co.				
Reedsburg	Reedsburg Tel. Co.	46 50		60 00	60 00
Janesville	Rock County Tel. Co.	24 00		30 00	30 00
St. Croix Falls	St. Croix Valley Tel. Co.	15 77	320 00		320 00
Monroe	United Tel. Co.				
Arcadia	Western Wis. Tel. Co.		48 00	16 95	64 95
Westfield	Westfield Farmers Tel. Co.				
Brodhead	Brodhead Tel. Co.		5 00		5 00
Milwaukee	Wisconsin Tel. Co.	64,216 69	10,096 07	5,202 82	15,298 89
	Total	\$69,204 16	\$13,348 25	\$6,542 79	\$19,891 04

² No apportionment in detail.⁴ Includes \$35.23 utility equipment expenses.

REVENUES AND EXPENSES, 1912.
EXPENSES.—Continued.

<i>eral.</i>		<i>Undistributed.</i>			
Maintenance general office buildings, fixtures and grounds.	Total general expenses.	Insurance.	Stationery and printing.	Stores department expenses.	Total undistributed.
	\$371 88		\$16 45	*\$68 86	\$85 31
	2,102 43	\$5 00	120 25	*\$30 03	955 28
	68 31		18 84		18 84
	112 41	°164 77	44 00		208 77
			10 00		10 00
	29 70		5 00		5 00
	325 49	38 63	346 10		384 73
	364 14				
	110 16		25 00		25 00
	50 00				
	577 68		33 50		33 50
				9 00	9 00
	60 00				
	30 00				
	320 00				
	64 95		40		40
	5 00		2 00		2 00
\$187 70	15,486 59	1,025 57	9,172 23		10,197 80
\$187 70	\$20,078 74	\$1,233 97	\$9,793 77	\$907 89	\$11,935 63

* Includes \$108.21 "Injuries and damages."

TOLL SYSTEM. STATEMENT OF OPERATING
 OPERATING
Summary of

LOCATION.	NAME OF COMPANY.	Total central office.	Total wire plant.	Total sub-station.
Ashland.....	Ashland Home Tel. Co.....	\$185 50	\$355 58	\$14 00
Neillsville.....	Badger State Tel. & Tel. Co.....		261 72	57 88
Janesville.....	Badger Teleg. & Tel. Co.....	4,347 27	2,447 03	
Barron.....	Barron Co. Tel. Co.....		1,753 72	
Ladysmith.....	Chip. Valley Tel. Co.....	1,509 63	141 70	114 29
Sheboygan.....	Citizens Tel. Co.....	1,358 95	159 34	
Chilton.....	Eastern Wis. Tel. Co.....	1,197 45	608 86	583 77
Richland Center.....	Farmers Tel. Exch.....		7 25	14 24
Green Bay.....	Fox R. Val. Tel. & Tel. Co.....	120 00		
Ashland.....	Glidden Tel. Co.....	60 00	316 26	29 50
Kenosha.....	Kenosha Home Tel. Co.....	3,418 04		470 94
La Crosse.....	La Crosse Interurban Tel. Co.....		172 08	50
La Crosse.....	La Crosse Tel. Co.....		32 06	
Marion.....	Marion & Northern Tel. Co.....	126 30	40 62	31 36
Sparta.....	Monroe Co. Tel. Co.....	645 96	88 22	14 49
Ashland.....	No. Wis. Toll Lines.....	261 52	2,355 58	362 06
Portage.....	Portage Tel. Co.....	360 00	75 65	
Poynette.....	Poynette Tel. Co.....	236 91	155 92	13 45
Reedsburg.....	Reedsburg Tel. Co.....	465 49	1 81	
Janesville.....	Rock Co. Tel. Co.....	75 00	3 95	
St. Croix Falls.....	St. Croix Valley Tel. Co.....	656 04	65 50	
Moproe.....	United Tel. Co.....	4 33	110 35	51 08
Arcadia.....	Western Wis. Tel. Co.....	100 17	112 79	34 25
Westfield.....	Westfield Farmers Tel. Co.....	35 00	30 00	1 00
Brodhead.....	Brodhead Tel. Co.....	120 00		62 00
Milwaukee.....	Wisconsin Tel. Co.....	148,349 29	81,502 52	42,578 31
	Total.....	\$163,632 85	\$90,798 32	\$44,433 12

EXPENSES AND REVENUES, 1912.

EXPENSES—Concluded.

Operating Expenses.

Total commercial.	Total general.	Total undistributed.	Total of foregoing.	Depreciation.	Taxes.	Total operating expenses.
			\$555 08		\$41 20	\$596 28
\$510 71	\$371 88	\$85 31	1,287 50	\$500 00	56 89	1,844 39
	2,102 43	955 28	9,852 01		310 72	10,162 73
433 57	68 31		2,255 60			2,255 60
447 02		18 84	2,231 48	1,347 98	74 93	3,654 39
851 16	112 41	208 77	2,690 63	558 00	142 22	3,390 85
			2,390 08	1,907 10	274 14	4,571 32
		10 00	21 49			21 49
60 00	29 70	5 00	130 00	200 00	41 60	371 60
			500 46		21 26	521 72
1,229 92	325 49	384 73	5,829 12	643 05	85 74	6,557 91
798 04	364 14		1,334 76		116 04	1,450 80
305 78			337 84	258 60	30 38	626 82
	110 16		308 44	290 42	30 65	629 51
25 00	50 00	25 00	848 67	451 77	116 20	1,416 64
240 00	577 68	33 50	3,830 15		107 48	3,937 63
		9 00	435 65	944 91	41 80	1,422 36
46 50	60 00		415 28			415 28
24 00	30 00		573 80			573 80
			132 95			132 95
15 77	320 00		1,077 31	100 00	46 88	1,204 19
47 57	280 08	12 62	506 03	283 80	65 48	855 31
	64 95	40	312 56		15 96	328 52
	5 00	2 00	66 00	10 00	10 90	86 90
			189 00	25 80	7 35	222 15
64,216 69	15,486 59	10,197 80	362,331 20	211,515 83	43,594 73	617,441 76
\$69,251 73	\$20,358 82	\$11,948 25	\$400,423 09	\$219,037 26	\$45,232 55	\$664,692 90

ALL CLASSES.¹ BALANCE SHEETS.*Italic figures denote credits.*

As

LOCATION.	NAME OF COMPANY.	PROPERTY AND PLANT.		Treasury securities.	Stocks, bonds and other investments.	Reserve, sinking, and special fund assets.
		Cost beginning of year.	Construction and equipment during year.			
Abbotsford.....	Abbotsfd E.L. & T. Co.	\$7,000 00				
Allenton.....	A.-Kohlsv. Tel. Co.....	13,160 00	\$1,362 49			
Almond.....	Almond Tel. Co.....	9,560 71				
Amery.....	Amery Elec. Co.....	15,400 92	1,542 90	\$500 00		
Amherst.....	Amherst Tel. Co.....	5,551 34	626 71			\$482 10
Antigo.....	Antigo Tel. Co.....	57,722 45	2,624 82		\$732 43	1,053 11
Argyle.....	Argyle Tel. Co.....	4,502 44	427 82			
Arkansaw.....	Arkansaw Tel. Co.....	5,200 00				
Ashland.....	Ashland Home Tel. Co.	107,384 50				
Athens.....	Atheus Tel. Co.....	14,725 56	1,359 41	4,000 00	1,925 00	
Neillsville.....	Bad. State T. & T. Co..	38,520 99	2,953 22			282 15
Oconomowoc.....	Badger Tel. Co.....	19,858 93	926 30			
Richland Ctr.	Badger Tel. Co.....	9,548 25	165 05			
Janesville.....	Badger Tel. & T. Co..	109,598 12	754 26	65,600 00		
Baldwin.....	Baldwin Tel. Co.....	36,932 24	2,876 38			2,398 15
Augusta.....	Ball, J. L., Estate.....	18,353 80	473 19			
Bangor.....	Bangor Tel. Co.....	29,649 69	2,273 88			
Rice Lake.....	Barron Co. Tel. Co.....	36,634 11	3,823 21			
Washburn.....	Bayfield Co. Tel. Co..	30,000 00				
Belleville.....	Belleville Tel. Co.....	7,000 00				
Hayward.....	Bell Tel. Mfg. Co.....	12,000 00	375 00			
Belmont.....	B. & Pleas. V. Tel. Co.	10,000 00		1,875 00		
Beloit.....	Beloit Farm Tel. Co.....	13,228 54	897 00			
Berlin.....	Berlin Tel. Co.....	8,979 22	1,318 11			
Black Earth.....	Black Earth Tel. Co..	5,800 00				
Bloomer.....	Bloomer Tel. Co.....	24,492 64	2,418 61	10,080 00		
Boscobel.....	Boscobel Tel. Co.....	6,673 32	798 99			
Bristol.....	Bristol Tel. Co.....	12,835 13	766 68			
Brodhead.....	Brodhead Tel. Co.....	29,781 56	1,263 32	50 00		
Brooklyn.....	Brooklyn Tel. Co.....	13,174 32	54 84			650 00
Green Bay.....	Brown Co. Tel. Co.....	27,489 01	4,911 58			
Burlington.....	Burl. B & W. Tel. Co..	16,169 07	482 13			
Rochester.....	B. R. & Kansas T. Co.	14,399 84	791 46			
Cadott.....	Cadott Tel. Co.....	9,969 00				
Cecil.....	Cecil G. V. Toll L. Co..	11,633 67	4,206 61	6,508 40		
Cedar Grove.....	Cedar Grove Tel. Co..	10,559 20	390 97			316 27
Blk. R. Falls.....	Central Wis. Tel. Co..	99,878 49	2,826 54	10,400 00		
Chip. Falls.....	Chippewa Co. Tel. Co.	38,568 45	1,027 19	525 00	150 00	
Bruce.....	Chip. Val. Tel. Co.....	28,098 08	880 64			
Sheboygan.....	Citizens Tel. Exchange	170,341 22	2,799 75			26,599 05
Loyal.....	Clark Co. Tel. Co.....	4,966 02	915 85			
Clear Lake.....	Clear Lake Tel. C.....	6,677 11	25 00		272 25	
Clinton.....	Clinton Tel. Co.....	27,074 42	547 32			
Colby.....	Colby Tel. Co.....	5,000 00	327 86			
Coloma.....	Coloma Tel. Co.....	6,707 19	2,382 63		300 00	
Coon Valley.....	C. V. Farm, T. I. Co....	16,992 64	2,728 70	2,240 00		
Crandon.....	Crandon Tel. Co.....	8,250 00	250 00			
Cuba City.....	Cuba City T. Ex. Co..	1,600 00				
Cumberland.....	Cumberland Tel. Co..	11,066 48	542 95			
Deerfield.....	Deerfield Tel. Co.....	8,900 00	2,695 81			

¹ Does not include utilities using condensed form of report.

UTILITY AS A WHOLE, JUNE 30, 1912.
SETS.

CURRENT ASSETS.					Prepaid ac- counts.	Open accounts.	Deficits.	Total as- sets.
Cash.	Notes and bills receiv- able.	Accounts receiv- able.	Material and supplies.	Miscel- laneous current assets.				
								\$7,000 00
\$38 91		\$239 40	\$140 00					14,940 80
180 48	\$29 00	1,250 00			\$5 00	\$15 00		11,040 19
63 00		831 61						18,338 43
98		561 25	160 00					7,382 38
1,196 68		808 14						64,137 63
32 28		322 47	124 30				\$259 53	5,668 84
								5,200 00
189 44		2,597 03				374 65	2,388 67	112,934 29
395 78		290 75	169 05	\$90 30		13 90		22,969 75
246 31		4,605 99	1,576 03					48,184 69
119 05		1,033 53	200 00					22,137 81
55 76		1,468 50	45 61					11,283 17
400 27	1,633 70	935 84	1,300 52					180,222 71
167 00		3,334 30	250 00					45,958 07
709 94		310 70	278 35			145 40		20,271 38
730 30	3,313 75			583 00				36,550 62
2,509 82						415 00		42,967 24
435 82								30,850 82
								7,000 00
			300 00		50 00		7,575 00	20,300 00
								11,875 00
435 00		968 25	150 00					15,678 79
1,439 68		490 00	60 00		26 85			12,313 86
94 52		1,561 00	50 00					7,505 52
14 73		989 86	327 16					38,323 00
42 72		115 65	125 00					7,755 68
114 02			236 59			1,584 07		15,536 49
1,167 50		1,990 55	820 07					35,073 00
183 35		401 15	208 56	10 13	2 89			14,685 24
384 35		552 36	75 00					33,412 30
946 20								17,597 40
994 30		290 96						16,476 56
805 52								10,774 52
164 92		260 50						22,774 10
20 48		1,324 10	289 70	10 12	10 00			12,920 84
2,236 16	318 15	14,304 62	2,761 39					132,725 35
455 54	65 85	2,325 84	50 50		9 36	313 68		43,441 41
3,837 49		679 46	499 28					33,994 95
3,449 22		7,042 76	615 60	3,335 07	627 55			209,210 72
40 75		183 00	100 00					6,205 62
273 23		200 00	352 90					7,800 49
210 64		1,197 78						29,030 16
1 47		77 80	30 00					5,437 13
1 45	18 75	474 00	100 00					9,984 02
5 08		21 10	66 20					22,053 72
145 36		131 45	56 00					8,832 81
445 11								2,045 11
3 05		586 79	275 00					12,474 27
433 23		200 00	345 00					12,574 04

ALL CLASSES¹. BALANCE SHEET.
LIABIL

LOCATION.	NAME OF COMPANY.	CAPITAL LIABILITIES.			
		Capital stock preferred.	Capital stock common.	Funded debt.	Mortgage liabilities.
Abbotsford.....	Abbotsfd E. L. & T. Co.		\$7,000 00		
Allenton.....	All.-Kohlsville Tel. Co.		13,160 00		
Almond.....	Almond Tel. Co.		8,675 00		
Amery.....	Amery Elec. Co.		4,500 00		
Amherst.....	Amherst Tel. Co.		5,200 00		
Antigo.....	Antigo Tel. Co.		25,000 00		
Argyle.....	Argyle Tel. Co.		5,000 00		
Arkansas.....	Arkansas Tel. Co.		4,920 00		
Ashland.....	Ashland Home Tel. Co.			\$102,600 00	
Athens.....	Athens Tel. Co.		15,000 00		\$1,000 00
Neillsville.....	Badger St. T. & T'lg. Co.		30,000 00		
Oococmowoc.....	Badger Tel. Co.		13,280 00		
Richland Ctr.....	Badger Tel. Co.		2,260 00		
Janesville.....	Badger Tel. & Teleg. Co.	\$150,000 00		18,000 00	
Baldwin.....	Baldwin Tel. Co.		39,808 62		
Augusta.....	Ball J. L. Estate				
Bangor.....	Bangor Tel. Co.		25,000 00		
Rice Lake.....	Barron Co. Tel. Co.		31,150 00		
Washburn.....	Bayfield Co. Tel. Co.		30,000 00		
Belleville.....	Belleville Tel. Co.		5,600 00		
Hayward.....	Bell Tel. Mfg. Co.		20,000 00		
Belmont.....	B. & Pl. View Tel. Co.		10,000 00		
Beloit.....	Beloit Farm Tel. Co.		7,525 00		
Berlin.....	Berlin Tel. Co.		8,800 60		
Black Earth.....	Black Earth Tel. Co.		4,500 00		
Bloomer.....	Bloomer Tel. Co.		30,000 00		
Boscobel.....	Boscobel Tel. Co.		4,000 00		
Bristol.....	Bristol Tel. Co.		9,510 00		500 00
Brodhead.....	Brodhead Tel. Co.		15,000 00		
Brooklyn.....	Brooklyn Tel. Co.		10,000 00		
Green Bay.....	Brown Co. Tel. Co.		20,000 00		
Burlington.....	B. Br'tn & Wh. Tel. Co.		10,000 00		
Rochester.....	B. R. & K'vl. Tel. Co.		6,875 00		
Cadott.....	Cadott Tel. Co.				9,969 00
Cecil.....	C. G. V. Toll Line Co.		15,000 00		
Cedar Grove.....	Cedar Grove Tel. Co.		5,000 00		
Bl'k. R. Falls.....	Central Wis. Tel. Co.		100,000 00		
Chip. Falls.....	Chippewa Co. Tel. Co.	30,000 00			
Bruce.....	Chip. Valley Tel. Co.		15,250 00		
Sheboygan.....	Citizens Tel. Exchange.		75,100 00	61,400 00	
Loyal.....	Clark Co. Tel. Co.		4,000 00		
Clear Lake.....	Clear Lake Tel. Co.	2,000 00	3,000 00		
Clinton.....	Clinton Tel. Co.		10,000 00		
Colby.....	Colby Tel. Co.				1,000 00
Coloma.....	Coloma Tel. Co.		4,140 00		
Coon Valley.....	C. Val. Farm. Tel. Co.	15,000 00			
Crandon.....	Crandon Tel. Co.	7,500 00			
Cuba City.....	C. City Tel. Exch. Co.		1,600 00		
Cumberland.....	Cumberland Tel. Co.		5,000 00		
Deerfield.....	Deerfield Tel. Co.		6,680 00		3,600 00

¹ Does not include utilities using condensed form of report.

UTILITY AS A WHOLE, 1912.—Continued.
ITIES.

RESERVE LIABILITIES.			CURRENT LIABILITIES.		
Depreciation reserve.	Sinking fund reserve.	Special reserves.	Notes and bills payable.	Accounts payable.	Matured interest on funded debt unpaid.
\$658 00			\$500 00		
103 13			3,550 00	\$150 00	
1,053 11			400 00	10,185 30	
				880 23	
				97 75	
			7,700 00	634 29	
			3,500 00	498 07	
8,868 32			1,300 00	1,288 63	
1,403 30			700 00		
			1,500 00	342 52	
2,398 15				590 47	
500 00					
3,742 76					
3,650 66					
300 00					
300 00			3,500 00	247 00	
3,681 86			950 00	1,592 86	
			500 00	114 78	
3,656 14					
3,982 50			3,575 00	1,199 72	
5,697 24			1,725 00	543 70	
			1,600 00	101 06	
			5,100 00	76 00	
316 27			5,300 00	1,612 04	
5,000 00			13,638 50	2,539 28	
11,384 40			1,270 00		
10,526 54				237 48	
45,717 35			5,961 51	6 03	
			1,140 00	451 01	
			600 00	335 98	
13,891 33			2,600 00		
			500 00	383 70	
2,575 97			2,900 00	585 29	
			2,775 00	17 64	
			500 00	450 00	

ALL CLASSES¹—BALANCE SHEET—
LIABILITIES

LOCATION.	NAME OF COMPANY.	CURRENT LIABILITIES. (Concluded)	
		Deposits.	Miscellaneous current liabilities.
Abbotsford	Abbotsford E. L. & T. Co.		
Allenton	Allenton-Kohlsville Tel. Co.		
Almond	Almond Tel. Co.		\$25 00
Amery	Amery Electric Co.		
Amherst	Amherst Tel. Co.		378 42
Antigo	Antigo Tel. Co.		
Argyle	Argyle Tel. Co.		
Arkansas	Arkansas Tel. Co.		
Ashland	Ashland Home Tel. Co.		
Athens	Athens Tel. Co.		2187 25
Neillsville	Badger State Tel. & Teleg. Co.	\$27 00	
Oconomowoc	Badger Tel. Co.		
Richland Center	Badger Tel. Co.		
Janesville	Badger Tel. & Teleg. Co.		
Baldwin	Baldwin Tel. Co.		404 00
Augusta	Ball, J. I., Estate		
Bangor	Bangor Tel. Co.		
Rice Lake	Barron Co. Tel. Co.		
Washburn	Bayfield Co. Tel. Co.		60 20
Belleville	Belleville Tel. Co.		
Hayward	Bell Tel. Mfg. Co.		
Belmont	B. and Pleasant View Tel. Co.		
Beloit	Beloit Farm Tel. Co.		
Berlin	Berlin Tel. Co.		167 50
Black Earth	Black Earth Tel. Co.		
Bloomer	Bloomer Tel. Co.		2308 44
Boscobel	Boscobel Tel. Co.		
Bristol	Bristol Tel. Co.		
Brodhead	Brodhead Tel. Co.	1,167 50	
Brooklyn	Brooklyn Tel. Co.	253 85	
Green Bay	Brown Co. Tel. Co.		
Burlington	B., Brighton & Wheatland Tel. Co.		
Rochester	B. R. & Kansasville Tel. Co.		
Cadott	Cadott Tel. Co.		
Cecil	Cecil Green Val. Toll Line Co.		
Cedar Grove	Cedar Grove Tel. Co.	34 20	
Black River Falls	Central Wis. Tel. Co.		
Chippewa Falls	Chippewa Co. Tel. Co.	125 70	11 10
Bruce	Chippewa Valley Tel. Co.		
Sheboygan	Citizens Telephone Exchange		
Loyal	Clark Co. Tel. Co.		
Clear Lake	Clear Lake Tel. Co.		
Clinton	Clinton Tel. Co.		
Colby	Colby Tel. Co.		
Coloma	Coloma Tel. Co.		
Coon Valley	Coon Valley Farmers Tel. Co.		
Crandon	Crandon Tel. Co.		
Cuba City	Cuba City Tel. Exchange Co.		2320 00
Cumberland	Cumberland Tel. Co.	329 73	2486 43
Deerfield	Deerfield Tel. Co.		

¹ Does not include utilities using condensed form of report.

UTILITY AS A WHOLE, 1912—Continued.
UTILITIES.

ACCRUED LIABILITIES.					Open ac- counts.	Surplus.	Total liabilities.
Taxes accrued.	Unma- tured interest on fund- ed debt accrued.	Unma- tured in- terest on notes and bills pay- able ac- crued.	Dividends.	Miscel- laneous liabili- ties ac- crued.			
							\$7,000 00
						\$622 80	14,940 80
				\$153 00	\$75 00	1,962 19	11,040 19
						1,803 96	18,338 43
							7,282 38
						37,204 29	64,137 63
					171 09	5,668 84	5,668 84
						280 00	5,200 00
					2,000 00		112,934 29
					8 34	2,776 09	22,969 75
						6,700 74	48,184 69
						6,754 51	22,137 81
		\$35 58				7,145 07	11,283 17
						11,632 24	180,222 71
\$95 00			\$3,252 30				45,958 07
						19,771 38	20,271 38
110 08			750 00			6,947 78	36,550 62
						8,166 58	42,967 24
						790 62	30,850 82
						1,400 00	7,000 00
							20,300 00
						1,628 00	11,875 00
				210 00		4,143 79	15,678 79
				116 43		3,229 93	12,313 86
						3,005 52	7,505 52
						1,789 84	38,323 00
						3,140 90	7,755 68
					393 96	5,132 53	15,536 49
						18,905 50	35,073 00
50 06			125 00			600 19	14,685 24
		290 67				8,346 91	33,412 30
			500 00			846 20	17,507 40
						2,203 26	16,476 56
						805 52	10,774 52
						2,598 10	22,774 10
			156 51			501 82	12,920 84
						11,547 57	132,725 35
139 94					25 98	484 29	45,441 41
127 03						7,853 90	33,994 95
644 80						20,381 03	209,210 72
						614 61	6,205 62
						1,864 51	7,800 49
		950 00				1,588 83	29,030 16
						4,437 13	5,437 13
						4,960 32	9,984 02
				171 98		820 48	22,053 72
						1,332 81	8,832 81
						125 11	2,045 11
					1,607 72	2,257 75	12,474 27
						1,344 04	12,574 04

² Dividends unpaid.

ALL CLASSES.¹ BALANCE SHEET.

As

LOCATION.	NAME OF COMPANY.	PROPERTY AND PLANT.		Treasury securities.	Stocks, bonds and other investments.	Reserve, sinking, and special fund assets.
		Cost beginning of year.	Construction and equipment during year.			
Reeseville	Dodge Co. Tel. Co.....	\$10,000 00	\$1,785 58			
Downsville	Dowansville Tel. Co	3,905 00				
Eagle.....	Eagle Tel. Co.....	61,220 14	3,918 54	\$2,050 00		
Eden.....	E. Fond du Lac T. Co..	8,723 12	759 41			
Chilton.....	Eastern Wis. Tel. Co..	63,712 21	8,094 39			
Cambellspt..	East Valley Tel. Co ...	4,459 50	735 50			
Eau Claire....	Eau Claire Co. Tel. Co.	6,000 00	2,320 17			
Eau Galle....	Eau Galle Tel. Co.....	4,584 63	662 96			
Edgerton.....	Edgerton Tel. Co.....	25,254 32	1,002 25			
Elroy.....	Elroy Tel. Co.....	12,000 00	760 87			
Cushing.....	Equity Tel. Co.....	8,512 53	1,202 56			
Neosho.....	Eureka Tel. Co.....	20,771 35	437 50			\$103 68
Evansville....	Evansville Tel. Co. ²					
Baraboo.....	Baraboo Mut. Tel. Co.	8,379 35	1,117 63			
Hebron, Ill..	Farm. New Era T. Co..	82,416 27				
Lancaster....	F. T. Co. of Beetown ..	20,000 00	800 00			
Richland Ctr.	Farm. Tel. Exch.....	33,133 56	3,701 79			
Cross Plains..	Farm. Union Tel. Co..	6,332 64	476 94	2,290 00		
Fennimore....	Fennimore Mut. Tel. Co	6,000 00	304 83			
Fennimore....	Fennimore Tel. Co....	1,200 00				
Fountain City	Fountain City Tel. Co ³					
Appleton....	Fox R. Valley Tel. Co.	676,850 24	20,979 83	137,200 00		
Franksville..	Franksville Tel. Co..	6,105 00	297 59			
Friendship... Glidden.....	Friendship Tel. Co.... Glidden Tel. Co.....	3,888 85 18,000 00	4,234 15			
Greenwood....	Greenwood Tel. Co....	4,576 60	482 24	670 00		
Peshigo.....	Harmony Tel. Co.....	5,167 34				
Hillsboro....	Hillsboro Tel. Co.....	13,342 21	902 11			
Durand.....	Home Tel. Co.....	12,000 00				
Hubertus....	Hubertus Tel. Co.....	11,850 00	736 61			
Durand.....	Inter County Tel. Co..	4,692 92				
Lake Mills....	Interurban Tel. Co....	122,842 17	6,460 93			
Iron River... Jackson..... Mauston....	Iron R. W. L. & P. Co. Jackson Tel. Co..... Juneau Elec. Co.....	10,000 00 8,195 35 7,856 00	 412 73			
Kenosha.....	Kenosha Home Tel. Co.	230,755 35	10,149 96			
Knapp.....	Knapp Tel. Co.....	8,334 75				
La Crosse....	LaCrosse Int. Tel. Co..	79,388 68	717 40	22,025 00	\$11,500 00	
LaCrosse....	LaCrosse Tel. Co.....	200,584 43	49,296 59	28,250 00		
LaFarge.....	LaFarge Tel. Co.....	16,159 25	425 50			
Lake City, Min	Lake Pepin Tel. Co....	15,709 52	1,693 18			
Larsen.....	Larsen Tel. Co.....	10,000 00	2,822 49			
Limeridge....	Limeridge Tel. Co....	9,200 00	300 00			
Poynette....	Leeds Par. Tel. Co....	6,800 00	230 00			
Lodi.....	Lodi Tel. Exchange....	12,382 55	333 51			
Ludington....	Ludington Tel. Co....	7,832 55	382 45			
Luxemburg... Manawa..... Reedsville... Wausau.....	Luxemburg Tel. Co.... Manawa Tel. Co..... Man. & West. Tel. Co. Marathon Co. Tel. Co	2,149 00 5,500 00 16,617 61 13,887 90	 887 28 1,450 07	 8,350 00 10,025 00		

¹ Does not include utilities using condensed form of report.² Sold to Wis. Tel. Co.—No report made.

UTILITY AS A WHOLE—Continued.
SETS.

CURRENT ASSETS.					Prepaid ac- counts.	Open accounts.	Deficits.	Total as- sets.
Cash.	Notes and bills receiv- able.	Accounts receiv- able.	Mat- erials and supplies.	Miscel- laneous current assets.				
\$111 30								\$11,896 88
219 95		\$300 00	\$20 00					4,444 95
1,859 53		7,782 97						76,831 18
208 70			180 80				\$1,927 97	11,800 00
286 71		201 02	456 41				10	72,750 84
			65 00					5,260 00
113 60		88 23	125 00					8,627 00
		598 85						5,846 44
2,044 95		538 35	169 83					29,009 70
		976 00	350 00		\$473 00		2,417 24	16,977 11
		170 55	316 88					10,306 20
1,438 05			382 79					23,029 69
520 09		116 90	184 20					10,318 17
5,417 64	\$214 45	2,260 83						90,309 19
1,250 76		587 00	100 00					22,737 76
162 27		2,651 99	1,816 51					41,466 12
27 79								9,127 37
998 49		546 00						7,849 32
53 87		20 00	30 00					1,303 87
10,022 50	35 00	8,421 16	9,242 93					\$62,751 66
489 92			37 00					6,929 51
	1,500 00		300 00					10,483 00
452 62		40 50				\$500 00		18,839 12
						346 00		
178 29		490 25						6,397 38
99 00								5,266 34
72 03	30 00	600 00						14,946 35
			243 64	49 60			147 55	12,440 79
								12,586 61
167 64		1,036 00	100 00					5,996 56
262 30		92 10	290 04					129,947 54
73 09		466 25	64 41	2,257 05				26,787 84
282 48								11,468 88
								8,138 48
24,173 18		3,222 22	3,090 85		296 32			271,687 88
59 88		119 37	20 00					8,554 00
127 98		2,866 34			35 00			115,831 60
415 65	1,700 00	1,685 55	8,320 79		775 73			291,028 74
								10,584 75
285 98		47 00	197 51					17,933 19
123 68			178 83					13,200 00
			100 00			75 00		9,600 00
250 00	240 00							7,520 00
78 61		679 00	270 00					13,743 67
82 27		158 30	355 81					8,841 38
888 92		364 91	75 00					3,477 83
								5,500 00
		891 49	951 36					27,697 74
686 19							650 84	26,700 00

*No balance sheet reported.

ALL CLASSES.¹ BALANCE SHEET.
LIABILI

LOCATION.	NAME OF COMPANY.	CAPITAL LIABILITIES.			
		Capital stock preferred.	Capital stock common.	Funded debt.	Mortgage liabilities.
Reeseville.....	Dodge Co. Tel. Co.....	\$7,500 00			
Downsville.....	Downsville Tel. Co.....	3,350 00		\$300 00	
Eagle.....	Eagle Tel. Co.....		\$30,000 00		
Eden.....	E. Fond du Lac Tel. Co.....		4,800 00		\$1,200 00
Chilton.....	Eastern Wis. Tel. Co.....		22,500 00		
Campbellsport.....	East Valley Tel. Co.....				
Eau Claire.....	Eau Claire Co. Tel. Co.....		6,500 00		
Eau Galle.....	Eau Galle Tel. Co.....		2,350 00		
Edgerton.....	Edgerton Tel. Co.....		18,000 00		
Elroy.....	Elroy Tel. Co.....		12,000 00	4,000 00	
Cushing.....	Equity Tel. Co.....	5,775 00			
Neosho.....	Fureka Tel. Co.....		15,000 00		
Evansville.....	Evansville Tel. Co. ²				
Baraboo.....	Baraboo Mut. Tel. Co.....		9,960 00		
Hebron, Ill.....	Farm. New Era Tel. Co.....		60,000 00		
Lancaster.....	Fm. Tel. Co. of Beetown	20,000 00	800 00		
Richland Ctr.....	Farmers Tel. Exch.....		5,000 00		
Cross Plains.....	Farmers Union Tel. Co.....	4,000 00			
Fennimore.....	Fennimore Mut. Tel. Co.....	6,786 00			
Fennimore.....	Fennimore Tel. Co.....				
Fountain City.....	Fountain City Tel. Co. ³				
Apleton.....	Fox R. Valley Tel. Co.....	350,000 00		350,000 00	
Franksville.....	Franksville Tel. Co.....		5,375 00		
Friendship.....	Friendship Tel. Co.....	500 00	3,500 00		
Glidden.....	Glidden Tel. Co.....		18,000 00		
Greenwood.....	Greenwood Tel. Co.....	4,000 00			
Peshigo.....	Harmony Tel. Co.....		3,500 00		
Hillsboro.....	Hillsboro Tel. Co.....				
Durand.....	Home Tel. Co.....		12,000 00		
Hubertus.....	Hubertus Tel. Co.....		12,586 61		
Durand.....	Inter County Tel. Co.....		4,500 00		
Lake Mills.....	Interurban Tel. Co.....	69,800 00		23,000 00	
Iron River.....	Iron R. W. Lt. & Pr. Co.....	20,000 00	4,600 00	300 00	
Jackson.....	Jackson Tel. Co.....	6,000 00			
Mauston.....	Juneau Elec. Co.....	5,700 00			
Kenosha.....	Kenosha Home Tel. Co.....		175,000 00		
Knapp.....	Knapp Tel. Co.....		8,275 00		
La Crosse.....	LaC. Interurban Tel. Co.....	25,000 00	25,000 00	30,000 00	
La Crosse.....	La Crosse Tel. Co.....	50,000 00	150,000 00		
La Farge.....	La Farge Tel. Co.....				
Lake C'y. Minn.....	Lake Pepin Tel. Co.....	10,100 00	3,500 00		
Larsen.....	Larsen Tel. Co.....	13,200 00			
Limeridge.....	Limeridge Tel. Co.....				8,624 00
Poynette.....	Leeds Farmers Tel. Co.....	6,800 00			
Lodi.....	Lodi Tel. Exchange.....				
Ludington.....	Ludington Tel. Co.....	6,645 00			
Luxemburg.....	Luxemburg Tel. Co.....	2,149 00			
Manawa.....	Manawa Tel. Co.....				
Reedsville.....	Manitowoc & W'n. T. Co.....		16,450 00	5,000 00	
Wausau.....	Marathon County T. Co.....		25,000 00		

¹ Does not include utilities using condensed form of report.² Sold to Wis. Tel. Co.—No report made.

UTILITY AS A WHOLE, 1912.—Continued
TIES.

RESERVE LIABILITIES.			CURRENT LIABILITIES.		
Depreciation reserve.	Sinking fund reserve.	Special reserves.	Notes and bills payable.	Accounts payable.	Matured interest on funded debt unpaid.
			\$1,675 00		
			150 00		
\$29,721 99			3,000 00		
13,974 62			5,800 00	\$697 48	
			18,700 00		
800 00				713 64	
5,577 43			1,500 00	1,239 60	\$43 00
			2,823 30		
			5,800 00		
27 98					
			50 00	1,000 00	
			22,434 00	532 88	3,996 18
			500 00		
				74 00	
58,975 52			55,138 29	3,535 00	
			730 00		
			3,150 00	400 00	
			795 00	174 15	
			1,500 00	197 87	
			4,020 00		
				79 80	
			4,700 00	2,594 88	
			1,887 84		
892 11			2,886 00	611 29	
			1,000 00		
73,227 06				7,340 46	
5,642 40			259 00		
58,782 24		\$200 00	28,133 00	1,869 35	
			26,400 00		
			600 00		
			1,000 00	69 84	
350 00			630 00		
				1,120 00	
				4,200 30	
			1,700 00		

³ No balance sheet reported.

ALL CLASSES¹—BALANCE SHEET—
LIABILI

LOCATION.	NAME OF COMPANY.	CURRENT LIABILITIES. (Concluded)	
		Deposits.	Miscellaneous current liabilities.
Reeseville	Dodge Co. Tel. Co.		
Downsville	Downsville Tel. Co.		
Eagle	Eagle Tel. Co.		
Eden	Eastern Fond du Lac Tel. Co.		
Chilton	Eastern Wis. Tel. Co.		\$1,518 00
Campbellsport	East Valley Tel. Co.		
Eau Claire	Eau Claire Co. Tel. Co.		
Eau Galle	Eau Galle Tel. Co.		
Edgerton	Edgerton Tel. Co.		
Elroy	Elroy Tel. Co.	\$977 11	
Cushing	Equity Tel. Co.		
Neosho	Eureka Tel. Co.		790 15
Evansville	Evansville Tel. Co. ²		
Baraboo	Baraboo Mutual Tel. Co.		
Hebron, Ill.	Farmers New Era Tel. Co.		
Lancaster	Farmers Tel. Co. of Beetown		233 54
Richland Center	Farmers Tel. Exch.		
Cross Plains	Farmers Union Tel. Co.		2395 00
Fennimore	Fennimore Mut. Tel. Co.		
Fennimore	Fennimore Tel. Co.		
Fountain City	Fountain City Tel. Co.		
Appleton	Fox R. Valley Tel. Co.		20,733 78
Franksville	Franksville Tel. Co.		
Friendship	Friendship Tel. Co.		
Glidden	Glidden Tel. Co.		
Greenwood	Greenwood Tel. Co.		
Peshigo	Harmony Tel. Co.		
Hillsboro	Hillsboro Tel. Co.		
Durand	Home Tel. Co.		77 42
Hubertus	Hubertus Tel. Co.		
Durand	Inter County Tel. Co.		
Lake Mills	Interurban Tel. Co.		210 00
Iron River	Iron R. W. Lt. & Pr. Co.		
Jackson	Jackson Tel. Co.		
Mauston	Juneau Elec. Co.		
Kenosha	Kenosha Home Tel. Co.		
Knapp	Knapp Tel. Co.		
La Crosse	La Crosse Interurban Tel. Co.		
La Crosse	La Crosse Tel. Co.		
La Farge	La Farge Tel. Co.		
Lake City, Minn.	Lake Pepin Tel. Co.		2,515 00
Larsen	Larsen Tel. Co.		
Limeridge	Limeridge Tel. Co.		
Poynette	Leeds Farmers Tel. Co.		252 00
Lodi	Lodi Tel. Exchange		
Ludington	Ludington Tel. Co.		2574 83
Luxemburg	Luxemburg Tel. Co.		
Manawa	Manawa Tel. Co.		
Reedsville	Manitowoc & Western Tel. Co.		1,324 65
Wausau	Marathon County Tel. Co.		

¹ Does not include utilities using condensed form of report.² Dividends unpaid.

UTILITY AS A WHOLE, 1912—Continued.
TIES.

ACCRUED LIABILITIES.					Open ac- counts.	Surplus.	Total liabili- ties.
Taxes accrued.	Unma- tured in- terest on funded debt, accrued.	Unmatur- ed interest on notes and bills payable, accrued.	Dividends.	Miscel- laneous liabili- ties, accrued.			
						\$2,721 88	\$11,896 88
						644 95	4,444 95
\$344 35						13,764 84	76,831 18
						15,360 74	11,800 00
						5,260 00	72,750 84
					\$155 00	453 36	5,260 00
						3,298 68	8,627 00
						2,649 67	5,846 44
						1,707 90	29,009 70
						1,439 54	16,977 11
						330 19	10,306 20
						30,309 19	23,029 69
						854 22	10,318 17
		\$481 83				9,021 23	90,309 19
						4,232 37	22,737 76
						989 32	41,466 12
						1,303 87	9,127 37
							7,849 32
							1,303 87
						24,369 07	862,751 66
						824 51	6,929 51
				\$2,933 00			10,483 00
						839 12	18,839 12
						1,428 23	6,397 38
						68 47	5,266 34
						10,926 35	14,946 35
					118 11	165 46	12,440 79
							12,586 61
						1,496 56	5,996 56
						32,842 66	129,947 54
							26,787 84
				563 33		516 15	11,468 88
						1,438 48	8,138 48
725 54						15,394 82	271,687 88
186 85							8,534 00
819 55		200 04				4,626 91	115,831 60
						10,584 75	291,028 74
							10,584 75
						2,218 19	17,933 19
							13,200 00
						976 00	9,600 90
						668 00	7,520 00
						12,673 83	13,743 67
						641 55	8,841 38
						208 83	3,477 83
						5,500 00	5,500 00
						722 79	27,697 74
							26,700 00

* Sold to Wis. Tel. Co.—No report made.

ALL CLASSES.¹ BALANCE SHEET,*Italic figures denote credits.*

As

LOCATION.	NAME OF COMPANY	PROPERTY AND PLANT.		Treasury securities	Stocks, bonds and other investments.	Reserve, sinking and special fund assets.
		Cost beginning of year.	Construction and equipment during year.			
Marion.....	Marion & North. T. Co.	\$16,606 93	\$913 33			
Markesan.....	Markesan Tel. Co.	11,025 42				
Oxford.....	Mar. & Adams Co. T. Co.	4,396 79	683 18			
Mazomanie.....	Mazomanie Tel. Co.	9,698 57	920 36			
Marshfield....	Marshfield Tel. Exch.	23,472 46	5,095 77			
Welcome.....	Matteson Tel. Co.	5,950 00	150 00		\$400 00	
Mattoon.....	Mattoon Tel. Co.	3,003 12		\$500 00		
Mauston.....	Mauston El. Service Co.	19,057 19	2,881 95			
Cumberland....	McKinley Tel. Co.	9,740 48	1,402 00			
Medford.....	Medford Tel. Exch. ²					
Menom. Falls	M. Falls Tel. Co.	20,240 78	236 37			\$921 16
Merton.....	Merton Tel. Co.	3,200 00	278 50			
Niagara.....	Michigan State T. Co. ³					
Stetsville.....	Midway Tel. Co.	8,990 51	1,018 58			
Milwaukee....	Milwaukee Mutual T. Co.	6,260 99	1,094 94			
Milton Jct....	Milton & M. Jct. Tel. Co.	27,259 81	472 15			
Mineral Point	Mineral Point Tel. Co.	18,000 00	3,729 18			
Mondovi.....	Mondovi Tel. Co.	26,339 11	680 97			
Sparta.....	Monroe Co. Tel. Co.	46,422 96	1,668 98	6,800 00		2,400 00
Mt. Horeb....	Mt. Horeb Ind. Tel. Co.	28,464 74	56 47	5,800 00		
Mt. Vernon....	Mt. Vernon Tel. Co.	19,350 00	1,048 90			
Nelsonville...	Nelsonville Tel. Co.	4,250 00	150 00			
New Auburn...	New Auburn Tel. Co.	5,973 62	95 43			346 53
Newburg.....	Newburg Tel. Co.	31,522 00	2,485 00			
Cashton.....	New Cashton Tel. Co.	21,170 11	474 22	4,000 00	105 00	
Dodgeville...	New Union Tel. Co.	15,000 00	302 76			
Minocqua....	Northern Tel. Co.	8,000 00				
Northfield...	Northfield Far. T. Co.	8,832 74	104 17			
Ashland.....	No. Wis. Toll Line.	24,000 00				
Oakfield.....	Oakfield Tel. Co.	13,690 83	414 56			
Oconto.....	Oconto Rural Tel. Co.	19,214 31	1,758 16			
Wilton.....	Ontario & Wilton T. Co.	6,032 50	2,584 81	550 00		
Oostburg....	Oostburg Tel. Co.	8,728 92	565 90			
Oregon.....	Oregon Tel. Co.	20,812 50	465 03			
Orfordville...	Orfordville Tel. Co.	21,529 85	2,624 06			1,060 90
Osceola.....	Osceola Far. Mut. T. Co.	17,151 29	1,475 81			900 00
Osseo.....	Osseo Tel. Co.	16,752 37	521 85			
Germantown..	Ozaukee, Wash. Tel. Co.	33,170 00	7,825 02			2,128 49
Pardeeville..	Pardeeville Tel. Co.	2,507 00	596 30			
Mt. Hope.....	Peoples Tel. Co.	10,416 00	1,000 00			
Superior.....	Peoples Tel. Co.	230,707 99	12,116 72			
Wycocena....	Peoples Tel. Co.	34,030 00	2,263 38			
Pewaukee....	Pewa'kee-Sussex T. Co.	9,942 11	658 03			300 00
Ellsworth....	Pierce County Tel. Co.	83,223 01	3,473 50			
Plymouth....	Plymouth Tel. Co.	19,555 85	2,191 10			
Portage.....	Portage Tel. Co.	66,327 53	2,997 80	5,000 00		
Poynette....	Poynette Tel. Co.	9,182 41				251 90
Prairie Farm..	P. F. R'gw'y & Dal. T. Co.	13,975 27	1,207 99			
Phillips....	Price County Tel. Co. ⁴					
Big Bend....	Pros., Guth. & B. B. T. Co.	10,864 26	820 75			

¹ Does not include utilities using condensed form of report.² No balance sheet reported.

UTILITY AS A WHOLE, 1912—Continued.

SETS,

CURRENT ASSETS.					Prepaid accounts	Open accounts.	Deficit.	Total assets.
Cash.	Notes and bills receivable.	Accounts receivable.	Materials and supplies.	Miscellaneous current assets.				
\$489 95		\$670 76						\$18,680 97
16 14			\$1,575 00		\$40 00			12,656 56
228 54			54 54					5,363 05
772 40		1,833 95	2,930 55	\$27 50				10,718 93
610 00			150 00					7,260 00
270 37	\$23 80		48 89					3,846 18
584 41		1,262 64	275 08			\$116 08		24,177 35
79 03		1,510 05						12,731 56
2,584 90		1,699 49	150 00					25,832 70
210 59		265 10	10 00					3,064 19
91 85	859 00	420 79	154 74				\$8,201 69	17,700 00
50 00	28 20		185 00					7,619 13
1,260 14		673 15	333 20					29,998 45
1,037 41		807 31						23,573 90
30 37		1,797 80	30 19					28,878 44
450 00	2,511 82	1,972 43	2,454 38					64,230 57
		2,272 50	100 00					37,143 71
80 00		5,209 10	120 00					25,818 00
		321 35	190 85					4,912 20
157 47		428 58	508 24		75 00			7,584 87
100 00		4,140 64	200 00					38,447 64
170 68		1,456 14			1,850 00	10 00		29,236 15
2,755 59			200 00		113 14		23,451 01	41,822 50
76 00			45 00				1,904 00	10,250 00
263 50	68 00	140 50				225 00		9,792 26
471 08						383 35		24,642 13
389 51		543 00	325 00		64 01	171 05		15,426 91
60 18		664 96	695 75					22,393 36
134 41		847 93	548 20					10,697 85
107 17							1,420 52	10,822 51
285 85		282 13	216 87	400 00				22,462 38
37 29		950 00	389 50					26,591 60
242 26		1,025 55	201 73	108 95				21,105 59
640 24		2,708 00	250 00					20,872 46
		2,000 00	300 00				5,374 88	50,798 39
110 00		225 00	24 00					3,462 30
322 83	1,988 01			160 00			4,207 56	18,034 40
2,880 68	58 60	3,264 02	2,962 55	914 88	322 38			253,227 82
856 87			758 43				4,336 92	42,245 60
407 03		254 15						11,561 32
6,350 12		259 96						93,306 59
131 32								21,878 27
3,313 30								77,638 68
934 59	258 15	369 27	340 71	249 72				11,586 75
756 73	61 70	845 74						16,847 43
		2,394 28	271 93					14,351 22

*No balance sheet available—part of Michigan State Tel. Co.

† Company in hands of receiver.—No complete report made.

ALL CLASSES 1—BALANCE SHEET.

LIABIL-

LOCATION.	NAME OF COMPANY.	CAPITAL LIABILITIES.			
		Capital stock, preferred.	Capital stock common.	Funded debt.	Mortgage liabilities.
Marion.....	Marion & North'n T. Co.	\$11,175 00	\$975 00		
Markesan.....	Markesan Tel. Co.			\$3,000 00	\$1,500 00
Oxford.....	Marquette & Adams Co.	3,480 00			
Mazomanie.....	Mazomanie Tel. Co.		5,500 00		
Marshfield.....	Marshfield Tel. Exch.	25,000 00			
Welcome.....	Matteson Tel. Co.		6,760 00		
Mattoon.....	Mattoon Tel. Co.	2,500 00			
Mauston.....	Mauston El. Service Co.		15,000 00	3,276 37	
Cum-b-riand.....	McKinley Tel. Co.		3,725 00		305 58
Medford.....	Medford Tel. Exch. ²				
Men'onee Fall	M. Falls Tel. Co.	15,000 00		3,000 00	
Merton.....	Merton Tel. Co.	1,675 00			
Niagara.....	Michigan State Tel. Co. ³				
Stetsonville.....	Midway Tel. Co.	10,000 00	5,800 00		1,500 00
Milltown.....	Milltown Mut. Tel. Co.		4,000 00		
Milton Jet.....	Milton & M. Jet. Tel. Co.		20,000 00		
Mineral Pt.....	Mineral Pt. Tel. Co.		10,000 00		
Mondovi.....	Mondovi Tel. Co.		15,000 00		
Sparta.....	Monroe County Tel. Co.		40,000 00		
Mt. Horeb.....	Mt. Horeb Ind. Tel. Co.		25,000 00		
Mt. Vernon.....	Mt. Vernon Tel. Co.		5,200 00		
Nelsonville.....	Nelsonville Tel. Co.		4,400 00		
New Auburn.....	New Auburn Tel. Co.		4,105 00		
Newburg.....	Newburg Tel. Co.				400 00
Cashton.....	New Cashton Tel. Co.		24,000 00		
Dodgeville.....	New Union Tel. Co.	38,614 00			3,100 00
Minocqua.....	Northern Tel. Co.		7,950 00		
Northfield.....	North. Farmers Tel. Co.		7,760 00		
Ashland.....	No. Wis. Toll Line.		24,000 00		
Oakfield.....	Oakfield Tel. Co.		13,000 00		
Oconto.....	Oconto Rural Tel. Co.		17,750 00		
Wilton.....	Ontario & Wilton T. Co.		5,000 00	1,500 00	
Oostburg.....	Oostburg Tel. Co.		3,000 00		
Oregon.....	Oregon Tel. Co.		5,000 00		16,125 00
Orfordville.....	Orfordville Tel. Co.		14,000 00		
Osceola.....	Osceola Far. Mut. T. Co.	10,000 00			
Osseo.....	Osseo Tel. Co.		13,000 00		
Germantown.....	Ozaukee, Wash. T. Co.		50,000 00		
Pardeeville.....	Pardeeville Tel. Co.		2,300 00		
Mt. Hope.....	Peoples Tel. Co.		16,216 00	1,591 35	
Superior.....	Peoples Tel. Co.		94,000 00	100,000 00	
Wycocena.....	Peoples Tel. Co.	33,550 00	750 00		
Pewaukee.....	Pewaukee Sussex T. Co.		5,000 00		
Ellsworth.....	Pierce Co. Tel. Co.		73,398 00		
Plymouth.....	Plymouth Tel. Co.		5,500 00		3,000 00
Portage.....	Portage Tel. Co.	30,000 00			
Poynette.....	Poynette Tel. Co.		10,000 00		
Prairie Farm.....	P. F. R. & Dallas T. Co.		11,650 00		
Phillips.....	Price Co. Tel. Co. ⁴				
Big Bend.....	Prospect, G. & B. B. Tel.		7,014 50		

¹ Does not include utilities using condensed form of report.² No balance sheet reported.

UTILITY AS A WHOLE, 1912—Continued.

ITIES.

RESERVE LIABILITIES.			CURRENT LIABILITIES.		
Depreciation reserve.	Sinking fund reserve.	Special reserve.	Notes and bills payable.	Accounts payable.	Matured interest on funded debt unpaid.
\$2,904 25			\$1,500 00	\$43 31	
			1,100 00	217 16	
867 97			7,000 00	360 37	
				287 20	
			3,132 47		
3,842 53			1,800 00	727 30	
			400 00	217 80	
			400 00		
			1,700 00	160 00	
1,255 72					
11,339 11			1,200 00		
6,964 34			800 00	244 80	
			395 82	255 00	
			500 00		
			1,290 00	60 00	
			1,200 00	700 00	
3,436 18					
				2,300 00	
				53 40	
1,194 60			400 00		
1,130 50			2,600 00		
688 50			3,000 00	409 35	
2,620 77			5,201 74		
			1,000 00	51 53	
1,060 90					
				284 44	
				239 78	
				798 39	
1,000 00					
				1,709 05	
9,127 47			4,926 10		
			500 00	128 35	
12,065 85			4,900 00	403 20	
27,379 70			8,000 00		
1,000 00					
			2,421 36		

³ No balance sheet available.—Part of Mich. State Tel. Co.
⁴ Company in hands of receiver—No complete report made.

ALL CLASSES¹—BALANCE SHEET
LIABIL

LOCATION.	NAME OF COMPANY.	CURRENT LIABILITIES (Concluded.)	
		Deposits.	Miscellaneous current li- abilities.
Marion.....	Marion and Northern Tel. Co.....		
Markesan.....	Markesan Tel. Co.....		
Oxford.....	Marquette & Adams Co. T. Co.....		\$228 54
Mazomanie.....	Mazomanie Tel. Co.....		
Marshfield.....	Marshfield Tel. Exch.....		
Welcome.....	Matteson Tel. Co.....		
Mattoon.....	Mattoon Tel. Co.....		
Mauston.....	Mauston El. Service Co.....		
Cumberland.....	McKinley Tel. Co.....		\$3 00
Medford.....	Medford Tel. Exch.....		
Menomonee Falls.....	Menomonee Falls Tel. Co.....		\$1,200 00
Merton.....	Merton Tel. Co.....		
Niagara.....	Michigan State Tel. Co. ³		
Stetsonville.....	Midway Tel. Co.....		
Milltown.....	Milltown Mutual Tel. Co.....		
Milton Jct.....	Milton & M. Jct. Tel. Co.....		
Mineral Pt.....	Mineral Pt. Tel. Co.....		
Mondovi.....	Mondovi Tel. Co.....		
Sparta.....	Monroe Co. Tel. Co.....		
Mt. Horeb.....	Mt. Horeb Ind. Tel. Co.....		\$11 00
Mt. Vernon.....	Mt. Vernon Tel. Co.....		
Nelsonville.....	Nelsonville Tel. Co.....		
New Auburn.....	New Auburn Tel. Co.....		\$132 33
Newburg.....	Newburg Tel. Co.....	\$389 13	
Cashton.....	New Cashton Tel. Co.....	\$157 87	
Dodgeville.....	New Union Tel. Co.....		
Mnocqua.....	Northern Tel. Co.....		
Northfield.....	Northfield Farmers Tel. Co.....	\$620 80	\$64 50
Ashland.....	No. Wis. Toll Line.....		
Oakfield.....	Oakfield Tel. Co.....		
Oconto.....	Oconto Rural Tel. Co.....		\$760 00
Wilton.....	Ontario & Wilton Tel. Co.....		
Oostburg.....	Oostburg Tel. Co.....		
Oregon.....	Oregon Tel. Co.....		
Orfordville.....	Orfordville Tel. Co.....		
Osceola.....	Osceola Farmers Mut. Tel. Co.....	\$316 50	
Osseo.....	Osseo Tel. Co.....		\$58 50
Germanatown.....	Ozaukee, Washington Tel. Co.....		
Pardeeville.....	Pardeeville Tel. Co.....		\$227 05
Mt. Hope.....	Peoples Tel. Co.....		
Superior.....	Peoples Tel. Co.....	\$204 28	
Wyoconna.....	Peoples Tel. Co.....		\$3,019 50
Pewaukee.....	Pewaukee-Sussex Tel. Co.....		
Ellsworth.....	Pierce County Tel. Co.....		
Plymouth.....	Plymouth Tel. Co.....		
Portage.....	Portage Tel. Co.....		
Poynette.....	Poynette Tel. Co.....		
Prairie Farm.....	P. F., Ridgeway & Dallas Tel. Co.....		
Phillips.....	Price County Tel. Co. ⁴		
Big Bend.....	Prospect, Guthrie & B. B. Tel. Co.....		

¹ Does not include utilities using condensed form of report.² Dividends unpaid.

UTILITY AS A WHOLE, 1912—Continued.
ITIES.

ACCRUED LIABILITIES.					Open accounts.	Surplus.	Total liabilities.
Taxes accrued.	Unmatured interest on notes and bills payable, accrued.	Unmatured interest on funded debt accrued.	Dividends accrued.	Miscellaneous liabilities accrued.			
\$126 53				\$310 00		\$1,646 88	\$18,680 97
						6,839 40	12,656 56
						1,654 51	5,363 05
						5,218 93	10,718 93
						904 29	34,132 63
						500 00	7,260 00
						1,346 18	3,846 18
						5,613 78	24,177 35
						5,535 51	12,731 56
					\$9 00	253 87	25,832 70
						1,671 39	3,964 19
							17,700 00
						1,759 13	7,619 13
						8,742 73	29,998 45
200 00						12,173 90	23,573 90
200 00				57 50		1,437 03	28,878 44
						17,066 23	64,230 57
						12,032 71	37,143 71
50 00		\$2 40				19,914 78	25,818 00
						12 20	4,912 20
						1,608 41	7,584 87
73 27						36,147 64	38,447 64
						1,568 83	29,236 15
	\$108 50						41,822 50
							10,250 00
						98 96	9,792 26
						242 13	24,642 13
						2,426 91	15,426 91
					152 00	86	22,393 36
						100 00	10,697 85
							10,822 51
						285 85	22,462 38
						11,530 70	26,591 60
						10,504 65	21,105 59
						7,574 18	20,872 46
							50,798 39
						162 30	3,462 30
							18,034 40
628 01	2,500 00					45,059 01	253,227 82
							42,245 60
						6,132 97	11,561 32
						7,439 54	93,306 59
						8,478 27	21,878 27
						12,258 98	77,638 68
						586 75	11,586 75
						5,197 43	16,847 43
						4,915 36	14,351 22

³No balance sheet available—part of Mich. State Tel. Co.

⁴Company in hands of receiver—no report made.

LOCATION.	NAME OF COMPANY.	PROPERTY AND PLANT.		Treasury securities.	Stocks, bonds and other investments.	Sinking fund and special fund assets.
		Cost beginning of year.	Construction and equipment during year.			
Random Lake	Random Lake Tel. Co.	\$10,227 82	\$600 00			
Reedsburg	Reedsburg Tel. Co.	31,877 21	1,147 21		\$600 75	
Rhineland	Rhineland Mut. T. Co.	20,179 00	1,011 66		125 00	
Rice Lake	R. L. & N'theast'n T. Co.	17,166 61	1,639 27			
Ripon	Ripon Rural Tel. Co.	13,185 24	611 31			
Ripon	Ripon Tel. Co.	12,270 72			1,560 00	
Ripon	Rock County Tel. Co.	94,965 01	4,475 57	\$5,000 00	20,825 00	
Ripon	Rock River Tel. Co.	21,552 95	2,011 85			
Ripon	Rosendale Tel. Co.	13,000 00	602 24			
Ripon	Rural Tel. Co.	4,957 75	2,272 40			
Scandinavia	Scandinavia Tel. Co.	6,265 74	1,070 33			847 51
Sharon	Sharon Tel. Co.	10,000 00				
Sharon	Shaw Tel. Co.	8,889 70	955 09			
Shiocton	Shiocton Tel. Co.	14,000 00	2,000 00			
Elkhorn	State Long Dist. T. Co.	30,563 50	2,011 38	6,200 00		
New Richm'd.	St. Croix Tel. Co.	16,214 97	4,985 64			
New Richm'd.	St. Cr. Valley T. Exch.	27,486 79	1,782 72			
Stockbridge	St'kb'ge & S'rwd T. Co.	6,000 00				
Sullivan	Sullivan Tel. Co.	12,196 80	1,529 64			2,360 00
Alma	Tenney Tel. Co.	10,000 00				
Tomah	Tomah El. & Tel. Co.	34,659 23	2,112 13		2,800 00	
Tomahawk	Tomah'k El. W. & T. Co.	6,408 75	161 36		2,866 67	
Meri'n Pk. St. P	Minn. Tel.-St. T. & T. Co. ²					
Prairie du Sac	Troy & Honey Cr T. Co.	14,287 50	600 00			
Two Rivers	Two Rivers Tel. Co.	10,000 00	500 00			
Union Grove	Union Grove Tel. Co.	13,530 80	499 64			
Plainfield	Union Tel. Co.	6,000 00	450 00			
Pr. du Chien	Union Tel. Co.	18,900 00	1,686 57			
Monroe	United Tel. Co.	75,810 02	5,101 62		2,300 00	7,964 37
Pickett	Utica Tel. Co.	9,057 93	324 03			
Viroqua	Viroqua Tel. Co.	17,370 50	443 32			
Walworth	Walworth T. Exch. Co.	19,351 97				1,333 46
Schl'si'g'rville	Wash County Tel. Co.	25,799 61	1,105 93			
Watertown	Watertown Tel. Co.	28,870 12	1,298 90	150 00		
Waunakee	Waunakee Tel. Co.	9,700 00	500 00			
Wausau	Wausau Tel. Co.	157,411 46	59,663 22			
Westby	Westby Tel. Co.	19,480 44	1,415 59			
Arcadia	Western Wis. Tel. Co.	103,230 95	6,251 21			
Westfield	Westfield Far. Tel. Co.	7,329 59	3,609 00			
Glenwood	West Wis. Tel. Co.	16,372 90	1,957 52			
Shullsburg	White Oak Tel. Co.	3,729 57	470 23			
Waterford	Wind Lake Tel. Co.	5,500 00	25 00			
Oshkosh	Winnebago Co. Tel. Co.	5,351 58	1,814 81			
South Wayne	Wini. & Sullivan T. Co.	5,000 00	348 00			
Milwaukee	Wisconsin Tel. Co.	10,542,789 46	1,145,860 38		140,875 00	
Wonewoc	Wonewoc Tel. Co.	10,784 00	2,310 55			345 35
Grand Rapids	Wood County Tel. Co.	23,189 55	1,161 10			
	Total	\$15,803,839 68	\$1,521,563 66	\$346,638 40	\$187,277 10	\$53,044 18

¹ Does not include utilities using condensed form of report.

UTILITY AS A WHOLE, 1912—Continued.
SETS.

CURRENT ASSETS.					Prepaid ac- counts.	Open ac- counts.	Deficit.	Total assets.
Cash.	Notes and bills receiv- able.	Accounts receiv- able.	Material and supplies.	Miscel- laneous current assets.				
\$2 59		\$1,148 80						\$11,979 21
1,538 88	\$280 95	1,150 30	\$1,894 79	\$55 90				38,545 99
15 17		87 66	893 73		\$72 44		\$1,263 05	23,647 71
1,406 52		15 00	250 19					20,212 40
931 27								14,993 01
858 01		75 59	419 12	1 83				15,125 27
905 98		3,578 91	1,494 25					131,244 72
126 02		1,731 73						25,422 55
		215 00	40 00					13,857 24
82 73								7,312 88
			877 37					9,060 95
1,747 86		2,260 95						14,008 81
50 00		400 00	220 00					10,514 79
600 00		250 00	500 00					17,350 00
442 58		1,510 80	369 14					41,097 40
		487 17						21,687 78
36 41		1,971 98		200 00				31,477 90
502 00			400 00					6,902 00
		1,567 94	60 00					17,654 38
45 11								10,105 11
373 28		2,200 18	367 74	236 92	71 11			42,820 59
87 18		909 09	673 61	290 66				11,397 32
			400 00				5,148 42	22,080 00
1,644 08		500 00	500 00				1,851 47	15,351 47
2,000 00			200 00					16,197 29
116 85	1,850 00	567 32						13,097 17
2,208 05		79 05	572 00				3,871 80	21,830 00
592 38		1,445 76		307 53				106,356 30
46 05	13,356 00		29 35			\$24 95		10,952 40
1,266 19	274 90							
158 88	96 00	1,037 09	460 24	95 14				19,661 17
85		840 24	259 78	20 00	84 36		80 94	21,971 60
468 54		1,157 35		100 00				28,631 43
85 01		30 95						30,434 98
								10,200 00
117 45		1,035 57					3,286 36	221,514 06
2,131 06	36 00	668 10	480 76					24,209 95
	481 20	12,275 58	311 15		227 85			122,777 94
204 99	328 00	300 00						11,771 58
393 83	35 25	677 21	1,343 61					20,780 32
503 55								4,703 35
71 12						115 00		5,711 12
		525 00						7,166 39
440,547 05		209,159 45	340,760 99		28,394 82	233,544 18		5,873 00
								13,081,931 33
72 88		396 75	860 40					14,769 93
1,670 55			158 55					26,179 75
\$574,654 65	\$31,694 23	\$ 386,760 41	\$412,030 50	\$9,444 30	\$32,626 81	\$238,519 86	\$96,405 81	\$19,695,499 59

² No balance sheet available—Part of Tri-State Tel. & Teleg. Co.

ALL CLASSES 1—BALANCE SHEET
LIABILI

LOCATION.	NAME OF COMPANY.	CAPITAL LIABILITIES.			
		Capital stock preferred.	Capital stock common.	Funded debt.	Mortgage liabilities.
Random Lake.	Random Lake Tel. Co.	\$5,000 00			
Reedsburg.....	Reedsburg Tel. Co.		\$20,000 00		
Rhinelande.....	Rhinelande Mut. T. Co.		21,080 00		
Rice Lake.....	R. L. & N'rtheast'n Tel.		18,550 00		
Ripon.....	Ripon Rural Tel. Co.		10,000 00		
Ripon.....	Ripon Tel. Co.		8,000 00		
Janesville.....	Rock Co. Tel. Co.		100,000 00		\$2,300 00
Johnson's Crk	Rock River Tel. Co.		19,000 00		
Rosendale.....	Rosendale Tel. Co.				
Waupaca.....	Rural Tel. Co.		4,175 00		
Scandinavia...	Scandinavia Tel. Co.	5,825 00			
Sharon.....	Sharon Tel. Co.		10,000 00		
Eleva.....	Shaw Tel. Co.		5,000 00	\$1,500 00	
Shiocton.....	Shiocton Tel. Co.				650 00
Elkhorn.....	State Long D. Tel. Co.		25,000 00		
New Richmn'd	St. Croix Tel. Co.		16,536 00		
St. Croix Falls.	St. Croix Val. Tel. Exch.		20,200 00		
Stockbridge...	S. & Sherwood T. Co.		5,000 00		
Sullivan.....	Sullivan Tel. Co.	10,700 00			
Alma.....	Tenney Tel. Co.	9,000 00			
Tomah.....	Tomah El. & Tel. Co.		32,700 00		
Tomahawk.....	Tomahawk E. W. & Tel.		10,666 66		
Meriam Park ²	Tri-State T. & T. Co. ²				
Prairie du Sac	Troy and H. Creek T. Co.		22,080 00		
Two Rivers.....	Two Rivers Tel. Co.		7,500 00	7,500 00	
Union Grove...	Union Grove Tel. Co.	12,575 00			
Plainfield.....	Union Tel. Co.		12,000 00		
Prairie d' Ch'n	Union Tel. Co.		21,600 00		
Monroe.....	United Tel. Co.		66,268 82		
Pickett.....	Utica Tel. Co.		5,000 00		
Viroqua.....	Viroqua Tel. Co.		10,000 00		
Walworth.....	Walworth T. Exch. Co.		21,600 00		
Schleisingervl	Washington Co. T. Co.		20,500 00		
Watertown...	Watertown Tel. Co.		25,000 00		
Waunakee.....	Waunakee Tel. Co.	10,000 00			
Wausau.....	Wausau Tel. Co.		80,000 00	50,000 00	7,000 00
Westby.....	Westby Tel. Co.		13,000 00		
Arcadia.....	Western Wis. Tel. Co.		67,600 00		
Westfield.....	Westfield Farmers Tel.	4,240 00			
Glenwood.....	West Wis. Tel. Co.		18,275 00		
Shullsburg...	White Oak Tel. Co.		4,460 00		
Waterford...	Wind Lake Tel. Co.		1,375 00		
Oshkosh.....	Winebago Co. Tel. Co.				
South Wayne...	Winslow & Sullivan Tel.		5,000 00		
Milwaukee.....	Wisconsin Tel. Co.		9,012,000 00	88,100 00	
Wonewoc.....	Wonewoc Tel. Co.				3,500 00
Grand Rapids.	Wood Co. Tel. Co.		11,400 00		5,000 00
	Total.....	\$1,060,139 00	\$11,647,050 21	\$851,067 72	\$70,273 58

¹ Does not include utilities using condensed form of report.² St Paul, Minn.

UTILITY AS A WHOLE, 1912—Continued.
TIES.

RESERVE LIABILITIES.			CURRENT LIABILITIES.		
Depreciation reserve.	Sinking fund reserve.	Special reserves.	Notes and bills payable.	Accounts payable.	Matured interest on funded debt unpaid.
			\$1,960 00	\$835 00	
\$3,631 78			500 00	133 35	
1,291 67			200 00	12 55	
293 52					
3,795 24				09	
3,697 45					
6,750 00			8,000 00	655 85	
2,100 00			250 39	3,195 43	
				225 40	
847 51					
				152 68	
574 73			350 00		
			3,500 00		
1,297 20	\$1,214 97		1,500 00	433 12	
3,620 71			900 00	2,737 00	
			500 00		
681 89			2,500 00	865 11	
8,387 67		200 22			
200 00				198 43	
			250 00		
			200 00	847 17	
28,327 75					
1,405 14			5,075 00	315 50	
1,500 00		37 65	150 00		
46,772 31			10,000 00	138 02	
3,063 18					
34,118 99			10,796 75	1,790 11	
			3,650 00	547 00	
				250 00	
231 97					
			1,750 00		
			1,612 82		
3,167,847 29		83,499 48		187,209 47	
			2,500 00	184 70	
\$3,785,692 77	\$1,214 97	\$83,937 35	\$381,558 89	\$262,165 54	\$4,039 18

¹ No balance sheet available. Part of Tri-State T. & T. Co.

ALL CLASSES¹—BALANCE SHEET

LIABILI

LOCATION.	NAME OF COMPANY.	CURRENT LIABILITIES (Concluded.)	
		Deposits.	Miscellaneous current liabilities.
Random Lake.....	Random Lake Tel. Co.....		
Reedsburg.....	Reedsburg Tel. Co.....		
Rhinelanders.....	Rhinelanders Mut. Tel. Co.....		\$632 40
Rice Lake.....	Rice Lak. & Northeastern Tel. Co.....		
Ripon.....	Ripon Rural Tel. Co.....		\$1,000 00
Ripon.....	Ripon Tel. Co.....		
Janesville.....	Rock County Tel. Co.....		
Johnsons Creek.....	Rock River Tel. Co.....		
Rosendale.....	Rosendale Tel. Co.....		
Waupaca.....	Rural Tel. Co.....		
Scandinavia.....	Scandinavia Tel. Co.....		
Sharon.....	Sharon Tel. Co.....		
Eleva.....	Shaw Tel. Co.....		
Shiocton.....	Shiocton Tel. Co.....		
Elkhorn.....	State Long Distance Tel. Co.....		
New Richmond.....	St. Croix Tel. Co.....		88 91
St. Croix Falls.....	St. Croix Valley Tel. Exch.....	\$77 35	
Stockbridge.....	Stockbridge & Sherwood Tel. Co.....		
Sullivan.....	Sullivan Tel. Co.....		341 88
Alma.....	Tenney Tel. Co.....		
Tomah.....	Tomah El. & Tel. Co.....		
Tomahawk.....	Tomahawk El. W. & Tel. Co.....		
Merian Pk.S.P.Mn	Tri-State Tel. & Teleg. Co. ²		
Prairie du Sac.....	Troy & Honey Creek Tel. Co.....		
Two Rivers.....	Two Rivers Tel. Co.....		
Union Grove.....	Union Grove Tel. Co.....		
Plainfield.....	Union Tel. Co.....		
Prairie du Chien.....	Union Tel. Co.....		
Monroe.....	United Tel. Co.....		\$2,145 35
Fickett.....	Utica Tel. Co.....		
Viroqua.....	Viroqua Tel. Co.....		
Walworth.....	Walworth Tel. Exch. Co.....	371 60	
Schleisingserville.....	Washington County Tel. Co.....		\$600 00
Watertown.....	Watertown Tel. Co.....	134 63	
Waunakee.....	Waunakee Tel. Co.....		\$200 00
Wausau.....	Wausau Tel. Co.....		
Westby.....	Westby Tel. Co.....		
Arcadia.....	Western Wis. Tel. Co.....		
Westfield.....	Westfield Farmers Tel. Co.....		
Glenwood.....	West Wis. Tel. Co.....		
Shullsburg.....	White Oak Tel. Co.....		
Waterford.....	Wind Lake Tel. Co.....		
Oshkosh.....	Winnebago County Tel. Co.....		
South Wayne.....	Winslow & Sullivan Tel. Co.....	\$525 00	348 00
Milwaukee.....	Wisconsin Tel. Co.....		
Wonewoc.....	Wonewoc Tel. Co.....		
Grand Rapids.....	Wood County Tel. Co.....		
	Total.....	\$5,712 25	\$40,563 67

¹ Does not include utilities using condensed form of report.² Dividends unpaid.

UTILITY AS A WHOLE. 1912.—Concluded.
TIES.

ACCRUED LIABILITIES.					Open ac- counts.	Surplus.	Total Liabilities.
Taxes accrued.	Unma- tured in- terest on funded debt accrued.	Unmatur- ed int. on notes, bills payable, accrued.	Dividends accrued.	Miscel- laneous liabili- ties ac- crued.			
						\$4,184 21	\$11,979 21
						14,280 86	38,545 99
\$134 70		\$7 00		\$55 35	\$234 04	1,368 88	23,647 79
						197 C8	20,212 40
			\$400 00			3,027 82	15,125 27
						13,538 87	131,244 72
						876 73	25,422 55
						13,857 24	13,857 24
						2,912 48	7,312 88
						2,388 44	9,060 95
						4,008 81	14,008 81
						3,307 38	10,514 79
						16,350 00	17,350 00
						12,597 40	41,097 40
						617 58	21,687 78
115 88						3,826 96	31,477 90
						1,402 00	6,902 00
						2,565 50	17,654 38
						1,105 11	10,105 11
81 29					348 60	1,102 81	42,820 59
						332 23	11,397 32
							22,080 00
153 23		32 44		165 80			15,351 47
						3,622 29	16,197 29
							13,097 17
						30 00	21,820 00
327 20				1,731 37		9,287 18	106,356 30
						4,221 03	10,952 40
						9,661 17	19,661 17
							21,971 60
70 00		300 00				365 79	28,631 43
63 24						3,549 46	30,434 98
							10,200 00
						27,603 73	221,514 06
77 96						8,068 81	24,209 95
278 44		188 76	2,362 50			5,642 39	122,777 94
					368 75	2,965 83	11,771 58
						2,255 32	20,780 32
						11 38	4,703 35
						2,586 12	5,711 12
						5,553 57	7,166 39
							5,873 00
84,648 65				2,876 89		455,749 55	13,081,931 33
						8,585 23	14,769 93
200 60	87 50					9,491 65	26,179 75
\$90,672 20	\$2,696 00	\$2,488 72	\$7,546 31	\$9,344 65	\$5,667 59	\$1,383,668 99	\$19,695,499 59

³ No balance sheet available—Part of Tri-State T. & T. Co.

CONDENSED FORM

LOCATION.	NAME OF COMPANY.	As-		
		Cost of plant at close of year.	Treasury securities.	Current assets.
New Rome.....	Adams Co. Metallic Tel. Co.....	\$1,900 00		\$96 50
Boaz.....	Akan Tel. Co.....	400 00		
Almena.....	Almena Farmers Tel. Co.....	5,275 00		531 00
Brandon.....	Alto Tel. Co.....	4,560 16		407 84
Bruce.....	Amacoy Tel. Co.....	1,248 48		260 67
Amberg.....	Amberg Tel. Co.....	2,335 00		119 20
Aniwa.....	Aniwa Tel. Co.....	4,200 00		50 00
Montfort.....	Annaton & Preston Tel. Co.....	3,100 00		10 00
Arena.....	Arena & Ridgeway Tel. Co.....	2,730 00	\$1,200 00	838 21
Arnold.....	Arnold Tel. Lines.....	4,483 00		621 40
Albany.....	Attica Mutual Tel. Co.....	3,882 00	6,150 00	739 98
Auburndale.....	Auburndale Tel. Co.....	6,500 00		119 81
Avoca.....	Avoca-Muscoda Farmers T. Co.....	2,000 00		36 95
Avoca.....	Avoca-Pride Hollow T. Co.....	300 00		22 00
Orange.....	Badger Mutual Tel. Co.....	5,700 00	4,800 00	39 23
Waupaca.....	Baldwin Mills Tel. Co.....	3,556 29	236 00	87 95
Bancroft.....	Bancroft Tel. Co.....	240 00		15 15
Barneveld.....	Barneveld-Hollandale Tel. Co.....	900 00		105 00
Ridgeway.....	Barneveld & Ridgeway Tel. Co.....	2,086 36		40 00
Barton.....	Barton Rural Tel. Co.....	460 00		20 00
Shell Lake.....	Bashaw Valley Tel. Co.....	11,000 00		34 86
Basswood.....	B. & Eagle Corners Tel. Co.....	1,400 00		
Bayfield.....	Bayfield Farmers Tel. Co.....	2,000 00		50 00
Loyal.....	Beaver Tel. Co.....	700 00		290 28
Osseo.....	Beef River Valley Tel. Co.....	3,000 00		100 00
Big Flats.....	Big Flats-Colburn Tel. Co.....	250 00		29 35
Spring Green.....	Big Hollow Tel. Co.....	1,500 00		828 00
Biramwood.....	Biramwood Tel. Co.....	3,563 55		130 88
Greenwood.....	Black River Tel. Co.....	875 00	760 00	
Hollandale.....	Blanchardv'l. & H. Farm. T. Co.....	1,100 00		5 56
Mineral Pt.....	Bloomfield Tel. Co.....	797 00		4 00
Bonduel.....	Bonduel Tel. Co.....	7,889 93		1,304 77
Independence.....	Borst Valley Farm. Tel. Co.....	2,070 00		
Brandon.....	Brandon Tel. Co.....	3,147 50		441 40
Briggsville.....	B. & Big Springs Tel. Co.....	1,595 00		155 00
Browntown.....	Browntown Tel. Co.....	12,000 00	7,975 00	515 00
Dorchester.....	Bruckerville Farmers T. Co.....	1,381 01		268 99
Ontario.....	Brush Creek Farmers T. Co.....	1,000 00		57 00
Westby.....	Buckeye R'lge Co-op. Tel. Co.....	1,698 13		223 54
Buena Vista.....	Buena Vista Tel. Co.....	1,200 00		451 63
Burke.....	Burke Tel. Co.....	300 00		
Spooner.....	Burnett & Washburn Co. T. Co.....	2,000 00		45 89
Wilson.....	Cadiz Tel. Co.....	3,458 00		203 00
New London.....	Caledonia Farmers Tel. Co.....	1,217 02		25 98
Forest Jct.....	Calumet Tel. Co.....	4,704 88	1,040 00	952 42
Cambria.....	Cambria Co-op. Tel. Co.....	900 00	23 00	77 00
Cambridge.....	Cambridge Tel. Co.....	4,822 72		797 88
Cameron.....	Cameron Farmers Tel. Co.....	4,200 00		61 82
Canton.....	Canton Farmers Tel. Co.....	2,073 55		39 15
Wabeno.....	Carter-Wabeno Tel. Co.....	10,000 00		117 21

BALANCE SHEET. JUNE 30, 1912.

SETS.		LIABILITIES.			
Deficit.	Total assets.	Capital liabilities.	Current liabilities.	Surplus.	Total liabilities.
	\$1,996 50	\$1,410 00	\$108 00	\$478 50	\$1,996 50
\$110 00	510 00	450 00	60 00		510 00
	5,806 00		163 85	5,642 15	5,806 00
	4,968 00	4,968 00			4,968 00
	1,509 15	1,250 00		259 15	1,509 15
	2,454 20	1,835 00	500 00	119 20	2,454 20
	4,250 00	4,250 00			4,250 00
3,130 00	6,240 00	6,240 00			6,240 00
	4,768 21	3,000 00	250 00	1,518 21	4,768 21
	5,104 40	4,933 00		171 40	5,104 40
	10,771 98	10,000 00	350 00	421 98	10,771 98
	6,619 81	5,000 00	1,225 00	394 81	6,619 81
	2,036 95	300 00		1,736 95	2,036 95
	322 00	300 00		22 00	322 00
	10,539 23	10,500 00		39 23	10,539 23
	3,880 24	2,500 00	625 00	755 24	3,880 24
13 94	269 09	240 00	29 09		269 09
	1,005 00	900 00		105 00	1,005 00
	2,126 36			2,126 36	2,126 36
	480 00	300 00		180 00	480 00
	11,034 86	11,000 00		34 86	11,034 86
	1,400 00			1,400 00	1,400 00
	2,050 00			2,050 00	2,050 00
	990 28	800 00	25 00	165 28	990 28
	3,100 00	3,000 00	100 00		3,100 00
	279 35			279 35	279 35
	2,328 00	750 00	828 00	750 00	2,328 00
	3,694 43	2,513 65	1,107 00	73 78	3,694 43
140 00	1,775 00	1,775 00			1,775 00
894 44	2,000 00	2,000 00			2,000 00
	801 00			801 00	801 00
	9,194 70	5,000 00	4,194 70		9,194 70
	2,070 00	2,070 00			2,070 00
	3,588 90	2,550 00		1,038 90	3,588 90
	1,750 00	1,260 00	250 00	240 00	1,750 00
	20,490 00	19,800 00	25 00	665 00	20,490 00
	1,650 00	1,650 00			1,650 00
1,943 00	3,000 00	3,000 00			3,000 00
	1,921 67	1,500 00	421 67		1,921 67
	1,651 63	1,200 00	75 00	376 63	1,651 63
	300 00			300 00	300 00
	2,045 89	2,000 00		45 89	2,045 89
	3,661 00	2,700 00	142 00	819 00	3,661 00
	1,243 00	1,230 00		13 00	1,243 00
	6,697 30	6,000 00	290 92	406 38	6,697 30
	1,000 00	500 00	500 00		1,000 00
	5,620 60	4,100 00	621 79	898 81	5,620 60
	4,261 82	4,200 00		61 82	4,261 82
	2,112 70	1,460 00	11 60	641 10	2,112 70
2,527 79	12,645 00	8,570 00	4,075 00		12,645 00

CONDENSED FORM

LOCATION.	NAME OF COMPANY.	AS-		
		Cost of plant at close of year.	Treasury securities.	Current assets.
Casco.....	Casco-Brussels Tel. Co.....	\$3,380 00		\$146 10
New Richmond.....	Cedar Lake Rural Tel. Co.....	4,500 00		
Chetek.....	Chetek Rural Tel. Co.....	5,724 24		425 36
Cambridge.....	Christiana Town Hall T. Line..	650 00		141 70
Turtle Lake.....	City Tel. Co.....	10,106 48		255 30
Neenah.....	Clayton Tel. Co.....	605 00		25 00
Lone Rock.....	Clyde Tel. Co.....	200 00		
Oak Ridge.....	Colburn Tel. Co.....	232 50		74 30
Colfax.....	C. Phone System & Toll Lines..	13,036 55		1,579 41
De Forest.....	Columbia Co. Tel. Co.....	4,267 90		2,495 04
High Cliff.....	Cook & Brown Line ¹			
Merrill.....	Corning Tel. Co.....	1,967 85		263 03
Cottage Grove.....	Cottage Grove Tel. Co.....	5,325 99		528 08
Highland.....	Council Bluffs Tel. Co.....	540 00		9 25
Tisch Mills.....	County Line Tel. Co.....	5,443 94	4,150 00	693 75
Grand Rapids.....	Cranmoor Tel. Co.....	1,530 66		124 46
Roscobel.....	Crawford Farm. Mut. Tel. Co...	11,266 00		172 65
Taylor.....	Curran Farmers Tel. Co.....	1,800 00		310 00
Curtiss.....	Curtiss & Withee Tel. Co.....	756 00		
Dallas.....	Dallas Farmers Tel. Co.....	550 00		
Darlington.....	Darlington Tel. Co.....	5,166 41		1,225 27
Deer Park.....	Deer Park Tel. Co.....	3,223 58		166 59
LaFarge.....	Dell Co-Op Tel. Co.....	2,437 19		406 41
Delton.....	Delton Tel. Co.....	1,200 00		267 00
Denmark.....	Denmark Farm. & Merch. T. Co.	6,300 45	10,000 00	1,648 35
Montello.....	Diamond Tel. Co.....	1,015 00		39 00
Dodgeville.....	Dodgeville & Northern T. Co...	1,655 00		11 30
Dodgeville.....	Dodgeville & Union Mills T. Co.	3,450 00		
Sturgeon Bay.....	Door County Tel. Co.....	4,000 00		111 88
Waldwick.....	Dukes Prairie Tel. Co.....	1,600 00		60 00
Earl.....	Earl Tel. Co.....	1,324 20		360 00
Brandon.....	Eastern Alto Tel. Co.....	3,150 00		225 00
Watertown.....	Ebenezer Tel. Co.....	5,099 30	1,450 00	204 71
Edgar.....	Edgar, Castle & Emmet Tel. Co.	2,724 00		203 69
Edgar.....	Edgar Local Tel. Cp.....	1,500 00		37 81
Edmund.....	Fdmund Tel. Co.....	500 00		30 00
Elderon.....	Elderon Tel. Co.....	10,800 00		600 00
Eleva.....	Eleva Farmers Mut. Tel. Co.....	5,925 00		591 75
Elk Creek.....	Elk Creek Tel. Co.....	6,000 00		72 47
Elk Mound.....	Elk Mound Tel. Co.....	6,257 36		415 17
Manitowoc.....	English Lake Tel. Co.....	2,485 00		51 76
Etrick.....	Etrick Tel. Co.....	14,293 81		2,840 17
Fairchild.....	Foster, N. C. Lumber Co.....	1,177 25		
Cuba City.....	Farmers Badger Tel. Co.....	1,425 00		243 15
Prairie du Sac.....	Farmers Co-op Tel. Co.....	3,000 00		126 75
Hixton.....	Farmers, Hix & Northfield T. Co.	1,000 00		50 99
Ashton.....	Farmers Independent Tel. Co...	1,690 00		110 00
Caroline.....	Farmers Independent Tel. Ass.	7,200 00		658 01
Kilbourn.....	Farmers Inter. Co. Mut. Tel. Co.	20,000 00		225 00
Algoma.....	Farmers L. Shore T. Tr. & E. Co.	1,320 00		25 00
Lena.....	Farmers & Merchants Tel. Co...	6,767 88	15 00	767 74
Cambria.....	Farmers Mut. Tel. Co.....	1,136 00		140 00
Highland.....	Farmers Ridge Tel. Co.....	750 00		
Cochrane.....	Farmers Tel. Co.....	4,895 10		276 52
Edgerton.....	Farmers Tel. Co. of Porter.....	4,305 00		

¹No balance sheet.

BALANCE SHEET, 1912.—Continued.

SETS.		LIABILITIES.			
Deficit.	Total assets.	Capital liabilities.	Current liabilities.	Surplus.	Total liabilities.
	\$3,526 10	\$3,380 00		\$146 10	\$3,526 10
	4,500 00	4,500 00			4,500 00
	6,149 60	1,000 00	\$4,976 67	172 93	6,149 60
	791 70	650 00		141 70	791 70
	10,361 78	5,000 00	4,417 69	944 09	10,361 78
	630 00	630 00			630 00
\$60 00	260 00	260 00			260 00
	306 80			306 80	306 80
	14,615 96	4,000 00	6,500 00	4,115 96	14,615 96
	6,762 94	5,000 00	18 32	1,744 62	6,762 94
	2,230 88	1,877 50		353 38	2,230 88
	5,854 07	3,500 00	132 22	2,221 85	5,854 07
	549 25	540 00		9 25	549 25
	10,287 69	10,000 00	140 00	147 69	10,287 69
132 18	1,787 30	800 00	900 00	87 30	1,787 30
	11,438 65	10,860 00	83 00	495 65	11,438 65
	2,110 00	1,320 00	270 00	520 00	2,110 00
144 00	900 00	900 00			900 00
	550 00			550 00	550 00
	6,391 68			6,391 68	6,391 68
	3,390 17	2,050 00	1,150 00	190 17	3,390 17
	2,843 60	1,175 00	200 00	1,468 60	2,843 60
	1,467 00		420 00	1,047 00	1,467 00
	17,948 80	15,000 00	1,338 42	1,610 38	17,948 80
346 00	1,400 00	1,400 00			1,400 00
563 70	2,200 00	2,200 00			2,200 00
94 66	3,544 66	3,450 00	94 66		3,544 66
	4,111 88	2,300 00	500 00	1,311 88	4,111 88
	1,660 00	1,600 00		60 00	1,660 00
	1,684 20			1,684 20	1,684 20
	3,375 00	3,375 00			3,375 00
	6,754 01	5,000 00	581 71	1,172 30	6,754 01
1,255 56	4,183 25	4,000 00	183 25		4,183 25
	1,537 81	1,350 00		187 81	1,537 81
	530 00	500 00		30 00	530 00
	11,400 00	10,000 00	1,400 00		11,400 00
	6,516 75	5,400 00		1,116 75	6,516 75
1,985 53	8,008 00	8,000 00	8 00		8,008 00
	6,672 53	3,725 00	1,786 82	1,160 71	6,672 53
	2,536 76	2,485 00		51 76	2,536 76
	17,133 98	13,720 00	2,087 04	1,326 94	17,133 98
	1,177 25			1,177 25	1,177 25
	1,668 15	1,425 00		243 15	1,668 15
	3,126 75	3,000 00		126 75	3,126 75
	1,050 99			1,050 99	1,050 99
	1,800 00	1,500 00	300 00		1,800 00
	7,858 01	2,310 00	1,050 00	3,498 01	7,858 01
	20,225 00	10,000 00		10,225 00	20,225 00
	1,345 00			1,345 00	1,345 00
	7,550 62	4,000 00	2,444 88	1,105 74	7,550 62
	1,276 00	1,222 63		53 37	1,276 00
	750 00	750 00			750 00
	5,171 62	4,980 00		191 62	5,171 62
	4,305 00	4,100 00		205 00	4,305 00

CONDENSED FORM

LOCATION.	NAME OF COMPANY.	As		
		Cost of plant at close of year.	Treasury securities.	Current assets.
Hixton.....	Farmers Tel. Co. Line 8.....	\$425 00		\$16 00
Loomis.....	Farm and Village Tel. Co.....	1,000 00		217 30
Piffeld.....	Feeleys Pike Lake Tel. Line....	750 00		
Ferryville.....	Ferryville Tel. Tel. Co.....	176 62		58 73
Fond du Lac.....	Fond du Lac Rural Tel. Co.....	13,300 00	\$1,500 00	525 00
Forestville.....	Forestville Tel. Co.....	6,000 00		231 10
Fremont.....	Fremont Tel. Co.....	2,800 00		391 23
Georgetown.....	Georgetown & Jarrett Tel. Co....	160 00		
Gillett.....	Gillett Rural Tel. Co.....	6,869 65		317 86
Goodrich.....	Goodrich Tel. Co.....	1,979 46		93 76
Green Lake.....	Green Lake Rural Tel. Co.....	3,000 00		
Kilbourne.....	Grossman Tel. Co.....	2,175 00		
Knowlton.....	Guenther, Chas. E.....	400 00		
Hamburg.....	Hamburg Tel. Co.....	3,000 00		
Hammond.....	Hammond Tel. Co.....	5,200 00		200 00
Hartford.....	Hartford Rural Tel. Co.....	2,558 03		23 61
Hartford.....	Hartford-Saylesville Tel. Co....	1,100 00		122 00
Hawkins.....	Hawkins Tel. Co.....	3,428 33		1,294 39
Hazel Green.....	Hazel Green Exch. Co.....	300 06		45 05
Somers.....	Heidersdorf-Kreuscher Tel. Co....	1,200 00		120 90
Boscobel.....	Hickory Grove Farm. Tel. Co....	76 50		29 20
Hillsdale.....	Hillsdale Western Tel. Co.....	4,164 39		439 33
Alma Center.....	Hixton & Alma C. Co. T. & T. Co....	385 00		
Houlton.....	Houlton Rural T. Co.....	4,740 00		37 71
Horicon.....	Horicon Tel. Co.....	2,391 49		720 35
Kewaunee.....	Horseshoe Tel. Co.....	6,441 83		404 26
Iron Ridge.....	Hubbard Farmers Tel. Co.....	1,110 79		12 00
Hudson.....	Hudson Prairie Tel. Co.....	1,425 00		54 00
Glenbeulah.....	Hulls Crossing Farm. T. Co.....			200 00
Independence.....	Independence Tel. Co.....	5,780 54		995 62
Montfort.....	Individual Tel. Exch.....	750 00		
Cobb.....	Iowa County Tel. Co.....	3,200 00	2,800 00	225 28
Darlington.....	I. & La Fayette Co. Farm. T. Co....	4,200 00		574 00
Jefferson.....	Jefferson Mut. Tel. Co.....	6,415 37		798 35
Juda.....	Jefferson Tel. Co.....	5,460 00		828 35
Valders.....	Jerkin & Valders Tel. Co.....	1,240 00		74 69
Johnsonville.....	Johnsonville Tel. Co.....	750 00		68 61
Juneau.....	Juneau Tel. Co.....	5,882 54	2,600 00	2,787 13
Stoughton.....	Kegonsa Ind. Tel. Co.....	5,309 92		281 45
Kendall.....	Kendalls Tel. Exch.....	5,089 85		344 55
Algoma.....	Keodan Tel. Co.....	1,000 00		150 00
Kingston.....	Kingston Tel. Co.....	2,500 00		
Brandon.....	Ladoga & Brandon Tel. Co.....	1,500 00		
Waupun.....	Ladoga & Oak Center Tel. Co....	215 00		75 00
Gratiot.....	La Fayette Tel. Co.....	6,500 00		
Chip. Falls.....	Lake Hallie Tel. Co.....	900 00		
Shullsburg.....	Lake Tel. Co.....	300 00		
Oakfield.....	Lamartine & Rock R. Tel. Co....	195 06		32 00
Lebanon.....	Lebanon Tel. Co.....	7,540 00		579 38
Manitowoc.....	Liberty-Newton Tel. Co.....	2,600 00		86 05

BALANCE SHEET, 1912—Continued.

SETS.		LIABILITIES.			
Deficit.	Total assets.	Capital liabilities.	Current liabilities.	Surplus.	Total liabilities.
	\$441 00		\$15 00	\$426 00	\$441 00
	1,217 30		217 30	1,000 00	1,217 30
	750 00			750 00	750 00
\$764 65	1,000 00	\$1,000 00			1,000 00
	15,325 90	12,200 00	1,100 00	2,025 00	15,325 00
	6,231 10	2,500 00	3,731 10		6,231 10
	3,191 23	2,800 00		391 23	3,191 23
	160 00	160 00			160 00
	7,187 51	4,591 45	1,825 56	770 50	7,187 51
103 53	2,176 75	2,175 00	1 75		2,176 75
	3,000 00	2,500 00		500 00	3,000 00
	2,175 00	2,175 00			2,175 00
	400 00			400 00	400 00
	3,000 00	3,000 00			3,000 00
	5,400 00	4,700 00	700 00		5,400 00
	2,581 64	1,200 00		1,381 64	2,581 64
	1,222 00	890 00	332 00		1,222 00
	4,722 72	3,550 00	405 18	767 54	4,722 72
	845 05	315 00		30 05	845 05
	1,320 90	1,000 00		320 90	1,320 90
254 30	360 00	360 00			360 00
	4,603 72	4,550 00	10 29	43 43	4,603 72
	385 00			385 00	385 00
1,222 29	6,000 00	6,000 00			6,000 00
	3,111 84	2,650 00	20 05	441 79	3,111 84
	6,846 09	4,000 00	1,430 00	1,416 09	6,846 09
	1,122 79			1,122 79	1,122 79
	1,479 00	1,425 00	54 00		1,479 00
	200 00	200 00			200 00
	6,776 16	6,000 00	167 50	608 66	6,776 16
50 00	800 00	800 00			800 00
	6,225 28	6,000 00		225 28	6,225 28
976 00	5,750 00	4,250 00	1,500 00		5,750 00
	7,213 72	6,200 00		1,013 72	7,213 72
	6,288 85	2,500 00		3,788 85	6,288 85
235 31	1,550 00	1,500 00	50 00		1,550 00
	818 61			818 61	818 61
	11,269 67	10,000 00	111 56	1,158 11	11,269 67
	5,591 37	3,600 00		1,991 37	5,591 37
	5,434 40		1,700 00	3,734 40	5,434 40
	1,150 00	1,000 00	100 00	50 00	1,150 00
	2,500 00			2,500 00	2,500 00
	1,500 00	1,500 00			1,500 00
	290 00			290 00	290 00
	6,500 00	6,500 00			6,500 00
	900 00	900 00			900 00
	300 00			300 00	300 00
	227 00	195 00		32 00	227 00
	8,119 38	6,100 00		2,019 38	8,119 38
218 95	2,905 00	2,905 00			2,905 00

CONDENSED FORM

LOCATION.	NAME OF COMPANY.	As-		
		Cost of plant at close of year.	Treasury securities.	Current assets.
Sheborgan.....	Lima Tel. Co.....	\$4,629 40		\$578 34
Whitehall.....	Lincoln Farmers Tel. Co.....	4,000 00		602 05
Granton.....	Lindsey Tel. Co.....	1,989 75		346 60
Wabeno.....	Linsy Brook Tel. Co.....	11,145 00		285 22
Sussex.....	Lisbon Tel. Co.....	2,500 00		21 77
Loganville.....	Loganville Tel. Co.....	2,700 00		500 00
Lone Rock.....	Lone Rock T-I. Co.....	3,500 00		237 07
Clam Falls.....	Lorain Co-op Tel. Co.....	1,400 00	\$800 00	9 26
White Mound.....	Loretta & Loganville T. Co.....	550 00		
L. mont.....	Lovetts Branch Tel. Co.....	560 00		
Granton.....	Lynn Tel. Co.....	2,444 14		337 11
Manitowoc.....	Mani. & Northern Tel. Co.....	4,800 00		205 95
Maplewood.....	Maplewood & Western Tel. Co.....	1,581 68		16 71
Marathon.....	Marathon City Tel. Co.....	1,568 00		153 94
Marathon.....	Marathon Ziegler Tel. Co.....	1,290 00		20 00
Montello.....	Marquette Co. Tel. Co.....	6,100 50		234 09
Mayville.....	Mayville Rural Tel. Co.....	4,890 00		427 06
Chip Falls.....	Melville Settlement Tel. Co.....	3,850 00	1,400 00	
Mercer.....	Mercer Tel. Co.....	500 00		
Sabin.....	Mill Creek Tel. Co.....	3,775 00		63 00
Mishicott.....	Mishicott Tel. Co.....	2,464 00		157 26
Modena.....	Modena Co-op. Tel. Co.....	2,430 00		500 00
Montello.....	Montello Farmers Tel. Co.....	2,000 00		300 00
Oconto Falls.....	Morgan Tel. Co.....	1,843 70		51 45
Tigerton.....	Morris Tel. Co.....	1,200 00		203 62
Haven.....	Mosel & Centerville Tel. Co.....	16,900 00	7,000 00	1,670 76
Muscoda.....	Muscoda Mut. Tel. Co.....	3,040 16	8,580 00	259 84
Nelson.....	Nelson Farmers Tel. Co.....	6,296 15		600 00
Hales Corners.....	New Berlin Tel. Line.....	110 00		
New Lisbon.....	New Lisbon Mut. Tel. Co.....	6,228 15		1,216 00
Newry.....	Newry Farmers Tel. Co.....	1,200 00		
Manitowoc.....	Newton-Manitowoc Tel. Co.....	3,357 00		303 00
Rube.....	Newton & Oman Tel. Co.....	1,800 00		68 96
Bayfield.....	North Shore Tel. Co.....	950 00		
Blue River.....	Northwestern Tel. Co.....	193 40		
Norwalk.....	Norwalk Ind. Tel. Co.....	4,105 18		583 57
Oak Ridge.....	Oak Ridge-Niebull Tel. Co.....	288 00		11 30
Platteville.....	Ocean Wave Tel. Co.....	560 00		
Rhineland.....	Oneida & Vilas Co. Tel. Co.....	5,500 54		339 45
Ormsby.....	Ormsby Land & Timber Co.....	200 00		
Stanley.....	Otter Creek Mut. Tel. Co.....	200 00		11 00
Owen.....	Owen Tel. Co.....	3,758 47		276 62
Endeavor.....	Oxford & New Haven Tel. Co.....	1,300 00		
Wycocena.....	Pac. & Wyo. Farm. Co-op. T. Co.....	3,100 00		125 48
Hixton.....	Pale Grove & Shady Glen T. Co.....	425 00		75 00
McFarland.....	Peoples Tel. Co.....	6,824 65		40 53
Hollandale.....	Perry-Hollandale Tel. Co.....	2,240 00		80 51
Pigeon Falls.....	Pigeon Valley Farm. Tel. Co.....	5,510 00	1,000 00	268 97
Kievenville.....	Pine Bluff Tel. Co.....	8,500 00		1,531 12
Pittsville.....	Pittsville Tel. Co.....	1,194 50		125 00

BALANCE SHEET, 1912.—Continued.

SETS.		LIABILITIES.			
Deficit.	Total assets.	Capital liabilities.	Current liabilities.	Surplus.	Total liabilities.
.....	\$5,207 74	\$5,000 00	.....	\$207 74	\$5,207 74
.....	4,602 05	3,360 00	.....	1,058 55	4,602 05
.....	2,336 35	1,989 75	.....	346 60	2,336 35
.....	11,430 22	11,145 00	.....	285 22	11,430 22
.....	2,521 77	1,325 00	.....	1,196 77	2,521 77
.....	3,200 00	.....	.....	3,200 00	3,200 00
.....	3,737 07	1,500 00	.....	2,237 07	3,737 07
.....	2,209 26	2,200 00	.....	9 26	2,209 26
.....	550 00	550 00	.....	.....	550 00
.....	560 00	560 00	.....	.....	560 00
.....	2,781 25	1,050 00	.....	1,731 25	2,781 25
.....	5,005 95	4,800 00	.....	205 95	5,005 95
.....	1,598 39	325 00	.....	450 00	1,598 39
.....	1,721 94	1,568 00	.....	823 39	1,721 94
.....	1,310 00	1,290 00	.....	153 94	1,310 00
.....	.....	.....	.....	20 00	.....
.....	6,334 59	3,600 00	.....	2,734 59	6,334 59
.....	5,317 06	3,725 00	.....	1,592 06	5,317 06
.....	5,250 00	2,250 00	.....	.....	5,250 00
.....	500 00	500 00	.....	.....	500 00
\$3,850 00	7,688 00	3,660 00	3,850 00	178 00	7,688 00
.....	2,621 26	1,600 00	.....	807 26	2,621 26
.....	2,930 00	2,430 00	.....	214 00	2,930 00
.....	2,300 00	2,000 00	.....	420 00	2,300 00
.....	1,895 15	1,200 00	.....	100 00	1,895 15
.....	1,403 62	1,200 00	.....	595 15	1,403 62
.....	.....	.....	.....	4 33	.....
742 91	26,313 67	25,000 00	1,313 67	.....	26,313 67
25 00	11,880 00	11,000 00	.....	.....	11,880 00
.....	6,921 15	1,360 00	.....	880 00	6,921 15
.....	110 00	110 00	.....	4,696 15	110 00
.....	7,444 15	3,650 00	.....	.....	7,444 15
.....	.....	.....	.....	2,461 62	.....
800 00	2,000 00	.....	2,000 00	.....	2,000 00
.....	3,660 00	3,650 00	.....	10 00	3,660 00
.....	1,868 96	1,435 00	.....	433 96	1,868 96
.....	950 00	.....	.....	950 00	950 00
.....	193 40	.....	.....	193 40	193 40
.....	4,688 75	1,775 00	.....	1,845 25	4,688 75
.....	299 30	.....	.....	299 30	299 30
.....	560 00	560 00	.....	.....	560 00
.....	5,839 99	2,300 00	.....	3,539 99	5,839 99
.....	200 00	200 00	.....	.....	200 00
.....	211 00	210 00	.....	1 00	211 00
.....	4,035 09	2,000 00	.....	2,035 09	4,035 09
.....	1,300 00	500 00	.....	800 00	1,300 00
.....	3,225 48	.....	.....	300 00	3,225 48
.....	500 00	500 00	.....	2,925 48	500 00
.....	6,865 18	3,400 00	.....	1,665 18	6,865 18
.....	2,320 51	2,240 00	.....	80 51	2,320 51
.....	10,000 00	10,000 00	.....	.....	10,000 00
.....	10,031 12	10,000 00	.....	31 12	10,031 12
.....	1,319 50	500 00	.....	394 50	1,319 50
3,221 03	10,000 00	10,000 00	.....	.....	10,000 00
.....	10,031 12	10,000 00	.....	31 12	10,031 12
.....	1,319 50	500 00	.....	425 00	1,319 50
.....	.....	.....	.....	394 50	.....

CONDENSED FORM

LOCATION.	NAME OF COMPANY.	As-		
		Cost of plant at close of year.	Treasury securities.	Current assets.
Sheb. Falls.....	Plank Road Tel. Co.....	\$2,000 00		
Platteville.....	Platteville & Cornelia T. Co....	1,200 00		\$4 84
Whitehall.....	Pleasant Valley Tel. Co.....	4,600 00		132 11
Highland.....	Pompey's Pillar Tel. Co.....	350 00		
Kilbourn.....	Portage & Kilbourn Tel. Co.....	2,300 00		31 01
Pt. Washington..	Pt. Washington Tel. Co.....	2,978 17		318 76
Port Wing.....	Port Wing Tel. Co.....	3,225 46	\$200 00	224 00
Poynette.....	Poynette Farm. Co-op. Tel. Co..	2,695 00		25 10
Poy Sippi.....	Poy Sippi Tel. Co.....	6,800 00	550 00	625 00
Blair.....	Preston Farmers Tel. Co.....	7,210 00		204 87
Princeton.....	Princeton Tel. Co.....	9,925 66		495 57
Pittsville.....	Progress Tel. Co.....	290 50		
Pulaski.....	Pulaski Merch. & Farm. Tel. Co.	12,300 00		445 00
Quarry.....	Quarry Riverside Tel. Co.....	2,350 00	2,500 00	24 90
Two Rivers.....	Range Line & Northern T. Co...	377 00		
Algoma.....	Rankin Tel. Co.....	575 45		1 15
Manitowoc.....	Rapids & Western Tel. Co.....	3,195 00		373 49
Plymouth.....	Rathburn Tel. Lines.....	6,000 00		
Greenwood.....	Reseberg Mut. Tel. Co.....	1,705 97		202 46
Mineral Pt.....	Rewey & Mineral Point Tel. Co.	1,850 00		902 13
Rib Lake.....	Rib Lake Tel. Co.....	5,500 00		158 00
Rhineland.....	Rhineland Tel. Co.....	21,190 66		1,194 00
Richmond.....	Richmond Tel. Co.....	3,000 00		440 00
Excelsior.....	Richwood Farmers Tel. Co.....	175 00		
Boaz.....	Richwood & Aken Tel. Co.....	400 00		134 66
Ridgeway.....	R. Jonesdale & Hollandale T. Co.	1,660 00		98 05
Fairchild.....	Riverview Tel. Co.....	6,000 00		25 00
Rock Falls.....	Rock Falls & Maiden Tel. Co.	4,054 78		59 10
Hartford.....	Rubicon Tel. Co.....	1,315 48		212 70
Reedsburg.....	Rudd & Rood Tel. Co.....	4,500 00		314 13
Rudolph.....	Rudolph Tel. Co.....	3,195 14	450 00	740 17
Hammond.....	Rush R & Pleasant Valley T. Co.	1,504 00		44 62
Ladysmith.....	Rusk Co. Rural Tel. Co.....	7,649 92		150 00
Boscobel.....	Sanders Creek Tel. Co.....	700 00		10 00
Sandusky.....	Sandusky Tel. Co.....	2,000 00		
Sturgeon Bay...	Sawyer & Western Tel. Co.....	1,980 00		190 66
Kiel.....	Schleswig Tel. Co.....	4,037 95	40 00	
Shell Lake.....	Shell Lake Tel. Exch.....	2,500 00		395 00
Germania.....	Shields Tel. Co.....	4,075 00		75 00
Sawyer.....	Shiloh Tel. Co.....	1,776 00		91 20
Shullsburg.....	S. and Wardville Tel. Co.....	200 00		
Manitowoc.....	Silver Creek Tel. Co.....	3,800 00		
Baraboo.....	Skillett Falls Tel. Co.....	180 89		115 72
La Crosse.....	Smith Covie Tel. Co.....	500 00		
Highland.....	Social Ridge Tel. Co.....	800 00		
Somerset.....	Somerset Rural Tel. Co.....	4,000 00		168 34
Appleton.....	South Greenville Tel. Co.....	1,000 00	1,000 00	
West Prairie.....	Southwest Prairie Tel. Co.....	580 00		
Blanchardville..	South York Tel. Co.....	342 00		
Spooner.....	Spooner & Evergreen Tel. Co...	1,060 00		5 10

BALANCE SHEET, 1912.—Continued.

SETS.		LIABILITIES.			
Deficit.	Total assets.	Capital liabilities	Current liabilities.	Surplus.	Total liabilities.
\$500 00	\$2,500 00	\$2,500 00			\$2,500 00
	1,204 84	1,200 00		\$4 84	1,204 84
	4,732 11	4,720 00		12 11	4,732 11
	350 00	350 00			350 00
	2,331 01	300 00	\$1,600 00	431 01	2,331 01
	3,296 93	3,225 00		71 93	3,296 93
	3,649 46	3,547 00	102 46		3,649 46
	2,720 10	2,720 10			2,720 10
	7,975 00	5,000 00	2,300 00	675 00	7,975 00
	7,414 87	7,210 00		204 87	7,414 87
	10,421 23	7,650 00	1,000 00	1,771 23	10,421 23
	290 50	75 00	100 00	115 50	290 50
	12,745 00	4,000 00		8,745 00	12,745 00
125 10	5,000 00	5,000 00			5,000 00
	377 00	377 00			377 00
	576 60			576 60	576 60
	3,568 49	1,800 00	1,395 00	373 49	3,568 49
	6,000 00			6,000 00	6,000 00
	1,908 43	1,890 00	18 43		1,908 43
	2,752 13	2,200 00	100 32	451 81	2,752 13
	5,658 00	5,000 00		658 00	5,658 00
1,263 05	23,647 71	21,080 00	2,567 71		23,647 71
	3,440 00	2,500 00		940 00	3,440 00
25 00	200 00	200 00			200 00
	534 66	400 00		134 66	534 66
241 95	2,000 00	2,000 00			2,000 00
4,975 00	11,000 00	11,000 00			11,000 00
	4,113 88	2,360 00	1,500 00	253 88	4,113 88
	1,528 18	1,050 00		478 18	1,528 18
	4,814 13			4,814 13	4,814 13
	4,385 31	2,500 00		1,885 31	4,385 31
	1,548 62	1,504 00		44 62	1,548 62
	7,799 92	5,427 25	1,907 17	465 50	7,799 92
	710 00	700 00		10 00	710 00
	2,000 00			2,000 00	2,000 00
	2,170 66	1,340 00		830 66	2,170 66
	4,077 95	4,025 00	52 95		4,077 95
	2,895 00	2,800 00		95 00	2,895 00
	4,150 00	1,795 00	1,700 00	655 00	4,150 00
321 48	2,188 68	2,000 00	188 68		2,188 68
	200 00			200 00	200 00
	3,800 00			3,800 00	3,800 00
	296 61	246 50		50 11	296 61
	500 00	500 00			500 00
	800 00	800 00			800 00
331 66	4,500 00	4,500 00			4,500 00
	2,000 00	2,000 00			2,000 00
	580 00	580 00			580 00
	342 00	342 00			342 00
	1,065 10			1,065 10	1,065 10

CONDENSED FORM

LOCATION.	NAME OF COMPANY.	As-		
		Cost of plant at close of year.	Treasury securities.	Current assets.
Spooner.....	Spooner Tel. Co.....	\$9,000 00		\$200 00
Taylor.....	Springfield Farmers Tel. Co.....	4,000 00		503 43
Dodgeville.....	Spring Green & Wyoming T. Co.	1,000 00		468 54
Stanley.....	Stanley & Northern Tel. Co.....	575 80		47 00
Swiss.....	St. Croix Farm. Mut. Tel. Co....	4,750 00		377 70
Stratford.....	Stratford & Northern Tel. Co....	3,700 22	\$800 00	149 50
Strum.....	Strum Tel. Co.....	5,120 00		3,077 36
Gardner.....	Sturgeon Bay & Gardner T. Co....	1,059 10		877 21
South Range.....	Superior Rural Tel. Co.....	1,275 00		50 00
Soldiers Grove.....	Sylvan & Soldiers G. Tel. Co....	1,000 00		10 00
Arcadia.....	Tamarack Tel. Co.....	7,400 00	500 00	640 16
Theresa.....	Theresa Union Tel. Co.....	22,500 00		2,268 45
Thorp.....	Thorp Tel. Co.....	5,174 36		411 00
Fairwater.....	Tinkham & Wilke Tel. Co.....	150 00		2 00
Stevens Point.....	Touren Tel. Co.....	900 00		
Shawano.....	Town Line Farm. Tel. Assoc.....	3,135 00	1,865 00	557 64
Sheboygan Falls.....	Town of Sheb. Falls R. R. T. Co.	5,300 00		300 00
Unity.....	Unity & Southwestern T. Co.....	1,080 00		57 96
Unity.....	Unity & Western Tel. Co.....	630 00		20 92
Gays Mills.....	Utica Farmers Tel. Co.....	1,000 00		101 26
Buena Vista.....	Valley Tel. Co.....	900 00		150 00
Sawyer.....	Viking Tel. Co.....	2,440 00		150 05
Jonesdale.....	Waldwick, J. & Hollandale T. Co.	900 00		30 00
Warrens.....	Warrens Land Co.....	7,471 73		1,043 61
Spooner.....	Washburn Co. Farm. Tel. Co....	1,479 60		58 91
Detroit Harbor.....	Washington Island Tel. Co.....	3,392 62		419 02
Wausaukee.....	Wausaukee Tel. Co.....	3,000 00		527 82
Wautoma.....	W. & Mt. Morris Farm. Tel. Co.	13,192 36	2,485 00	469 12
Woodman.....	Werley Tel. Co.....	720 00		1 70
West Bend.....	W. Bend & Trenton Tel. Co.....	225 00		24 50
W. Bloomfield.....	West Bloomfield Mut. T. Co.....	1,360 10		1 90
Clarno.....	West Clarno Tel. Co.....	1,570 98		130 01
Eastman.....	Western Crawford Co. Tel. Co....	6,500 00		
Cuba City.....	Western Tel. Co.....	725 00		10 00
Cazenovia.....	Westford Tel. Co.....	1,000 00		90 49
Glenbeulah.....	West Greenbush Tel. Co.....	900 00		
Cambridge.....	West Oakland Tel. Co.....	340 00		3 10
Two Rivers.....	West Shore Tel. Co.....	5,544 93		222 77
Spring Green.....	West Spr. Green Tel. Co.....	1,040 00		79 24
Stanley.....	West Worden Mut. Tel. Co.....	1,260 00		79 78
Weyauwega.....	Weyauwega Tel. Co.....	5,512 35		318 94
Wautoma.....	White R. Farm. Tel. Co.....	1,650 00		75 50
Chippewa Falls.....	Wilcox Valley Tel. Co.....	1,200 00		
Wild Rose.....	Wild Rose Tel. Co.....	6,528 03		410 20
Oshkosh.....	Wisc. & Northern R. R. Co.....			
Wittenberg.....	Wittenberg Tel. Co.....	2,637 10		260 69
Fond du Lac.....	Woodhull Tel. Co.....	4,943 32	2,075 00	585 38
Wonewoc.....	Woodland Tel. Co.....	283 40		
Huron.....	Yellow River Tel. Co.....	500 00		
	Total.....	\$983,303 93	\$75,944 00	\$80,992 97

*Operating with railroad property.

BALANCE SHEET, 1912—Concluded.

SETS.		LIABILITIES.			
Deficit.	Total assets.	Capital liabilities.	Current liabilities.	Surplus.	Total liabilities.
	\$9,200 00		\$1,200 00	\$8,000 00	\$9,200 00
\$1,496 57	6,000 00	\$6,000 00			6,000 00
431 46	1,900 00	1,000 00	900 00		1,900 00
198 20	821 00	800 00	21 00		821 00
1,287 15	6,414 85	6,000 00	414 85		6,414 85
	4,649 72	4,000 00	6 55	643 17	4,649 72
	8,197 36	8,000 00		197 36	8,197 36
	1,936 31	1,500 00	415 25	21 06	1,936 31
	1,325 00	1,275 00		50 00	1,325 00
	1,010 00	1,000 00		10 00	1,010 00
	10,000 00	10,000 00			10,000 00
1,459 84	24,768 45	20,000 00		4,768 45	24,768 45
	5,585 36			5,585 36	5,585 36
	152 00			152 00	152 00
	900 00	900 00			900 00
	5,557 64	5,000 00		557 64	5,557 64
	5,600 00	5,600 00			5,600 00
	1,137 96	1,080 00		57 96	1,137 96
	650 92	650 00		92	650 92
	1,101 26		247 97	853 29	1,101 26
	1,050 00	943 00		107 00	1,050 00
49 95	2,640 00	2,440 00	200 00		2,640 00
	930 00	900 00		30 00	930 00
	8,515 34	4,000 00	3,962 07	553 27	8,515 34
	1,538 51	1,479 60		58 91	1,538 51
	3,811 64	3,250 00	497 85	63 79	3,811 64
186 61	3,714 43	3,335 00	379 43		3,714 43
	16,146 48	10,000 00	5,444 68	701 80	16,146 48
78 30	800 00	800 00			800 00
	249 50			249 50	249 50
	1,362 00	1,362 00			1,362 00
	1,700 99	1,537 00		163 99	1,700 99
266 90	6,766 90	5,490 00	266 90	1,010 00	6,766 90
	735 00	735 00			735 00
	1,090 49	400 00		690 49	1,090 49
	9 00	900 00			900 00
	343 10	340 00		3 10	343 10
22 30	5,790 00	5,790 00			5,790 00
	1,119 24	494 00	22 00	603 24	1,119 24
	1,339 78	1,260 00		79 78	1,339 78
	5,831 29	2,525 00	2,298 00	1,008 29	5,831 29
2,774 50	4,506 00	4,500 00			4,500 00
	1,200 00	1,200 00			1,200 00
	6,938 23	2,875 00	3,045 62	1,017 61	6,938 23
	2,897 79			2,897 79	2,897 79
	7,603 70	6,000 00	1,018 32	585 38	7,603 70
	283 40			283 40	283 40
22 45	522 45		70 00	452 45	522 45
\$41,782 24	\$1,182,023 14	\$856,123 43	\$113,167 75	\$212,731 96	\$1,182,023 14

WISCONSIN TELEPHONE CO. EXCHANGE RE-

LOCATION.	CENTRAL OFFICE DATA.		WIRE PLANT			
	Character of exchange.	No. lines equip'd.	Character of circuits.		Miles of pole line.	Miles of aerial wire.
			Local.	Rural.		
Algoma.....	Magneto.....	140	Met.	Met. & gr.	7.00	98.95
Appleton.....	Magneto.....	560	Met.	Met.	45.20	678.43
Ashland.....	Central energy.....	700	Met.	Met.	33.93	590.66
Baraboo.....	Magneto.....	580	Me.c.r.&g.	Ground.	10.38	138.08
Bayfield.....	Magneto.....	100	Met.	Met.	5.00	81.44
Beaver Dam.....	Central energy.....	700	Met.	Met.	87.22	629.92
Beloit.....	Central energy.....	1,800	Met.	Met.	37.40	1,634.21
Berlin.....	Magneto.....	250	Met.	Met.	6.07	54.70
Burlington.....	Magneto.....	300	Met.	Met.	47.60	344.02
Barnett Jct.....	Magneto.....	20	Met.	Met.	26.00	83.14
Cedarburg.....	Magneto.....	120	Met.	None.	4.00	57.25
Chippewa Falls.....	Central energy.....	660	Met.	Met.	60.21	463.23
Columbus.....	Central energy.....	300	Met.	Met.	40.85	303.29
Corliss.....	Magneto.....	100	Met.	Met.	38.00	108.07
Darlington.....					15.02	97.34
Delavan.....	Central energy.....	300	Met.	Met.	83.60	598.02
De Pere.....	Central energy.....	380	Met.	Met.	84.53	502.14
Eau Claire.....	Central energy.....	1,600	Met.	Met.	64.31	1,072.75
Elkhorn.....					14.68	55.90
Evansville ¹	Magneto.....	273	Met.	Met.		
Fond du Lac.....	Central energy & magneto.....	3,640	Met.	Met.	78.11	745.14
Et. Atkinson.....	Magneto.....	450	Met.	Met.	11.98	179.22
Genoa Jct.....	Magneto.....	60	Met.	Met.	54.19	119.99
Green Bay.....	Central energy.....	2,900	Met.	Met.	118.40	956.11
Green Lake.....	Magneto.....	100	Met.	Met.	4.03	83.17
Hartford.....	Central energy.....	300	Met.	Met.	17.54	172.36
Hartland.....	Magneto.....	80	Met.	Met.	8.72	216.07
Horicon.....	Magneto.....	176	Met.	Met.	10.38	100.01
Hortonville.....	Magneto.....	170	Met.	Met.	29.99	270.68
Hudson.....	Central energy.....	410	Met.	Met.	9.00	101.26
Hurley.....			Met.		5.60	194.86
Janesville.....	Central energy.....	1,200	Met.	Met.	66.25	1,229.86
Jefferson.....	Magneto.....	260	Met.	Met.	18.04	136.31
Juneau.....	Magneto.....	90	Met.	Met.	4.19	15.51
Kaukauna.....	Central energy.....	400	Met.	Met.	19.98	260.99
Kewaunee.....	Central energy.....	340	Met.	Met. & gr.	8.10	104.23
La Crosse.....	Central energy.....	1,500	Met.	Met.	78.03	1,263.57
Lake Geneva.....	Central energy.....	660	Met.	Met.	86.03	863.33
Lancaster.....	Central energy.....	200	Met.	None.	9.00	68.77
Lima Ctr.....	Automatic.....	30	Met.	Met.	33.00	145.00
Madison.....	Central energy.....	5,600	Met.	Met.	62.36	503.44
Manitowoc.....	Central energy.....	1,000	Met.	Met.	31.07	231.20
Marinette.....	Central energy.....	880	Met.	Met.	49.43	484.68
Mayville.....	Magneto.....	170	Met.	Met. & gr.	7.21	114.35
Menomonie.....	Central energy.....	525	Met.	Met.	141.88	805.76
Merrill.....	Magneto.....	580	Met. & C.R.	Met.	15.25	203.86
Milwaukee.....	Central energy.....	29,550	Met.	Met.	666.14	4,531.00
Neenah.....	Central energy.....	1,800	Met.	Met.	60.68	325.81
New London.....	Magneto.....	260	Met.	Met.	13.08	127.35
No. Freedom.....	Magneto.....	100	Ground.	Ground.	30.02	74.29

¹ Report covers two months ending June 30, 1912.

PORTS.—EQUIPMENT DATA, JUNE 30, 1912.

DATA.			SERVICE DATA.						
Miles of aerial cable.	Miles of underground cable.	Feet of conduit.	No. of business phones.	No. of residence phones.	No. of rural phones.	Total No. of phones installed.	No. of public pay stations.	Private branch exchanges.	
								No. of ex-changes.	No. of stations.
50.00			74	445	5	224	3		
250.00	4.00	4,909	317	509	107	933	9	4	75
1,266.00			251	472	18	741	9		
525.00			174	433	87	694	6		
68.00			71	170	9	250	1		
595.00	52.00	192	213	711	250	1,174	5	3	65
714.15	27.00	3,160	370	958		1,328	6	2	38
232.00	9.00		146	218		364	2		
142.00			146	421	137	704	3		
				2	64	66	1		
48.00	6.00		61	108		169	2		
968.00	250.00	2,210	241	504	72	817	5		
122.00			103	327	338	768	2		
5.00			15	24	36	75	3		
56.00			79	199	20	298	2		
515.00			138	477	245	860	3		
645.91	4.00		133	345	308	786	3		
3,287.00	783.00	2,521	647	1,606	264	2,517	15	11	77
85.49			8	18	1	27	1		
			91	361	85	537			
3,489.76	90.87	8,658	771	2,029	42	2,842	14	7	184
508.00			132	384	170	686	5	2	18
2.00			37	57	123	217	2		
3,753.18	1,748.00	8,768	876	1,834	277	2,987	28	12	314
1.00			14	68		82		2	
373.63			120	321	73	514	2	1	26
36.00			29	86	38	153	4		
22.00			45	180	24	249	1	1	22
1.00			31	94	170	295	2		
377.00			110	401	4	515	4		
453.82			137	114		251			
459.28		3,131	427	1,137	149	1,713	11	3	102
316.00			98	242	9	349	2		
40.09			61	89	6	156	2		
933.00	21.00		128	251	8	387	5		
203.00			63	161		224	3		
1,504.00	1,828.00	24,163	569	967	79	1,615	14		
536.27			139	443	236	818	14		
324.00			67	174		241	2	1	9
12.00			1		80	81	1		
7,171.05	5,852.76	29,852	1,354	4,050	140	5,544	35	29	897
1,420.00	165.00	165	444	766		1,210	6	5	95
1,330.00			406	848	27	1,281	6	4	38
82.00			77	190	93	360	2	1	11
781.00			208	393	381	982	5	1	14
1,079.49			239	392	6	637	4		
21,994.93	62,412.53	390,124	12,192	21,198	685	34,075	542	666	6,227
440.00	1,528.00	12,978	339	850	115	1,304	8	5	49
349.00			126	326	10	462	3		
5.66			25	29	73	127	2		

WISCONSIN TELEPHONE CO. EXCHANGE RE-

LOCATION.	CENTRAL OFFICE DATA.		WIRE PLANT			
	Character of exchange.	No. lines equip'd.	Character of circuits.		Miles of pole line.	Miles of aerial wire.
			Local.	Rural.		
Oconomowoc...	Central energy.....	580	Met.	Met.	36.24	470.50
Oconto.....	Central energy.....	380	Met.	Met.	11.59	118.02
Oconto Falls...	Magneto.....	60	Met.	Met.	6.03	41.64
Omro.....	Magneto.....	240	Met.	Met.	61.62	349.43
Oshkosh.....	Central energy.....	4,200	Met.	Met.	90.76	1,526.68
Peshigo.....	Central energy.....	180	Met.	Met.	.42	91.37
Pt. Washington.....	Central energy.....	220	Met.	Met.	11.00	140.63
Princeton.....	Magneto.....	200	Met.	Met.	3.42	71.91
Racine.....	Central energy.....	4,500	Met.	Met.	148.05	730.52
Red Granite.....	Magneto.....	133	Met.	Met.	5.00	54.92
St. Martins.....	Magneto.....	40	Met.	Met.	39.30	164.01
Shawano.....	Magneto.....	200	Met.	Met.	11.32	167.95
Shullsburg.....					6.00	76.00
So. Milwaukee.....	Central energy.....	360	Met.	Met.	44.58	275.96
Stanley.....	Magneto.....	100	Met.	Met. & gr	10.94	120.64
Stevens Point...	Central energy.....	400	Met.	Met.	24.60	356.61
Stoughton.....	Central energy.....	500	Met.	Met.	80.70	447.69
Sturgeon Bay...	Central energy.....	620	Met.	Met.	29.94	338.96
Superior.....	Central energy.....	1,500	Met.	None.	92.05	798.79
Washburn.....	Magneto.....	190	Met.	None.	10.05	115.09
Watertown.....	Central energy.....	640	Met.	Met.	24.35	381.43
Waukesha.....	Central energy.....	1,100	Met.	Met.	122.92	783.10
Waupun.....	Magneto.....	200	Met.	Met.	35.40	115.44
West Bend.....	Magneto.....	200	Met.	Met.	12.03	122.55
Whitewater.....	Central energy.....	400	Met.	Met.	48.20	246.32
Winneconne.....	Magneto.....	90	Met.	Met.	21.54	28.50
	Total.....	79,344			3,447.74	30,359.48

PORTS. EQUIPMENT DATA, 1912 -Concluded.

DATA.			SERVICE DATA.						
Miles of aerial cable.	Miles of underground cable.	Feet of conduit.	No. of business phones.	No. of residence phones.	No. of rural phones.	Total No. of phones installed.	No. of public pay stations.	Private branch exchanges.	
								No. of ex-changes.	No. of stations.
1,022.35			176	297	78	551	5		
595.68			151	248		399	4	1	6
4.00			35	53		88	2		
258.00	2.06		50	181	267	498	2		
3,593.99	2,344.00	20,965	1,071	2,385	111	3,567	13	10	207
30.00			36	78	21	135	2		
178.00	17.00		125	224	6	355	6	1	12
1.00			45	60		105	2		
5,188.19	3,839.39	69,997	1,217	3,556	281	5,054	30	39	588
			43	52	5	100	2		
	.06		4	1	177	182	2		
128.00			107	260	10	377	3		
			50	84	4	138	2		
498.00			114	278	105	497	3	1	33
126.86			72	203	4	279	2		
420.00			247	462	28	737	9	1	49
664.00			140	513	252	905	3		
591.25	96.00		192	486	37	715	7		
1,855.05			733	1,373		2,106	12	13	319
47.00			62	146		208	3		
551.00			325	491	37	853	5		
1,130.96	294.00	4,052	338	827	277	1,442	12	7	122
251.00			82	284	135	501	4	1	9
196.00			113	232	29	374	3		
336.00			119	513	129	761	2		
57.49	5.75		30	28	47	105	1		
75,296.44	81,379.42	585,845	28,220	59,397	7,104	94,721	951	834	9,606

CLASSES A, B, C, AND D. EXCHANGE

Abbreviations: A=automatic; C=central energy; G=grounded; M=magneto or metallic; R=common return.

LOCATION.	NAME OF COMPANY.	CENTRAL OFFICE DATA.		WIRE PLANT		
		Character of exchange switch-board.	Number of lines equipped	Character of circuits.	Miles of pole line.	Miles of aerial wire.
Abbotsford.....	Abbotsford E.L. & T.Co.	C.	162	G.	14.50	133.40
Albany.....	United Tel. Co.	M.	177	M.	23.75	98
Allenton.....	All.-Kohlsville Tel. Co.	M.	22	M. & G.	69	69
Alma.....	Tenney Tel. Co.	M.	65	G.	105.00	315
Almond.....	Almond Tel. Co.	M.	62	M. R. & G.	124.62	209.50
Amery.....	Amery Elec. Co.	M.	114	M. R. & G.	126.75	203.25
Amherst.....	Amherst Tel. Co.	M.	39	M.	117	132
Antigo.....	Antigo Tel. Co.	C.	800	M.	76	309
Appleton.....	Fox Riv. Tel. & Tel. Co.	C.	1,100	M.	120	2,500
Arcadia.....	Western Wis. Tel. Co.	M.	191	M. & G.	404	416
Argyle.....	Argyle Tel. Co.	M.	26	M.	13	63
Arkansaw.....	Arkansaw Tel. Co.	C.	.....	G.	77	150
Ashland.....	Ash. Home Tel. Co.	C.	1,050	M.	53.50	1,054
Athens.....	Athens Tel. Co.	M.	120	M.	57.50	233
Augusta.....	J.L. Ball Estate Tel. Co.	M.	255	R. & G.	76.75	332.87
Baldwin.....	Baldwin Tel.Co.	M.	189	M. & R.	196.75	664
Bangor.....	Bangor Tel. Co.	M.	181	G.	94	.....
Baraboo.....	Farmers Mut. Tel. Co.	.....	.....	G.	176	276
Barron.....	Barron Co. Tel. Co.	M.	395	R. & G.	104.75	200
Barrwood.....	Barron Co. Tel. Co.	M.	1	M.	1	2.50
Belleville.....	Belleville Tel. Co.	M.	72	.....	.....	.....
Belmont.....	Bel. & P. V. T. Co.	.....	.....	.....	85	84
Beloit.....	B. Farm Tel. Co.	.....	.....	.....	116.25	647
Berlin.....	Berlin Tel. Co.	.....	.....	M.	75	265
Big Bend.....	Pr., Guth., & B.B. Tel. Co.	C.	50	M. & G.	102	265
Black Earth.....	Black Earth T. Co.	C.	90	M. & G.	110	300
Bl. R. Falls.....	Central Wis. Tel. Co.	M.	719	M. R. & G.	560	2,149
Blair.....	Western Wis. Tel. Co.	M.	19	R.	.....	79.75
Blanchardville.....	United Tel. Co.	M.	176	M.	4	40
Bloomer.....	Bloomer Tel. Co.	M.	211	M.	179.25	370
Boscobel.....	Boscobel Tel. Co.	M.	220	G.	.....	.....
Brillion.....	Eastern Wis. Tel. Co.	M.	110	M.	14.50	44
Bristol.....	Bristol Tel. Co.	M.	33	G.	91.81	210.75
Brodhead.....	Brodhead Tel. Co.	M.	.....	.....	120	704
Brooklyn.....	Brooklyn Tel. Co.	M.	103	M.	56	69.75
Bruce.....	Chip. Val. Tel. Co.	M.	100	M. & R.	2.87	21.50
Burlington.....	B. B. & W. Tel. Co.	M.	35	M.	96	462
Butternut.....	Glidden Tel. Co.	M.	45	M.	2	29.50
Cadott.....	Cadott Tel. Co.	M.	87	M. & G.	78.50	117.50
Cambria.....	Peoples Tel. Co.	M.	58	M. & G.	98	188
Cameron.....	Chippewa Valley Tel. Co.	M.	50	R.	1	5.50
Campbellsport.....	East Valley Tel. Co.	M.	20	.....	125	137
Camp Douglas.....	Juneau Tel. Co.	M.	13	R. & G.	1	5
Cashton.....	New Cashton Tel. Co.	M.	121	R. & G.	122	367
Cecil.....	Cecil Gr. Val. T. L. Co.	M.	35	M.	59.25	635
Cedar Grove.....	Cedar Grove Tel. Co.	M.	.....	M.	49	177
Centerville.....	Western Wis. Tel. Co.	M.	45	M. & G.	.....	261
Chilton.....	Eastern Wis. Tel. Co.	M.	244	M. & G.	65	240
Chip. Falls.....	Chip. County Tel. Co.	M.	279	M.	197	582
Clear Lake.....	Clear Lake T. Co.	M.	.....	M. & G.	61.50	133.50
Clinton.....	Clinton Tel. Co.	M.	220	M.	95	545
Clintonville.....	Marion & Northern T. Co.	M.	200	R.	17.50	40.50
Colby.....	Colby Tel. Co.	M.	137	R.	47	97
Coloma.....	Coloma Tel. Co.	M.	59	M. & G.	159	218.50
Coon Valley.....	Coon Valley Tel. Co.	M.	.....	R. & G.	166	413.25

¹ Includes business and residence.

SYSTEMS—EQUIPMENT DATA, JUNE 30, 1912.

DATA.				SERVICE DATA.					
Cable in		Conduit in		Number of business phones.	Number of residence phones.	Number of rural stations.	Total number of phones installed	Private branch ex-changes.	Number public pay stations.
Miles.	Feet.	Miles.	Feet.						
				29	111	19	159		
	4,878			30	124	156	310		
	70					261	261		
				32	38	253	301		3
	2,673			34	96	249	379		3
						261	261		
3	1,626		276	260	694		954		8
209	1,772	3	200	466	1,126	160	1,752		
1	1,429	1	92	24	117	380	521		
	3,200			90	10	156	256		3
						220	220		
5	2,322			362	983	65	1,410		
	850			41	63	156	260		
	1,710			49	202	206	457		
	2,670			49	90	499	638		3
						2743	743		
						314	314		
	1,119			68	220	175	463		1
				7	5		12		
				24	36	175	235		
						239	239		
						335	335		
						223	223		
	304					323	323		
				9	61	212	282		
1	3,300			6	568	931	1,499		7
				40	6	3	15		1
1	511			40	120		160		
	4,752			57	196	287	540		
	3,900			56	221		277		
	3,895			39	39	72	150		
				4		303	307		
2	815			71	306	285	662		
1	519			26	67	149	242		
	1,070			33	37		70		2
	100				1318		318		
	70			27	18		45		
				20	24	107	199		1
	50					199	243		
	65			12	6		18		
				1	5	138	138		
	672			35	70	3	9		
	75			7		365	470		
						31	38		
	1,685			20	54	133	207		4
				1		167	168		
1	675			93	162	189	444		
	5,085			138	106	299	543		11
				26	33	149	208		
				42	163	247	452		
				77	131	36	244		
	280			45	72	63	180		
				19	2	229	250		1
	150			40	62	388	490		2

² Includes village subscribers.

CLASSES A, B, C, AND D. EXCHANGE

Abbreviations: A=automatic; C=central energy; G=grounded; M=magneto or metallic; R=common return.

LOCATION.	NAME OF COMPANY.	CENTRAL OFFICE DATA.		WIRE PLANT		
		Character of exchange switch-board.	Number of lines equip'd.	Character of circuits.	Miles of pole line.	Miles of aerial wire.
Crandon.....	Crandon Tel. Co.....	M.	150	M.	30	150
Cross Plains.....	Farmers Union Tel. Co.....	M.	.....	M. & G.	120	130
Cuba City.....	Cuba City Tel. Co.....	M.	150	R. & G.	5	5
Cumberland.....	Cumberland Tel. Co.....	M.	228	R. & G.	6.75	.....
Cumberland.....	McKinley Tel. Co.....	M.	.....	G.	116	169
Cushing.....	Equity Tel. Co.....	M.	31	M.	82.50	156.50
Deerfield.....	Deerfield Tel. Co.....	M.	95	M. & G.	66	158
Delafield.....	Eagle Tel. Co.....	M.	24	M.	19.25	60.50
De Pere.....	Fox Riv. Val. Tel. Co.....	M.	.....	M.	62	235
Dodgeville.....	New Union Tel. Co.....	.....	.....	M. & G.	73.20	296
Dousman.....	Eagle Tel. Co.....	N.	28	M.	53.42	157.50
Downsville.....	Downsville Tel. Co.....	.....	20	.....	50	400
Durand.....	Home Tel. Co.....	M.	233	M. R. & G.	5	197.50
Durand.....	Inter County Tel. Co.....	.....	28	G.	60	250
Eagle.....	Eagle Tel. Co.....	M.	40	M.	55.66	203.25
East Troy.....	Eagle Tel. Co.....	M.	48	M.	102	406.50
Eau Claire.....	Eau Claire Tel. Co.....	M.	.....	G.	100	210
Eau Galle.....	Eau Galle Tel. Co.....	M.	.....	M. & G.	84.50	154.50
Eden.....	Eastern Fond du Lac T. Co	M.	25	M.	131	475
Edgerton.....	Edgerton Tel. Co.....	M.	395	M.	.....	.....
Eleva.....	Shaw Tel. Co.....	M.	30	M & G.	78.50	261
Elkhart Lake.....	East Wisconsin Tel. Co.....	M.	70	M.	8	46
Elkhorn.....	State L. D. Tel. Co.....	M.	214	M.	79	564
Elkhorn, Rural	Eagle Tel. Co.....	M.	18	M.	9	66
Ellsworth.....	Pierce County Tel. Co.....	M.	219	M.	148.50	506.25
Elroy.....	Elroy Tel. Co.....	M.	180	M. R. & G.	88	147
Eltrick.....	Western Wis. Tel. Co.....	M.	29	G.	10	136.25
Evansville.....	Evansville Tel. Co. ²	M.	279	M.	38	91
Fall Creek.....	Ludington Tel. Co.....	M.	55	G.	117	147
Fall River.....	Peoples Tel. Co.....	M.	75	.....	41.50	61
Fennimore.....	Fennimore United Tel. Co	M.	65	M. & G.	12	12
Fennimore.....	Fennimore Tel. Co.....	M.	.....	M. & G.	90	365
Florence.....	Michigan State Tel. Co.....	M.	63	M.	34	76.20
Fountain City.....	Fountain City Tel. Co.....	M.	68	R. & G.	151	198
Fox Lake.....	Peoples Tel. Co.....	M.	100	M. & G.	43	67
Frederick.....	Tri-State Tel. & Teleg. Co	M.	137	M. & R.	4.50	56
Freistadt.....	Ozaukee-Wash'g't'n T. Co.	M.	116	M.	295.50	898
Friendship.....	Friendship Tel. Co.....	M.	89	R.	88	226
Galesville.....	Western Wis. T. Co.....	M.	200	R. & G.	.....	419.12
Genesee.....	Eagle Tel. Co.....	M.	30	M.	61.75	258.75
Glenwood.....	West Wisconsin Tel. Co...	C.	175	M. R. & G.	140.50	652.50
Glidden.....	Glidden Tel. Co.....	M.	71	M.	2	87.50
Grand Rapids.....	Wood Co. Tel. Co.....	M & C.	741	M. & G.	17.82	325
Grants.....	Badger State T. & T. Co	M.	100	.....	32.50	74.82
Grantsburg.....	Tri-State Tel. & Teleg. Co	M.	118	M.	4.50	56
Green Bay.....	Brown County Tel. Co...	M.	44	M.	83	451
Green Bay.....	Fox River T. & T. Co.....	C.	1,500	M.	96	1,320
Greenwood.....	Greenwood Tel. Co.....	M.	73	R. & G.	38	98
Gresham.....	Marion & Northern Tel. Co	M.	30	R.	1	13.50
Hayward.....	Bell Tel. Manufact'g Co.	M.	100	M. R. & G.	87	141
Hebron, Ill.....	Farmers New Era Tel. Co	M.	.....	G.	45	117
Hilbert.....	Eastern Wisconsin T. Co.	M.	43	M.	1.50	13
Hillsboro.....	Hillsboro Tel. Co.....	M.	152	M. & G.	71	241
Hubertus.....	Hubertus Tel. Co.....	M.	.....	M.	90.75	239
Independence.....	Western Wis. Tel. Co...	M.	45	R. & G.	.....	153

¹ Include business and residence.

SYSTEMS—EQUIPMENT DATA. 1912.—Continued.

DATA.				SERVICE DATA.					
Cable in		Conduit in		Number of business phones.	Number of residence phones.	Number of rural stations.	Total number of phones installed	Private branch ex-changes.	Number public day stations.
Miles.	Feet.	Miles.	Feet.						
1	3,070				172	6	178		
					80	330	410		
	4,610			59	1135	240	375		
					154	89	302		
						267	267		
	10				160	220	280		
	2,500				169	166	235		
						84	84		
110	972	1	4,720	41	241	79	361		
	4,465			95	175		270		
						159	159		
1	704			44	6	14	20		
					205		249		2
						290	290		
						210	210		
						461	461		
	110					162	162		
	50					197	197		
3				76	275	231	231		
						115	466		1
	15					157	157		
3	1,925			30	37	41	108		
				50	256	280	586		6
	2,640			96	122	18	18		
						147	365		
1	2,465			43	182	160	385		
				3	1	90	94		
7	1,241			86	345	85	516		2
	125			44	6	150	200		
	1,500			12	14	67	93		
	140				160		60		
	400				174	303	377		
	1,940			34	27	3	64		1
	200			31	27	147	205		1
	895			26	90	128	244		
	641			24	21		45		1
	1,200			36		630	666		5
	2,700			35	25	175	235		
			1,200	67	148	194	409		2
						271	271		
	820			111		384	495		
	30			31	27		58		
3	4,450			239	535		774		
	50			16	106		122		1
	641			42	54	135	231		1
				17	21	126	164		1
9	1,480	14	3,680	447	1,700	51	2,198		4
					169	70	139		
	1,660			16	2		18		
	1,000			47		53	100		
	40			48	45	46	139		
	375			26	16		42		
	3,200			35	95	274	404		
2	35					272	272		
				16	13	62	91		

² Sold to Wis. Tel. Co. No report received.

CLASSES A. B. C. AND D. EXCHANGE

Abbreviations: A=automatic; C=central energy; G=grounded; M=magneto or metallic; R=common return.

LOCATION.	NAME OF COMPANY.	CENTRAL OFFICE DATA.		WIRE PLANT		
		Character of exchange switch-board.	Number of lines equip-ment.	Character of circuits.	Miles of pole line.	Miles of aerial wire.
Ingram	Chippewa Val. Tel. Co.	M.	50	R.	1.50	8.25
Iron River.....	Iron River W. L. & P. Co.			M.	12	48
Jackson.....	Jackson Tel. Co.	M.	57	M.	58	250
Janesville.....	Rock Co. Tel. Co.	M.	1,200	M.	21.50	35
Johnson Creek.....	Rock River Tel. Co.	M.	109	M.		
Kenosha.....	Kenosha Home Tel. Co.	C.	2,800	M.	81	471
Kiel.....	Eastern Wisconsin T. Co.	M.	112	M.	14.50	77
Knapp.....	Knapp Tel. Co.	M.		G.	80	205
LaCrosse Rural.....	LaCrosse Int. Tel. Co.	M.	8	M.	8	100
LaCrosse.....	La Crosse Tel. Co.	C.	1,700	M.	85	1,597
Ladysmith.....	Chippewa Valley Tel. Co.	M.	300	R.	6.87	83.75
La Farge.....	La Farge Tel. Co.	M.	143	R. & G.	75	128
La Grange.....	Eagle Tel. Co.	M.	16	M.	34.33	100.25
Lake City, Minn.....	Lake Pepin Tel. Co.	M.	302	M. & G.	93	
Lake Mills.....	Interurban Tel. Co.	M.	233	M.	80	235
Lancaster.....	Farmers T. Co. of Beet'n	M.	416	G.	340	1,380
Larsen.....	Larsen Tel. Co.	M.			76	469
Limeridge.....	Peoples Tel. Co.	M.	29	G.	182	313
Little Chute.....	Fox River Val. T. & T. Co.	M.	50	M.	3	27
Lodi.....	Lodi Tel. Exch.			M. R. & G.	105	
Loyal.....	Clark Co. Tel. Co.	M.	151	R. & G.	79	122.75
Luxemburg.....	Luxemburg Tel. Co.	M.	12	M. & G.	45	45
Manawa.....	Manawa Tel. Co.	M.	5	M.	40.50	63
Mapleton.....	Badger Tel. Co.	M.	33	M.	124	400
Marion.....	Marion & North'n. T. Co.	M.	62	R.	52	26.50
Markesan.....	Markesan Tel. Co.	M.	84	G.	71	299
Marshfield.....	Marshfield Tel. Exch.	C.	501	M. R. & G.	14	213.78
Mattoon.....	Mattoon Tel. Co.	C.		M.	15	50
Mauston.....	Mauston Elec. Service Co.	M.	307	R. & G.	88	219
Mazomanie.....	Mazomanie Tel. Co.	M.		M. & G.	80	200
Medford.....	Medford Tel. Exch.	A.	6	M.	23	129
Mellen.....	Ashland Home Tel. Co.	M.	100	M.	2.50	75
Menomonee Falls.....	Menomonee Falls Tel. Co.	M.	100	M.	105	509
Merton.....	Merton Tel. Co.		25	M.	31	63
Milton.....	M. & Milton Jct. Tel. Co.	M.	220		105	564
Milltown.....	Milltown Mutual Tel. Co.			M.	49.12	60.37
Mineral Pt.....	Mineral Pt. Tel. Co.	M.	819	M. R. & G.	6.50	204
Minocqua.....	Northern Tel. Co.	M.	60	M.	20	200
Mondovi.....	Mondovi Tel. Co.	M.	259	R. & G.	80	207
Monroe.....	United Tel. Co.	M.	620	M.	47.80	299
Monticello.....	United Tel. Co.	M.	130	M.	5.50	36
Mt. Calvary.....	Eastern Wis. Tel. Co.	M.	21	M.	1.25	6
Mt. Hope.....	Peoples Tel. Co.	C.			408	408
Mt. Horeb.....	Mt. Horeb Tel. Co.	M.	200	M. & R.	80	229
Mt. Vernon.....	Mt. Vernon Tel. Co.			M. & G.	143.75	449
Mukwanago.....	Eagle Tel. Co.	M.	24	M.	33.50	113.75
Necedah.....	Juneau Elec. Co.	M.	124	R.	2.50	50
Nellsville.....	Badger State T. & T. Co.	C.	229	M. & G.	72.57	311.37
Nelsonville.....	Nelsonville Tel. Co.	M.		M. & G.	52	77
Neosho.....	Eureka Tel. Co.	M.		M. & G.	94.50	307
New Auburn.....	New Auburn Tel. Co.	C.	64	M.	52	96
Newburg.....	Newburg Tel. Co.	M.	94	M. & G.	186	830
New Holstein.....	Eastern Wis. Tel. Co.	M.	70	M.	13.25	46
New Lisbon.....	Juneau Elec. Co.	M.	148	R. & G.	128	183
New London.....	Fox R. Valley T. & T. Co.	M.	150	M. & G.	4	164

¹ Includes business and residence.

SYSTEMS—EQUIPMENT DATA, 1912.—Continued.

DATA.				SERVICE DATA.					
Cable in		Conduit in		Number of business phones.	Number of residence phones.	Number of rural stations.	Total number of phones installed	Private branch ex-changes.	Number of public day stations.
Miles.	Feet.	Miles.	Feet.						
	80			7	5		12		2
				4	152		152		
				4		216	220		12
13	280		2,640	435	1,557	33	2,025		6
				34	53	236	323		
				682	1,552	177	2,411	301	16
	3,282	3	3,960	64	60	55	179		
	1,500					308	308		
						92	92		
15	725	32	3,375	870	2,935	113	3,918	135	14
				135	179	1	315		1
	4,593			28		176	204		1
						98	98		
1	1,080			59	101	142	302		
2	4,535		1,975	67	233	134	434		
1	1,200					922	922		
	50					326	326		
	100					400	400		
	250			25	29	6	60		3
	3,895			46	106	168	320		
	700			27	101	174	302		
					45	42	87		
				38	55	63	156	2	
						334	334		
	120			39	29	80	148		
	275			19	98	272	389		
4	3,756			192	387		579		
				42		9	51		
	3,600			61	194	202	457		1
				22	104	184	310		
	3,500			81	109	18	208		
				56	89		145		
				62	95	268	425		
				6	2	124	132		
1	1,965			72	322	316	710		5
	135				11	193	204		
3	1,703			109	395	304	808		
	270			19	60		79		
1	725			44	194	285	523		1
4	4,065			141	461	268	870		
1	132			27	76	106	209		
	190			18			18		
				29		24	728		
				29	154	298	481		
				46	125	431	602		
						130	130		
				30	84		114		
1	2,318			91	209	167	467		2
				20	35	103	158		
					63	245	308		
				17	41	63	121		
						572	572		
	100			38	45	31	114		
				30	104	42	176		2
	1,000			28	59	22	109		

CLASSES A, B, C, AND D, EXCHANGE

Abbreviations: A=automatic; C=central energy; G=grounded; M=magneto or metallic;
R=common return.

LOCATION.	NAME OF COMPANY.	CENTRAL OFFICE DATA.		WIRE PLANT		
		Character of exch'ge switch-board.	Number of lines equip'd.	Character of circuits.	Miles of pole lines.	Miles of aerial wire.
New Richmond.	St. Croix Tel. Co.....	M.	325	M. & G.	37	301 20
Niagara.....	Mich. State Tel. Co.....	M.	29	M.	1.69	29.64
Northfield.....	Northfield Farmers T. Co.	M.	.....	G.	98	184.25
North Lake.....	Badger Tel. Co.....	M.	24	M.	6	28
Norwalk.....	Monroe Co. Tel. Co.....	M.	6	R. & G.	35	37
Oakfield.....	Oakfield Tel. Co.....	M.	82	M.	80	335
Oconto.....	Oconto Rural Tel. Co.....	M.	41	M.	101	406.50
Oostburg.....	Oostburg Tel. Co.....	M.	.....	.....	38.75	181
Oregon.....	Oregon Tel. Co.....	.....	.....	M.	83.50	363.50
Orfordville.....	Orfordville Tel. Co.....	M.	140	M.	128	1,838
Osceola.....	Osceola Far. Mut. T. Co..	M.	134	G.	131.50	273.75
Oshkosh.....	Winnebago Co. Tel. Co..	.....	.....	M.	50	142
Osseo.....	Osseo Tel. Co.....	M.	150	.....	171	420.75
Oxford.....	Marq. & Adams Co. T. Co.	M.	138	G.	94	211
Palmyra.....	Eagle Tel. Co.....	M.	42	M.	74.17	228.50
Pardeeville.....	Pardeeville Tel. Co.....	M.	120	G.	61	335
Park Falls.....	Glidden Tel. Co.....	M.	.....	M.	8.50	30
Peshigo.....	Harmony Tel. Co.....	M.	12	M.	24	75
Pewaukee.....	Pewaukee-Sussex Tel. Co.	M.	120	M.	43	270
Pickett.....	Utica Tel. Co.....	M.	30	M.	57	160
Plainfield.....	Union Tel. Co.....	M.	143	M. & G.	170.75	351
Plymouth.....	Plymouth Tel. Co.....	C.	398	M.	285	78.60
Portage.....	Portage Tel. Co.....	M. & C.	650	M. & G.	196	455
Poynette.....	Leeds Farmers Tel. Co..	M.	1	M. & G.	167	167
Poynette.....	Poynette Tel. Co.....	M.	18	R. & G.	65	68
Prairie du Chien	Union Tel. Co.....	C.	250	M.	20	100
Prairie du Sac..	Troy & Honey Cr'k. T. Co.	M.	200	.....	172.50	296
Prairie Farm.....	Pr. F., R. & Dallas T. Co.	M.	100	.....	242.75	410.50
Prentice.....	Chippewa Valley Tel. Co.	M.	50	R.	1.50	11.50
Randolph.....	Peoples Tel. Co.....	M.	100	M. & G.	98	180
Random Lake..	Random L. Tel. Co.....	M.	150	M.	86	272
Reedsburg.....	Reedsburg Tel. Co.....	M.	350	M. & G.	111	302
Reedsville.....	Manitowoc & West. T. Co.	.....	.....	M.	145	789
Reeseville.....	Dodge Co. Tel. Co.....	.....	22	M.	57	70
Retreat.....	LaCrosse Interurb. T. Co.	M.	35	M.	10	21
Rhineland.....	Rhineland Mutual T. Co.	C.	360	M.	26	252
Rice Lake.....	Barron Co. Tel. Co.....	M.	810	M. R. & G.	171.50	176
Rice Lake.....	R. Lake & Northern T. Co.	.....	.....	M.	139	268
Richland Cent'r	Badger Tel. Co.....	.....	.....	.....	80	252
Richland Cent'r	Farmers Tel. Exchange..	M.	.....	M. & R.	99	489.46
Rio.....	Peoples Tel. Co.....	M.	100	M. & G.	65	140
Ripon.....	Ripon Rural T. Co.....	M.	.....	.....	115.30	341.25
Ripon.....	Ripon Tel. Co.....	M.	446	.....	17.30	90.64
River Falls.....	Pierce Co. Tel. Co.....	M.	370	M. & G.	167.75	772.50
Roberts.....	Pierce Co. Tel. Co.....	M.	47	G.	44.50	125.75
Rochester.....	Burlington R. & K. Tel. Co	M.	51	M.	102	497
Rosendale.....	Rosendale Tel. Co.....	M.	.....	M.	.....	.....
Scandinavia.....	Scandinavia T. Co.....	M.	98	M.	102	250
Shelbingsville	Washington Co. Tel. Co..	M.	.....	M.	77	173
Sharon.....	Sharon Tel. Co.....	M.	200	M.	62	248

¹ Includes business and residence.

SYSTEMS.—EQUIPMENT DATA, 1912.—Continued.

DATA.				SERVICE DATA.					
Cable in		Conduit in		Number of business phones.	Number of residence phones.	Number of rural stations.	Total number of phones install'd.	Private branch ex-changes.	Number public pay stations.
Miles.	Feet.	Miles.	Feet.						
3	1,524			80	225	421	726		2
	60			20	11		31		1
	125			15		210	225		
					165		65		
					31	23	54		
	500			40	329		369		
	45			17		214	231		5
	628			21	48	134	203		
	3,643			33	143	175	351		2
	500			23	71	284	378		
				31	125	413	569		
						143	143		
	2,200			44	81	330	455		
				52	14	327	393		
						282	282		
				41	89	302	432		
	2,410			56	97		153		
	35			20	40	7	67		
	4,527			25	56	165	246		
	500					196	196		
	444			128		181	309		1
2	2,066		170	114	275		389		
9	1,001		2,950	236	546	151	932	13	3
						250	250		
						165	300		
				90	238		328		3
	2,776			69	113	486	668		
	4,039			24	26	476	526		
	65			21	15		36		
	1,166			31	98	230	359		
	160			40	15	224	279		
2	3,225			111	245	291	647		
						250	250		
						190	190		
						42	42		
	4,200			229	427	28	684		
3	2,265			151	398	256	805		9
				(²)					
						238	238		
2	751			118	381	277	776		1
	1,815			25	114	134	273		
						267	267		
2	667			120	333		453		
3	1,264			84	257	335	676		
						73	73		
	955		400			417	417		
	172			24		268	292		
	125			90	15	160	265		
						280	280		
1	545			176		140	316		

² Toll.

CLASSES A, B, C AND D—EXCHANGE

Abbreviations: A=automatic; C=central energy; G=grounded; M=magneto or metallic; R=common return.

LOCATION.	NAME OF COMPANY.	CENTRAL OFFICE DATA.		WIRE PLANT		
		Character of exchange switch-board.	Number of lines equipment.	Character of circuits.	Miles of pole line.	Miles of aerial wire.
Sheboygan.....	Citizens Tel. Co.....	C.	1,260	M.	13.80	262
Sheboygan Fll's	Citizens Tel. Co.....	M.	200	M.	4.10	122.10
Shiocton.....	Shiocton Tel. Co.....	M.	.....	M.	88	229
Shullsburg.....	White Oak Tel. Co.....	M.	45	M. & G.	53.50	109.50
Sparta.....	Monroe Co. Tel. Co.....	M. & C.	561	M.	239.75	378.80
Spring Valley..	Pierce Co. Tel. Co.....	M.	100	G.	1.75	24
St. Croix Falls..	St. Croix Valley Tel. Co..	M.	111	R.	168	599
Stetsonville.....	Midway Tel. Co.....	M.	85	M. R. & G.	95.50	134.75
Stockbridge.....	Stockbridge & Sher. T. Co	M.	27	M.	67	175
Sullivan.....	Sullivan Tel. Co.....	M.	45	M. & G.	81	280
Sun Prairie.....	Interurban Tel. Co.....	M.	126	M. & G.	54	271
Superior.....	Peoples Tel. Co.....	C.	1,080	M.	72.50	1,191.50
Thompson.....	Badger Tel. Co.....	M.	8	M.	11	43
Thompsonville..	Franksville Tel. Co.....	M.	20	M.	45	209
Tigerton.....	Marion & Northern T. Co	M.	39	R.	3.50	14
Tomah.....	Tomah El. Lt. & T. Co....	M.	333	.....	135	1,000
Tomahawk.....	T. Lt. Tel. & Impr. Co.....	M.	300	M. & G.	14.75	77
Trempealeau....	Western Wis. Tel. Co.....	M.	59	M. R. & G.	.....	103.75
Two Rivers.....	Two Rivers T. Co.....	.....	.....	.....	.....	43
Union Grove....	Union Grove T. Co.....	M.	60	M.	122	500
Viola.....	La Crosse Inter. Tel. Co..	M.	201	G.	100	307
Viroqua.....	Viroqua Tel. Co.....	C.	319	M. & G.	55.50	233.25
Walworth.....	Walworth Tel. Exch. Co....	M.	176	M.	48	297
Washburn.....	Bayfield Co. Tel. Co.....	M.	223	M.	15.59	252
Waterford.....	Wind Lake Tel. Co.....	M.	9	M.	54	194
Waterloo.....	Interurban Tel. Co.....	M.	205	M. & G.	82	389
Watertown.....	Watertown Tel. Co.....	.....	.....	M.	106	1,030
Waunakee.....	Waunakee Tel. Co.....	M.	.....	G.	55	70
Waupaca.....	Fox River Val. T. & T. Co	M.	.....	M.	19	382
Waupaca.....	Rural Tel. Co.....	M.	16	M.	140	308
Wausau.....	Marathon Co. Tel. Co....	M.	25	M.	106	170
Welcome.....	Matteson Tel. Co.....	M.	45	G.	82	142.50
Westby.....	Westby Tel. Co.....	M.	183	R. & G.	120.25	245.25
Westfield.....	Westfield Farmers T. Co..	M.	.....	M. & G.	259	404.25
West Salem....	La Crosse Inter. Tel. Co..	M.	170	G. & R.	25	126
Weyauwega....	Fox River Val. T. & T Co	M.	.....	M. & G.	50	210
Whitehall.....	Western Wis. Tel. Co.....	M.	60	R. & G.	.....	117.60
Wilton.....	Ontario & Wilton.....	M.	.....	R.	95	133
Winslow, Ill....	Winslow & S. W. Tel. Co	.....	.....	M.	29	97
Wonewoc.....	Wonewoc Tel. Co.....	M.	113	G.	52	138
Wrightstown...	Fox Riv. Valley T. & T. Co	M.	.....	M. & G.	30	175
Wyocena.....	Peoples Tel. Co.....	M.	50	M. & G.	65	140
Total ².....		.....	119,327	.....	22,678.44	97,720.45

¹Includes business and residence.

²Includes Wisconsin Tel. Co. Does not include companies reporting on condensed form. The companies reporting on condensed form show the following service data:—No. of phones, 27,217; No. of lines equipped, 5,464; No. of miles of poles, 11,342; No. of miles of wire, 22,426; No. of feet of cable, 4,066.

SYSTEMS. EQUIPMENT DATA, 1912—Concluded.

DATA.				SERVICE DATA.					
Cable in		Conduit in		Number of business phones.	Number of residence phones.	Number of rural stations.	Total number of phones installed	Private branch ex-changes.	Number public pay stations.
Miles.	Feet.	Miles.	Feet.						
10	3,960	8	1,167	624	1,159	35	1,818	209	
	3,900			37	78		115		
	300			38	125	159	322		2
	85			27	19	144	190		1
6	677	3	499	140	321	472	933		5
				38	46		84		
				53	128	361	542		3
				49	25	212	286		
				9		167	176		3
	30			20		206	226		
				43	83	151	277		
20	2,276	4	11	961	1,094	9	2,064		16
	150					54	54		
				20	26	203	203		
						2	48		
2	1,012			112	273	356	741		
1	3,956			99	204	7	310		2
				8	22	87	117		
2	795			125	503		628		3
	1,500				96	366	462		
				73	265	133	471		
2	1,419		376	103	247	88	438		1
	3,400		1,400	33	125	176	334		
				167	78		245		
	50					145	145		
	415			45	160	216	421		
						392	392		
	3,000			23	167	190	190		
	2,143		200	130	289	45	464		
						322	322		
				9	11	66	86		1
	10			16	20	193	226		
	4,080	1	4,967	46	106	326	478		1
	2,640			33	53	330	416		
				37	97	153	287		
	200			3	9	38	50		
				22	15	18	55		1
				54		246	300		
	120				51	75	126		
	3,095			83	28	181	292		2
	1,200			25	27	79	131		
	1,815			7	3	36	46		
³ 157,229	229	187	2,343	42,352	93,493	51,333	187,178	10,266	1,163

³Includes 75,296 mi. 2,323 feet aerial cable and 81,379 mi. 2,218 feet underground cable, reported by Wisconsin Telephone Company.

WISCONSIN TELEPHONE CO.
RATIO OF OPERATING EXPENSES AND

LOCATION	PER CENT DIVISION OF			
	Total central office traffic.	Total wire plant transmission.	Total substation terminal.	Total commercial.
Algoma	25.66	6.27	22.03	13.75
Appleton	23.01	9.11	22.65	9.66
Ashland	16.48	6.72	19.05	14.26
Baraboo	26.96	7.31	25.41	10.44
Bayfield	25.58	3.53	22.53	13.55
Beaver Dam	19.21	11.13	21.85	7.86
Beloit	20.46	9.80	17.95	10.71
Berlin	29.14	6.81	24.04	11.82
Burlington	23.45	8.36	20.48	9.21
Burnett Junction	28.40	8.19	14.16	2.47
Cedarburg	28.22	4.33	18.02	9.87
Chippewa Falls	21.95	11.11	18.21	7.97
Columbus	16.46	20.61	14.98	9.36
Corliss	32.34	5.83	14.02	4.51
Darlington	27.12	12.32	19.01	14.27
Delavan	22.23	13.98	16.74	8.40
De Pere	24.36	9.80	14.14	9.94
Eau Claire	20.65	7.73	21.03	10.60
Elkhorn	15.15	2.89	28.91	5.59
Evansville	25.43	9.62	18.18	5.67
Fond du Lac	24.53	10.82	20.01	7.00
Fort Atkinson	21.61	5.61	25.35	7.65
Genoa Junction	17.94	6.20	22.48	5.48
Green Bay	20.44	11.70	20.07	11.15
Green Lake	15.14	4.10	20.72	20.18
Hartford	23.77	9.18	16.71	10.44
Hartland	21.80	13.70	13.26	9.36
Horicon	23.15	8.19	20.78	13.76
Hortonville	21.06	12.02	19.19	10.60
Hudson	22.91	14.89	19.09	11.53
Hurley	18.65	11.60	20.62	9.90
Janesville	19.73	10.78	13.32	16.34
Jefferson	19.20	5.91	17.73	13.27
Juneau	26.51	10.16	17.15	14.97
Kaukauna	19.64	6.94	13.46	7.78
Kewaunee	26.59	4.58	13.30	12.03
La Crosse	14.41	7.76	21.20	11.71
Lake Geneva	18.53	17.14	10.48	6.23
Lancaster	20.27	13.19	18.11	12.56
Lima Center	24.39	6.85	10.70	3.51
Madison	25.71	10.27	16.98	7.99
Manitowoc	19.31	5.44	19.67	7.46
Marinette	24.79	6.03	16.34	9.41
Mayville	19.65	10.12	23.13	12.73
Menomonie	15.84	9.65	20.00	11.24
Merrill	28.94	5.85	21.60	9.45
Milwaukee	27.28	3.55	19.03	10.58
Neenah	23.10	4.45	15.66	8.31
New London	23.26	6.11	20.47	13.78
North Freedom	28.80	8.83	24.94	3.74
Oconomowoc	16.41	9.99	15.53	8.00
Oconto	20.98	12.63	16.49	12.23
Oconto Falls	29.32	9.69	14.82	21.57
Ontonagon	16.93	12.22	24.60	9.85
Oshkosh	22.42	11.35	15.72	7.64

EXCHANGE REPORTS.
EARNINGS—YEAR ENDING JUNE 30, 1912.

OPERATING EXPENSES.					Percentage of operating expenses to operating revenues.
Total general.	Total undistributed.	Total of foregoing.	Depreciation.	Taxes.	
		74.06	18.62	7.32	74.06
3.24	3.11	69.97	25.09	4.94	110.01
2.92	2.62	61.20	34.78	4.02	135.64
2.67	2.02	76.54	16.29	7.17	76.64
3.50	2.92	70.02	22.75	7.23	75.16
3.01	1.82				
		65.36	28.32	6.32	85.91
2.83	2.48	63.24	30.84	5.92	91.54
2.69	1.63	77.75	16.92	5.33	101.73
3.54	2.40	67.16	24.99	7.85	69.35
2.84	2.82	56.27	39.49	4.24	127.81
2.36	0.69				
		65.62	27.41	6.97	77.42
2.94	2.24	63.99	28.61	7.40	73.29
2.68	2.07	66.42	27.23	6.35	85.47
2.98	2.03	60.54	34.77	4.69	116.48
3.06	0.78	78.16	17.31	4.53	120.13
3.69	1.75				
		66.95	26.87	6.18	87.66
3.09	2.51	62.74	31.32	5.94	91.30
2.90	1.60	65.12	27.55	7.33	74.16
2.69	2.42	59.20	42.89	2.09	276.65
4.92	1.74	62.20	30.55	7.25	70.95
1.86	1.44				
		67.46	25.57	6.97	77.78
2.70	2.40	64.23	28.09	7.68	70.56
2.80	1.21	56.58	36.76	6.66	81.57
2.43	2.05	67.70	26.77	5.53	98.19
2.83	1.51	64.65	28.13	7.22	75.47
2.55	1.96				
		66.03	26.10	7.87	68.73
2.83	3.10	62.67	30.12	7.21	75.99
2.54	1.91	70.90	22.43	6.67	81.30
3.15	1.87	69.37	24.27	6.35	85.33
3.25	3.25	74.50	18.89	6.61	81.99
3.33	2.75				
		64.57	27.10	8.33	65.05
2.88	0.92	69.27	26.57	4.16	130.59
3.02	1.08	60.78	32.19	7.03	76.82
2.82	1.85	74.30	19.01	6.69	80.96
3.28	2.23	52.42	41.33	6.25	86.71
2.17	2.43				
		60.48	32.06	7.46	72.82
2.42	1.56	59.52	36.74	3.74	146.40
2.60	1.84	57.69	36.46	5.85	93.26
3.15	2.16	70.03	24.33	5.64	96.05
3.40	2.50	49.43	45.73	4.84	112.08
1.92	2.06				
		65.82	28.12	6.06	89.60
2.80	2.07	56.90	34.28	3.82	61.57
2.27	2.75	61.85	30.67	7.48	72.49
2.55	2.73	70.76	22.42	6.82	79.49
3.05	2.08	61.74	31.11	7.15	75.74
2.50	2.51				
		70.89	22.90	6.21	87.58
3.11	1.94	65.79	26.36	7.85	69.36
3.57	1.78	55.32	37.37	7.31	74.30
2.27	1.53	68.23	25.81	5.96	90.70
3.03	1.58	70.54	20.65	8.80	61.56
2.86	1.37				
		54.26	39.08	6.66	81.97
2.37	1.96	68.86	25.75	5.89	92.04
3.38	2.65	82.94	10.51	6.55	82.56
5.04	2.50	69.43	24.98	5.59	96.88
3.01	2.82	62.20	31.56	6.24	86.98
3.07	2.00				

WISCONSIN TELEPHONE CO.
RATIO OF OPERATING EXPENSES

LOCATION.	PER CENT DIVISION OF			
	Total central office traffic.	Total wire plant transmission.	Total substation terminal.	Total commercial.
Peshigo.....	25.04	14.30	20.02	4.37
Port Washington.....	28.13	5.31	14.47	12.43
Princeton.....	24.24	4.08	21.01	13.75
Racine.....	16.26	8.08	26.73	7.67
Red Granite.....	31.62	5.13	22.39	15.02
St. Martins.....	35.68	9.94	14.58	6.08
Shawano.....	23.72	6.71	22.81	14.86
Shullsburg.....	28.85	12.29	16.44	10.73
South Milwaukee.....	22.06	6.65	17.97	9.17
Stanley.....	19.44	11.54	28.90	12.36
Stevens Point.....	20.16	13.49	19.08	10.61
Stoughton.....	21.47	10.90	20.24	7.27
Sturgeon Bay.....	25.43	12.33	13.33	9.84
Superior.....	26.37	5.55	22.87	11.10
Washburn.....	23.12	8.11	18.75	14.19
Watertown.....	28.94	7.78	18.91	7.81
Waukesha.....	18.59	9.97	21.73	8.94
Waupun.....	19.75	8.00	21.29	10.46
West Bend.....	21.43	4.19	24.17	8.93
Whitewater.....	29.45	12.31	12.21	6.36
Winneconne.....	6.76	16.63	11.21	34.37
Total.....	24.26	6.65	19.40	10.03

EXCHANGE REPORTS—Concluded.
AND EARNINGS—1912.

OPERATING EXPENSES.					Percentage of operating expenses to operating revenues.
Total general.	Total un- distributed.	Total of foregoing.	Depreciation.	Taxes.	
2.81	2.98	69.52	24.94	5.54	98.12
3.02	3.23	66.59	26.15	7.26	74.71
3.14	3.07	69.29	25.36	5.35	100.95
3.06	1.57	63.37	32.59	4.04	134.95
4.72	2.32	81.20	12.52	6.28	86.03
3.44	0.73	70.45	24.09	5.46	109.55
3.36	2.22	73.68	20.14	6.18	83.75
4.05	2.34	74.70	19.84	5.46	99.99
2.47	2.26	60.58	33.21	6.21	87.20
3.82	1.59	77.65	16.12	6.23	86.82
2.87	2.96	69.17	23.73	7.10	78.15
2.81	3.22	65.91	27.24	6.85	79.20
3.14	2.10	66.17	27.37	6.46	83.91
4.38	1.85	72.12	22.15	5.73	94.73
2.97	1.70	68.84	27.48	3.68	147.72
2.84	2.51	68.79	22.44	8.77	61.87
2.72	2.96	64.91	28.42	6.67	81.38
2.72	2.90	65.12	27.67	7.21	74.79
2.80	2.22	63.74	26.95	9.31	58.29
2.82	2.75	65.90	27.40	6.70	81.45
4.27	3.46	76.70	19.08	4.22	128.53
3.23	1.93	65.50	27.64	6.86	79.26

Financial and Operating Statistics

INCOME ACCOUNT. YEAR

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	Operating revenues.	OPERATING		
			Steam.	Distribution.	Commercial
<i>Private.</i>					
Beaver Dam...	Beaver Dam Lt. & Pr. Co...	\$4,063 68	\$2,654 85	\$231 10	.....
Berlin	Berlin Public Service Co....	¹ 12,804 56	6,830 00	707 97	\$30 00
Burlington	Burlington Heating Co.....	.....	.....	.....	.....
Janesville	Janesville Electric Co.....	2,424 17	3,289 54	128 14	.....
Kenosha.....	Kenosha Gas & Elect. Co....	² 13,874 10	5,573 26	685 79	385 53
La Crosse.....	La Crosse Gas & Elect. Co....	37,581 90	19,887 47	2,545 34	482 37
Marinette.....	Watson Heating Company....	2,531 44	3,252 46	.....	.....
Milwaukee.....	Central Heating Company....	³ 132,626 57	62,547 27	12,783 52	4,277 41
Milwaukee.....	Continental Realty Co.....	27,987 51	19,659 74	1,405 95	.....
Milwaukee.....	Plankinton Lt. & Pr. Co....	65,254 43	63,873 81	1,914 13	.....
Milwaukee.....	Railway Exch. Bldg. Co.....	2,701 86	2,742 56	721 77	.....
Milwaukee.....	Wells Power Company ⁴.....	.....	.....	.....	.....
Mineral Point	Mineral Point Elec. Lt. Co. ⁵	4,040 58	2,226 77	155 45	.....
Waukesha.....	Waukesha Gas & Elec. Co....	4,452 33	2,991 22	133 09	6 95
West Bend....	West Bend Heat. & Lt. Co...	1,601 37	821 83	.....	37 79
Total.....		\$311,945 00	\$196,350 78	\$21,412 25	\$5,220 05
<i>Municipal.</i>					
Sturgeon Bay..	Sturg'n B. Lt. Wtr. & Htg. Co.	⁶ \$5,169 37	\$2,429 67	.....	.....

¹ Includes \$541.05 non-operating revenues.² Includes \$57.61 non-operating revenues.³ Includes \$407.99 non-operating revenues.

BALANCE SHEET

LOCATION.	NAME OF COMPANY.	Cost.	Treasury securities.	Reserve, sinking and special fund assets.	As
					Current assets.
<i>Private.</i>					
Beaver Dam...	Beaver Dam Lt. & Pr. Co. ¹.....	.....	.....	.....	\$1,293 83
Berlin	Berlin Public Service Co.....	\$46,087 78	.....	.....	.....
Burlington	Burlington Heating Co.....	.....	.....	.....	.....
Janesville	Janesville Elec. Co.....	4,594 81	.....	.....	.....
Kenosha.....	Kenosha Gas & Electric Co....	72,134 34	.....	\$3,920 96	3,166 99
La Crosse.....	La Crosse Gas & Elec. Co.....	180,854 01	.....	45 00	19,041 60
Marinette.....	Watson Heating Company....	5,000 00	.....	.....	721 02
Milwaukee.....	Central Heating Co.....	\$45,445 46	.....	.....	4,306 92
Milwaukee.....	Continental Realty Co.....	26,629 40	.....	.....	1,204 36
Milwaukee.....	Plankinton Lt. & Pr. Co....	108,553 30	.....	.....	13,518 78
Milwaukee.....	Ry. Exch. Bldg. Co. ².....	.....	.....	.....	.....
Milwaukee.....	Wells Power Co. ³.....	.....	.....	.....	.....
Mineral Point	Mineral Pt. Elec. Lt. Co.....	15,000 00	.....	.....	.....
Waukesha.....	Waukesha Gas & Elec. Co....	31,906 92	\$22,000 00	.....	380 74
West Bend....	West Bend Heating & Lt. Co.	4,178 08	.....	.....	622 77
Total.....		\$1,340,384 10	\$22,000 00	\$3,965 96	\$44,197 01
<i>Municipal.</i>					
Sturgeon Bay..	Sturgeon Bay Lt. W. & H. Co.	\$10,752 95	.....	.....	\$18 20

¹ No separate balance sheet available. See electric light report.² No balance sheet available.

of Public Utilities.—F. Heating.

ENDING JUNE 30, 1912.

EXPENSES.				Net operating revenue.	Interest and dividends.	Surplus.
General and undistributed.	Depreciation.	Taxes.	Total.			
	\$795 14	\$123 50	\$3,804 59	\$259 09		\$259 09
\$1,455 39	1,625 00	238 66	10,887 02	1,917 54	\$975 00	942 54
			3,417 68	393 51		933 51
684 87	1,381 64	345 42	9,056 51	4,817 59	3,181 78	1,635 81
2,523 41	2,500 00	1,923 80	29,862 39	7,719 51	7,282 42	437 09
			3,252 46	721 02		721 02
2,235 32		14,145 06	95,988 58	36,637 99	16,683 98	19,954 01
408 59	2,918 30	400 00	24,792 58	3,194 93		3,194 93
5,302 10	3,130 00		74,220 04	8,965 61	1,852 00	10,817 61
			3,464 33	762 47		762 47
542 73		50 55	2,975 50	1,065 08	480 71	584 37
154 37		123 00	3,408 63	1,044 20	1,426 62	382 42
97 35		12 33	969 30	632 07		632 07
\$13,404 13	\$12,350 08	\$17,362 32	\$266,099 61	\$45,845 39	\$31,882 51	\$13,962 88
\$145 66			\$2,575 33	\$423 89	\$329 04	\$ 2,265 02

⁴ No separate report. Included with electric report.

⁵ Covers only six months.

⁶ Includes \$3,017.95 non-operating revenues.

JUNE 30, 1912.

SETS.		LIABILITIES.					
Deficit.	Total.	Capital stock.	Bonds.	Reserve, sinking and special fund liabilities.	Current and accrued liabilities.	Surplus.	Total.
	\$47,381 61	\$20,000 00	\$18,000 00	\$2,315 44	\$6,123 63	\$942 54	\$47,331 61
	4,594 81					4,594 81	4,594 81
	79,162 29	27,000 00	27,000 00	4,749 64	3,509 77	16,902 88	79,162 29
	199,940 61	65,000 00	110,000 00	12,514 75	10,967 13	1,458 73	199,940 61
	5,721 02	5,000 00			721 02		5,721 02
	849,752 38	500,000 00		4,666 14	346,684 59	4,401 65	849,752 38
	27,833 76				27,833 76		27,833 76
\$31,051 05	\$153,123 13	21,125 00	84,500 00	31,871 35	15,626 78		153,123 13
	15,000 00	4,740 00	8,400 00	1,591 64		268 36	15,000 00
	54,287 66	6,000 00	40,000 00	72 67	7,944 65	270 34	54,287 66
	4,800 85			340 65	3,920 12	540 08	4,800 85
\$31,051 05	\$1,441,598 12	\$648,865 00	\$287,900 00	\$58,122 28	\$417,331 45	\$29,379 39	\$1,441,598 12
	10,771 15		\$4,050 00		\$5,519 60	\$1,201 55	\$10,771 15

⁸ No separate report. Included with electric utility.

OPERATING DATA—YEAR

LOCATION.	NAME OF COMPANY.	Nature of service, steam or hot water.	If steam, is live or exhaust steam used.	Is service residential or commercial or both.
	<i>Private</i>			
Beaver Dam..	Beaver Dam Lt. & Pr. Co.....	Steam.....	Both.....	Residential
Berlin.....	Berlin Public Service Co.....	Hot water..	.....	Both
Burlington ...	Burlington Heating Co.....	.....	.....	.....
Janesville.....	Janesville Elec. Co.....	Hot water..	.....	Com'ercial.
Kenosha	Kenosha Gas & Elec. Co.....	Hot water..	.....	Both
La Crosse....	La Crosse Gas & Elec. Co.....	Hot water..	.....	Both
Marinette....	Watson Heating Co.....	Steam.....	Live.....	Both
Milwaukee ...	Central Heating Co.....	Steam.....	Both.....	Both
Milwaukee ...	Continental Realty Co.....	Steam.....	Live.....	Com'ercial.
Milwaukee ...	Plankinton Lt. & Pr. Co.....	Steam.....	Both.....	Com'ercial.
Milwaukee....	Ry. Exch. Bldg. Co.....	Steam.....	Both.....	Com'ercial.
Milwaukee....	Wells Power Co. ¹.....	.....	.....	.....
Mineral Point	Mineral Pt. Elec. Lt. Co.....	Steam.....	Both.....	Both
Waukesha	Waukesha Gas & Elec. Co.....	Steam.....	Both.....	Both
West Bend....	West Bend Htg. & Ltg. Co.....	Steam.....	Both.....	Both
Sturgeon Bay	<i>Municipal</i> Sturgeon Bay L. W. & Htg. Co.	Steam.....	Both.....	Both

¹ No separate report from electric utility.

ENDING JUNE 30, 1912.

LENGTH OF MAINS (FEET)

1 in. and less.	1½ inch.	2 inch.	2½ inch.	3 inch.	4 inch.	5 inch.	6 inch.	7 inch.	8 inch.	9 inch.	10 inch.	12 inch.	14 inch.	16 inch.
10,369		4,563		2,206		4,623	443	730	678	1,160				
		500		700	3,600				1,279					
				1,813	4,237	2,551	3,653		1,791					
					400									5,414
	480	250		1,546	3,574	3,021	9,480	193	8,799		9,342	5,871	6,173	
	273	150					853		72					
	395	894	1,127	639	1,131	1,038	1,595		2,029		214		19	
				161	224									
				235	2,243		1,911	100	368					
					1,552				552					
					205									
	147	205	147		1,304	1,846	563		675		756	750		
		750		1,785			750		1,535		155			

Financial and Operating Statistics of Public Utilities. G. Unit Costs

UNIT COSTS RELATING TO PUBLIC UTILITY OPERATION

As Required by Section 1797m—18 of the Statutes of the State of Wisconsin

Section 1797m—18, chapter 499, laws of 1907, makes it compulsory for utilities to furnish the Commission with information showing the costs to the utility for each unit of service rendered. The Commission, in turn, is required to publish this information so that it is available for use to all utilities within the state.

Tables showing unit costs of various utilities are important for comparative purposes. Comparisons of this nature are an aid to the Commission in determining reasonable rates and serve as a means for utilities to study the efficiency of utility operation.

In order that the unit cost tables may be of value, complete accuracy of statistical as well as of accounting records is of first importance. Much difficulty has been experienced by the Commission in securing accurate costs of the different units of service rendered.

Utilities have not in all cases kept the operating expenses recorded along the lines prescribed by the uniform classification of accounts and have not kept accurate statistical records of plant operation. On this account the records of a number of utilities do not form a trustworthy basis for measuring costs

and have been excluded from the unit cost tables. The failure of utilities to submit accurate records up to the present has resulted from errors of omission rather than errors of commission. Failure of utility managers to understand the nature and importance of unit costs has also caused difficulties in accomplishing the desired purpose. The Commission is now giving utilities direct assistance in establishing systems of accounts and records and in this manner the inaccuracies which have heretofore existed in the reports submitted will be reduced to a minimum in the future.

Averages Used. In order that the following unit cost tables may be clearly understood, a word of explanation concerning the averages which have been used may be in order. As far as practicable the descriptive data which are presented in summary form at the foot of each table are the weighted average, the arithmetic average for all utilities, the arithmetic average for utilities reporting the particular item in question, the maximum, the minimum, and the median. The weighted average as used amounts practically to treating all the data presented as if they were the data of a single utility; in other words, it is rather a unit cost for the particular item for the entire group of utilities than a true average of unit costs.

The arithmetic average of all utilities includes the zero items as of equal weight with others. For example, a utility may report no item of expense for maintenance of general office. Another utility may have reported an item of expense for this purpose. The arithmetic average of all utilities treats the utility which has reported no item of expense as if this were actually a zero item and these zero items are averaged with the actual cost items in determining the average for all utilities. An arithmetic average for utilities reporting the particular item shown is an average which does not give any weight to the zero items.

Both of these averages are to a certain extent defective, but an average which will report conditions perfectly can not be obtained under present conditions. The arithmetic average

which gives the zero items equal weight with actual expense items would be correct as representing the arithmetic average of the entire group if the failure to report the expense item actually meant in every case that there had been no such expense item. To the extent, however, that such expense items have been erroneously classified, and consequently do not appear in the report as such, the average mentioned is defective. In the same way an average of the expenses of the utilities reporting the item is necessarily defective, because it does not completely report the expenses of the group.

To get a perfect average of this kind it would be necessary to know which of the zero items were really due to the lack of such an item of expense and which were due to errors in classification. If a utility really had no such expense as the particular one considered, that zero item ought to be included as a report of the item in question, but due to the impossibility of distinguishing between zero items which indicate an error in classification and zero items which indicate an absence of expense, all that we have been able to do has been to publish the two arithmetic averages with an explanation of the items considered in their determination, and to explain the defects in each of them in order that their use may not lead to erroneous conclusions.

With regard to the weighted average a further word of explanation may be in order. Where a utility reports the statistical base which is used as the unit for purposes of determining costs but does not report the financial item which, for the entire group, is to be related to that base, the statistical item has been included in the total, regardless of the lack of a financial item, the presumption necessarily being that the failure of the utility to report the financial item indicated the lack of any such expense. When, however, the expense item has been reported but the physical item has not been, the expense item for that particular utility has been excluded from the total expense of the group in the determination of the weighted average, because in all these cases the failure to report the

physical item has been simply a defect in reporting and does not indicate the actual lack of such item.

The weighted average is defective to the extent that errors in classification result in a misrepresentation of any particular item of expense. But these three averages used in connection with the other descriptive data summarized, the maximum, the minimum, and the median, and used with a knowledge of the nature and causes of their defects, are of considerable value in connection with the study of unit costs of operation, because they furnish a description of the detailed costs of the particular group of utilities to be studied.

Financial and Operating Statistics of Public

CLASS A. ELEC
 PERCENTAGE ANALYSIS
 Year Ending

LOCATION.	NAME OF COMPANY.	Power.	Transmission and transformation.
Appleton	Wis. Tr. Lt. & Pr. Co.	44.80	1.20
Ashland	Ashland Lt. Pr. & St. Ry. Co.	64.37	3.78
Beloit	Beloit W. Gas & El. Co.	57.07	.....
Chip. Falls.....	Chip. Val. Ry. Lt. & Pr. Co.	54.68	.....
Eau Claire.....	Chip. Val. Ry. Lt. & Pr. Co.	26.87	2.95
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.	52.91	.....
Green Bay.....	Green Bay G. & El. Co.	71.69	.....
Green Bay.....	Minahan Bldg. Co.	82.54	.....
Green Bay.....	Northern Hydro El. Pr. Co.	46.56	14.26
Green Bay.....	Wis. Public Service Co.	35.78	34.78
Janesville.....	Janesville El. Co.	47.36	1.35
Kenosha	Kenosha Gas & El. Co.	62.45	.....
Kenosha	Kenosha El. Ry. Co.	60.42	.....
La Crosse.....	La Crosse G. & El. Co.	70.14	.....
La Crosse.....	La Crosse Water Pr. Co.	59.50	10.28
Madison.....	Madison Gas & Elec. Co.	59.93	.....
Madison.....	Southern Wis. Pr. Co.	45.22	10.50
Manitowoc.....	Electric Light Co.	65.06	.....
Marinette.....	Men. & Mar. Lt. & Tr. Co.	59.84	4.48
Milwaukee.....	Commonwealth Pr. Co.	69.90	3.06
Milwaukee.....	Plankinton El. Lt. & Pr. Co.	66.56	.....
Milwaukee.....	T. M. E. R. & L. Co.	48.12	1.90
Milwaukee.....	Milw. Lt. Ht. & Tr. Co.	51.72	2.04
Milwaukee.....	Wells Power Company.....	73.97	.....
Oshkosh.....	Oshkosh Gas Light Co.	56.32	.....
St. Croix Falls....	Wis. Improvement Co.	87.06	0.04
Sheboygan.....	Sheboygan Ry. & El. Co.	48.93	.....
Superior.....	Northern Power Co.	85.38	2.56
Superior.....	Superior W. Lt. & Pr. Co.	55.08	.....
Watertown.....	Watertown G. & El. Co.	43.23	1.49
Wausau.....	Wausau Street Ry. Co.	36.62	.....
	Weighted average.....	57.79	1.67
	Maximum.....	87.06	34.78
	Minimum.....	26.87	0.04
	Arithmetic av'ge.....	37.73	6.31
	Median.....	57.07	2.95

Utilities.—G. Unit Costs. 1. Electric Utilities.

TRIC UTILITIES.

OF OPERATING EXPENSES.

June 30, 1912.

Storage.	Distribution.	Consumption.	Commercial.	General.	Undistributed.
.....	4.92	14.71	6.69	15.51	12.67
.....	4.12	2.41	2.32	15.88	7.12
.....	4.84	6.00	2.55	26.17	3.37
.....	3.50	21.24	3.14	10.10	7.34
.....	6.98	6.40	16.95	28.05	11.80
.....	11.78	8.98	6.73	13.55	6.05
.....	7.73	3.85	4.35	8.95	3.43
.....	0.78	1.20	0.57	13.64	1.27
.....	.....	.....	0.43	30.15	8.60
.....	.....	.....	.....	18.62	10.82
.....	8.03	10.69	6.58	19.67	6.32
.....	4.17	5.31	10.04	10.69	7.34
.....	3.83	11.49	2.16	17.06	5.04
.....	5.74	6.24	2.87	10.64	4.37
.....	0.83	0.36	0.02	12.68	16.33
0.86	11.98	7.85	7.65	11.73	.....
.....	0.07	.....	.....	36.06	8.15
.....	6.77	9.26	4.55	11.07	3.29
.....	3.11	3.96	6.94	9.15	12.52
.....	5.38	11.09	2.55	6.66	1.36
.....	6.04	.....	.....	10.48	16.92
0.62	10.73	18.97	13.76	3.14	2.76
0.67	10.97	11.98	14.49	3.39	4.74
.....	4.56	5.44	7.24	5.88	2.91
.....	6.20	11.19	1.15	19.21	5.93
.....	1.16	0.45	0.26	10.04	0.99
.....	7.83	6.98	9.37	18.70	8.19
.....	1.29	.....	0.26	10.15	0.36
.....	14.78	6.16	11.84	12.14	.....
0.48	5.67	11.34	6.98	18.94	11.87
.....	12.35	3.80	13.44	25.63	8.16
0.28	7.79	10.23	8.12	9.82	4.30
0.86	14.78	21.24	16.95	36.06	16.92
0.48	0.07	0.36	0.02	3.14	0.36
0.66	6.07	7.98	5.92	14.96	6.90
0.64	5.67	6.69	5.56	12.68	6.32

CLASS A. ELECTRIC
PERCENTAGE ANALYSIS OF
Year Ending

LOCATION.	NAME OF COMPANY.	Commercial lighting earnings.
Appleton.....	Wisconsin Tr. Light and Power Co.....	55.63
Ashland.....	Ashland Light Power and St. Ry. Co.....	55.67
Beloit.....	Beloit Water Gas & Electric Co.....	55.78
Chippewa Falls...	Chippewa Valley Ry. Light and Power Co.....	62.70
Eau Claire.....	Chippewa Valley Ry. Light and power Co.....	34.99
Fond du Lac.....	Eastern Wisconsin Ry. & Light Co.....	66.96
Green Bay.....	Green Bay Gas and Electric Co.....	50.90
Green Bay.....	Minahan Building Co.....	95.89
Green Bay.....	Northern Hydro Electric Power Co.....	
Green Bay.....	Wisconsin Public Service Co.....	
Janesville.....	Janesville Electric Co.....	53.41
Kenosha.....	Kenosha Gas & Electric Company.....	70.21
Kenosha.....	Kenosha Electric Railway Co.....	32.47
La Crosse.....	La Crosse Gas & Electric Co.....	62.70
La Crosse.....	La Crosse Water Power Co.....	5.89
Madison.....	Madison Gas & Electric Co.....	68.98
Madison.....	Southern Wisconsin Power Co.....	
Manitowoc.....	Electric Light Company.....	80.18
Marinette.....	Menomonie and Marinette Light & Traction Co.....	68.16
Milwaukee.....	Commonwealth Power Co.....	38.08
Milwaukee.....	Plankinton Electric Light & Power Co.....	93.40
Milwaukee.....	The Milwaukee Electric Railway & Light Co.....	51.20
Milwaukee.....	Milwaukee Light Heat & Traction Co.....	49.76
Milwaukee.....	Wells Power Co.....	44.79
Oshkosh.....	Oshkosh Gas Light Co.....	49.78
St. Croix Falls....	Wisconsin Improvement Co.....	1.44
Sheboygan.....	Sheboygan Ry. & Electric Co.....	67.96
Superior.....	Northern Power Co.....	
Superior.....	Superior Water, Light & Power Co.....	74.95
Watertown.....	Watertown Gas & Electric Co.....	49.44
Wausau.....	Wausau Street Railway Co.....	49.99
Weighted average.....		47.57
Arithmetic average, all utilities.....		48.11
Arithmetic average, utilities reporting item.....		55.23
Minimum.....		1.44
Maximum.....		95.89
Median.....		55.63

UTILITIES,
SOURCES OF REVENUE.
June 30, 1912.

Municipal lighting earnings.	Commercial power earnings.	Municipal power earnings.	Sale of electric current to other utilities.	Miscellaneous earnings from operation.	Total.
17.12	26.29			.96	100.00
11.87	25.44	1.10	5.42	.50	100.00
11.23	21.29		11.12	.58	100.00
15.25	22.05				100.00
6.45	33.67		24.89		100.00
13.41	17.94	1.69			100.00
12.88	36.01	.21			100.00
	3.86			.25	100.00
	6.86		100.00		100.00
			93.14		100.00
15.53	20.21		10.85		100.00
	18.55			11.24	100.00
49.08	16.61			1.84	100.00
8.43	28.61		.26		100.00
2.70	16.73		74.63	.05	100.00
6.67	13.97		9.42	.96	100.00
	.56		99.44		100.00
14.28	5.28	.23		.03	100.00
13.82	18.02				100.00
	61.92				100.00
	6.50			.10	100.00
11.84	32.57		4.39		100.00
18.28	31.96				100.00
	9.49			45.72	100.00
17.05	32.63			.54	100.00
.25	1.15	.07	97.09		100.00
12.11	19.81			.12	100.00
	55.33		44.67		100.00
14.05	11.00				100.00
13.86	36.56	.14			100.00
5.60	34.41	1.29	6.44	2.27	100.00
9.60	25.76	.09	15.24	1.74	100.00
9.41	21.46	.15	18.77	2.10	100.00
13.26	22.17	.67	41.55	4.65	
.25	.56	.07	.26	.03	
49.08	55.33	1.69	100.00	45.72	
13.14	20.01	.23	17.00	.56	

CLASS A. ELECTRIC
OPERATING EXPENSES PER
Year Ending

LOCATION.	NAME OF COMPANY.	Total switch- board kw-hr.	Power.			Transmission and transforma- tion.			Stor- age.
			Operation.	Maintenance.	Total.	Operation.	Maintenance.	Total.	
Appleton.....	Wis. Tr. Lt. & Pr. Co.	2,537,400	cts. 0.69	cts. 0.09	cts. 0.78	cts. 0.02	cts. 0.00	cts. 0.02	cts.
Ashland.....	Ash. Lt. P. & St. Ry. Co.	4,705,179	.28	.01	.29	.....	.02	.02	.....
Beloit.....	Beloit W. G. & El. Co.	1,956,583	.83	.03	.86	.....	.....	.....	.....
Fond du Lac.....	East Wis. Ry. & Lt. Co.	1,907,751	1.19	.03	1.22	.....	.....	.....	.....
Green Bay.....	Associated Co's.....	5,055,938	.18	.01	.19	.....	.....	.....	.....
Janesville.....	Janesville Electric Co.	2,625,050	.59	.26	.85	.01	.01	.02	.....
Kenosha.....	Kenosha Gas & El. Co.	1,279,595	1.54	.06	1.60	.....	.....	.....	.....
La Crosse.....	La Crosse G. & El. Co.	4,443,585	1.56	.03	1.59	.....	.....	.....	.....
La Crosse.....	La Crosse Water P. Co.	2,756,010	.49	.01	.50	.08	.01	.09	.....
Madison.....	Madison Gas & El. Co.	5,440,251	1.19	.06	1.25	.....	.....	.....	0.02
Madison.....	Southern Wis. Pr. Co.	33,540,544	.03	.01	.04	.01	.00	.01	.....
Manitowoc.....	Electric Light Co....	1,095,486	1.78	.13	1.91	.....	.....	.....	.....
Marinette.....	Men. & Mar. L. & T. Co.	1,501,200	1.79	.00	1.79	.13	.00	.13	.....
Milwaukee.....	Commonwealth Pr. Co.	6,574,444	.78	.01	.79	.03	.00	.03	.....
Milwaukee.....	Plank. El. Lt. & P. Co.	1,482,168	1.74	.06	1.80	.....	.....	.....	.....
Milwaukee.....	The M. El. Ry. & L. Co.	41,122,359	.73	.02	.75	.02	.01	.03	.01
Milwaukee.....	Milw. Lt. Ht. & Tr. Co	7,743,535	.89	.03	.92	.03	.01	.04	.01
Oshkosh.....	Oshkosh Gas Lt. Co...	3,405,400	1.07	.12	1.19	.....	.....	.....	.....
St. Croix Falls..	Wis. Improvement Co.	54,412,311	.09	.01	.10	.00	.00	.00	.....
Sheboygan.....	Sheb. Ry. & El. Co....	2,403,312	.99	.10	1.09	.....	.....	.....	.....
Superior.....	Northern Pr. Co.....	13,500,000	.86	.....	.86	.02	.01	.03	.....
Superior.....	Sup. W. Lt. & P. Co...	3,027,165	1.26	.02	1.28	.....	.....	.....	.....
Watertown.....	Watertown G. & El. Co.	1,323,641	.58	.02	.60	.01	.01	.02	.01
Wausau.....	Wausau St. Ry. Co....	5,033,200	.19	.04	.23	.....	.....	.....	.....
Weighted average.....			0.50	0.02	0.52	0.01	0.00	0.01	0.00
Arithmetic average, all utilities.....			.89	.05	.94	.02	.00	.02	.00
Arithmetic average, utilities reporting item.			.89	.05	.94	.03	.01	.04	.01
Maximum.....			1.79	.26	1.91	.13	.02	.13	.02
Minimum.....			.03	.00	.04	.00	.00	.00	.01
Median.....			.88	.03	.86	.02	.01	.02	.01

NOTE:—Units less than .005, given as .00.

Expense and output apportionable to traction utility is excluded.

Other class A utilities are omitted because of incomplete reports or unavailable data

UTILITIES.
SWITCHBOARD KILOWATT-HOUR.
June 30, 1910.

Distribution.			Con- sump- tion.	Com- mer- cial.	General.			Undistributed.			Total of foregoing.	Depreciation.	Taxes.	Total operating ex- penses.
Operation.	Maintenance.	Total.			Operation.	Maintenance.	Total.	Operation.	Maintenance.	Total.				
cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.
0.04	0.05	0.09	0.26	0.12	0.27	0.00	0.27	0.21	0.01	0.22	1.76	0.46	0.27	2.49
.01	.01	.02	.01	.01	.07	.....	.07	.03	.00	.03	.45	.36	.06	.87
.03	.04	.07	.09	.04	.40	.....	.40	.05	.....	.05	1.51	.10	.19	1.80
.17	.10	.27	.21	.15	.31	.00	.31	.14	.00	.14	2.30	.....	.17	2.47
.05	.07	.12	.06	.07	.23	.00	.23	.08	.00	.08	.75	.....	.27	1.02
.06	.08	.14	.19	.12	.35	.....	.35	.10	.01	.11	1.79	.40	.15	2.34
.10	.01	.11	.14	.26	.27	.....	.27	.19	.....	.19	2.57	.46	.14	3.17
.07	.06	.13	.14	.07	.23	.01	.24	.09	.01	.10	2.27	.34	.26	2.87
.01	.00	.01	.00	.00	.10	.....	.10	.14	.00	.14	.84	.....	.33	1.17
.08	.17	.25	.16	.16	.25	.....	.25	.....	.....	.....	2.09	.62	.11	2.82
.00	.....	.00	.....	.....	.03	.....	.03	.00	.00	.00	.08	.09	.00	.17
.08	.12	.20	.27	.13	.32	.....	.32	.10	.....	.10	2.93	.....	.16	3.09
.06	.03	.09	.12	.21	.26	.01	.27	.38	.....	.38	2.99	.30	.11	3.40
.05	.01	.06	.12	.03	.08	.....	.08	.02	.00	.02	1.13	.18	.03	1.34
.16	.....	.16	.....	.....	.28	.....	.28	.42	.04	.46	2.70	.52	.04	3.26
.07	.10	.17	.29	.21	.04	.01	.05	.04	.00	.04	1.55	.43	.22	2.20
.13	.07	.20	.21	.26	.06	.00	.06	.08	.00	.08	1.78	.46	.26	2.50
.05	.08	.13	.23	.02	.40	.00	.40	.11	.01	.12	2.09	.....	.12	2.21
.0C	.00	.00	.00	.00	.01	.....	.01	.00	.....	.00	.11	.....	.04	.15
.06	.11	.17	.15	.21	.42	.....	.42	.18	.00	.18	2.22	.....	.12	2.34
.00	.01	.01	.....	.00	.10	.....	.10	.00	.....	.00	1.00	.....	.01	1.01
.17	.17	.34	.14	.28	.28	.....	.28	.....	.....	.....	2.32	.79	.16	3.27
.06	.02	.08	.16	.10	.26	.....	.26	.14	.02	.16	1.39	.36	.11	1.66
.03	.05	.08	.02	.09	.16	.00	.16	.05	.....	.05	.63	.24	.10	.97
0.04	0.04	0.08	0.10	0.08	.09	0.00	0.09	0.04	0.00	0.04	0.92	0.21	0.11	1.24
.06	.06	.12	.12	.11	.22	.00	.22	.11	.00	.11	1.65	.25	.14	2.03
.06	.06	.12	.14	.12	.22	.00	.22	.12	.00	.12	1.65	.38	.14	2.03
.17	.17	.34	.29	.28	.42	.01	.42	.42	.04	.46	2.99	.79	.33	3.40
.00	.00	.00	.00	.00	.01	.00	.01	.00	.00	.00	.08	.09	.00	.15
.06	.05	.11	.16	.12	.16	.00	.25	.10	.00	.10	1.77	.38	.15	2.27

CLASS A.
OPERATING EXPENSES
Year Ending

LOCATION.	NAME OF COMPANY.	Power.			Transmission and Transformation.			Storage. Total.
		Opera- tion.	Main- ten- ance.	Total.	Opera- tion.	Main- ten- ance.	Total.	
Appleton.....	Wis. Trac. Lt. & Pr. Co.....	\$9 61	\$1 25	\$10 86	\$0 25	\$0 04	\$0 29	.....
Ashland.....	Ash. Lt. Pr. & St. Ry. Co.....	13 07	64	13 71	.....	81	81	.....
Beloit.....	Beloit W. Gas & El. Co.....	14 27	64	14 91	.....	.....	.....	.....
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.....	7 96	20	8 16	.....	.....	.....	.....
Green Bay.....	Associated Companies.....	4 21	39	4 60	.....	.....	.....	.....
Janesville.....	Janesville Electric Co.....	10 54	4 66	15 20	19	24	43	.....
La Crosse.....	La Crosse Gas & El. Co.....	16 23	32	16 55	.....	.....	.....	.....
La Crosse ¹	La Crosse Water Power Co.....	244 60	5 65	250 25	40 01	3 25	43 26	.....
Madison.....	Madison Gas & Electric Co.....	14 50	76	15 26	.....	.....	.....	\$0 22
Madison ¹	Southern Wis. Power Co.....	1,162 86	250 98	1,413 84	179 84	148 51	328 35	.....
Manitowoc.....	Electric Light Company.....	10 40	74	11 14	.....	.....	.....	.....
Marinette.....	Men. & Mar. Lt. & Tr. Co.....	15 41	04	15 45	1 13	03	1 16	.....
Milwaukee.....	Commonwealth Power Co.....	246 25	1 48	247 73	9 94	91	10 85	.....
Milwaukee.....	Plankinton El. Lt. & P. Co.....	225 85	8 42	234 27	.....	.....	.....	.....
Milwaukee.....	The Milw. E. Ry. & Lt. Co.....	23 17	63	23 80	70	24	94	31
Milwaukee.....	Milw. Lt. Ht. & Tr. Co.....	18 11	61	18 72	55	19	74	24
Oshkosh.....	Oshkosh Gas Light Co.....	20 70	2 32	23 02	.....	.....	.....	.....
St. Croix Falls ¹	Wisconsin Improvement Co.....	288 33	14 41	302 74	03	10	13	.....
Sheboygan.....	Sheboygan Ry. & El. Co.....	13 77	1 39	15 16	.....	.....	.....	.....
Superior.....	Superior W. Lt. & Pr. Co.....	11 50	17	11 67	.....	.....	.....	.....
Watertown.....	Watertown Gas & El. Co.....	10 53	30	10 83	28	09	37	12
Wausau.....	Wausau St. Ry. Co.....	4 60	1 09	5 69	.....	.....	.....	.....
Weighted average.....		\$16 69	\$0 79	\$17 48	\$0 32	\$0 13	\$0 45	\$0 12
Arithmetic average—all utilities.....		36 35	1 37	37 72	69	13	82	05
Arith. ave.—utilities reporting item.....		36 35	1 37	38 72	73	14	87	22
Maximum.....		246 25	8 42	247 73	9 94	91	10 85	31
Minimum.....		4 21	04	4 60	03	03	13	12
Median.....		14 01	64	15 16	41	14	58	23

NOTE:—Units less than .005 are given as .00. Other class A companies not appearing above are excluded because of incomplete records or unavailable data.

ELECTRIC UTILITIES.

PER CONSUMER.

June 30, 1912.

Distribution.				Total consump- tion.	Total commer- cial.	General.			Undistributed.			Total of forego- ing.	Depreciation, total.	Taxes, total.	Total of operat- ing expenses.
Opera- tion.	Main- ten- ance.	Total.	Opera- tion.			Main- ten- ance.	Total.	Opera- tion.	Main- ten- ance.	Total.					
\$0 54	\$0 67	\$1 21	\$3 61	\$1 64	\$3 78	\$0 02	\$3 80	\$2 92	\$0 19	\$3 11	\$24 52	\$6 38	\$3 83	\$34 73	
43	45	88	51	49	3 38	.....	3 38	1 47	05	1 52	21 30	16 87	2 63	40 80
54	73	1 27	1 56	68	6 84	.....	6 84	88	.....	88	26 14	1 71	3 25	31 10
1 18	64	1 82	1 39	1 04	2 07	02	2 09	91	02	93	15 43	.....	1 16	16 59
1 21	1 69	2 90	1 44	1 63	5 39	.....	5 39	1 78	.....	1 78	17 74	.....	6 47	24 21
1 17	1 41	2 58	3 43	2 11	6 31	.....	6 31	1 92	11	2 03	32 09	7 14	2 77	42 00
74	61	1 35	1 47	68	2 43	08	2 51	98	05	1 03	23 59	3 51	2 70	29 80	
1 08	2 41	3 49	1 53	10	53 32	.....	53 32	68 39	30	68 69	420 64	.....	166 72	587 36
1 00	2 05	3 05	2 00	1 95	2 99	.....	2 99	.....	.....	.....	25 47	.....	7 56	34 36
2 13	.....	2 13	.....	.....	1,127 54	.....	1,127 54	209 48	45 37	254 85	3,126 71	3,333 33	49 17	6,509 21
47	69	1 16	1 59	78	1 90	.....	1 90	56	.....	56	17 13	.....	94	18 07
50	30	80	1 02	1 79	2 25	12	2 37	3 23	.....	3 23	25 82	.....	2 59	29 37
15 91	3 15	19 06	39 28	9 04	23 59	.....	23 59	4 80	01	4 81	354 36	56 02	10 12	420 50
21 26	.....	21 26	.....	.....	36 90	.....	36 90	54 82	4 74	59 56	351 99	67 68	5 63	425 30
2 10	3 21	5 31	9 39	6 81	1 43	12	1 55	1 29	07	1 36	49 47	13 56	7 02	70 05	
2 64	1 33	3 97	4 34	5 25	1 14	09	1 23	1 68	04	1 72	36 21	9 44	5 24	50 89	
89	1 64	2 53	4 57	47	7 81	04	7 85	2 24	18	2 42	40 86	.....	2 36	43 22
2 70	1 52	4 02	1 55	92	34 92	.....	34 92	3 43	.....	3 43	347 71	.....	118 78	466 40
84	1 58	2 42	2 16	2 90	5 79	.....	5 79	2 54	.....	2 54	30 97	.....	1 69	32 66
1 60	1 53	3 13	1 30	2 51	2 57	.....	2 57	.....	.....	.....	21 18	7 24	1 46	29 88
1 14	28	1 42	2 84	1 75	4 74	.....	4 74	2 98	.....	2 98	25 05	6 43	2 00	33 48
69	1 23	1 92	59	2 09	3 95	03	3 98	1 11	16	1 27	15 54	5 82	2 52	23 88	
\$1 45	\$1 68	\$3 13	\$4 12	\$3 19	\$3 03	\$0 06	\$3 09	\$1 42	\$0 06	\$1 48	\$33 06	\$7 32	\$3 75	\$44 13	
2 89	1 22	4 11	4 34	2 30	6 59	03	6 62	4 53	30	4 83	60 79	11 16	3 37	75 32	
2 89	1 22	4 11	4 58	2 42	6 59	03	6 62	5 06	33	5 39	60 79	15 14	3 37	75 32	
21 26	3 21	21 26	39 28	9 04	36 90	12	36 90	54 82	4 74	59 56	354 36	67 68	10 12	425 30	
43	28	80	51	47	1 14	02	1 23	56	01	56	15 43	1 71	94	16 59	
1 00	1 23	2 42	1 80	1 69	3 78	06	3 80	1 78	05	1 78	25 47	7 19	2 63	33 48	

¹ La Crosse Water Power Company, Southern Wisconsin Power Company, and Wisconsin Improvement Company are omitted from computed averages as being wholesaling companies.

CLASS A. ELECTRIC
OPERATING EXPENSES PER
Year Ending

LOCATION.	NAME OF COMPANY.	Power.			Transmission and transformation.			Storage.
		Operation.	Maintenance.	Total.	Operation.	Maintenance.	Total.	
Appleton	Wisconsin Traction, Lt. & Pr. Co.	\$8.75	\$1.14	\$9.89	\$0.23	\$0.04	\$0.27	.....
Ashland	Ashland Lt., Power & St. Ry. Co.	175.58	8.66	184.24	.....	10.83	10.83	.....
Beloit	Beloit Water, Gas & Electric Co.	11.55	.52	12.07	.....	.....	.....	.....
Fond du Lac	Eastern Wisconsin Ry. & Lt. Co.	12.60	.32	12.92	.....	.....	.....	.....
Green Bay	Consolidated Companies	1.80	.17	1.97	.....	.....	.....	.....
Janesville	Janesville Electric Co.	11.44	5.06	16.50	.21	.26	.47	.....
La Crosse	La Crosse Gas & Electric Co.	44.20	.85	45.05	.....	.....	.....	.....
La Crosse	La Crosse Water Power Co.	2.81	.06	2.87	.46	.04	.50	.....
Madison	Madison Gas & Electric Co.	19.52	1.03	20.55	.....	.....	.....	\$0.30
Madison	Southern Wisconsin Power Co. .	1.74	.38	2.12	.27	.22	.49	.....
Manitowoc	Electric Light Co.	24.06	1.71	25.77	.....	.....	.....	.....
Marinette	Men. & Mar. Light & Tr. Co.	107.43	.30	107.73	7.86	.22	8.08	.....
Milwaukee	Commonwealth Power Co.	20.59	.12	20.71	.83	.08	.91	.....
Milwaukee	Plankinton El. Lt. & Power Co. .	34.80	1.30	36.10	.....	.....	.....	.....
Milwaukee	The Milw. El. Ry. & Lt. Co.	7.85	.21	8.06	.24	.08	.32	.10
Milwaukee	Milw. Lt. Ht. & Traction Co.	11.88	.40	12.28	.36	.12	.48	.16
Oshkosh	Oshkosh Gas Light Co.	20.01	2.25	22.26	.....	.....	.....	.....
St. Croix Falls ..	Wisconsin Improvement Co.	3.34	.17	3.51	.00	.00	.00	.....
Sheboygan	Sheboygan Railway & Elec. Co. .	15.80	1.60	17.40	.....	.....	.....	.....
Wausau	Wausau St. Ry. Co.	5.27	1.24	6.51	.....	.....	.....	.....
Superior	Superior Water Lt. & Pr. Co.	190.58	2.80	193.38	.....	.....	.....	.....
Weighted average		\$9.41	\$0.46	\$9.87	\$0.21	\$0.07	\$0.28	\$0.06
Arithmetic average, all utilities		34.83	1.44	36.27	.50	.57	1.07	.03
Arithmetic average, utilities reporting item. .		34.83	1.44	36.27	1.05	1.19	2.24	.14
Maximum		190.58	5.06	193.38	7.86	10.83	10.83	.30
Minimum		1.74	.06	1.97	.00	.00	.00	.10
Median		19.52	.85	16.50	.27	.10	.49	.16

NOTE: .00 denotes units of value less than .005.

Other class A utilities not appearing above are excluded because of incomplete records or unavailable data.

UTILITIES.
KILOWATT CAPACITY.
June 30, 1912.

Distribution.			Consumption.	Commercial.	General.			Undistributed.			Total of foregoing.	Depreciation total.	Taxes total.	Total operating expenses.
Operation.	Maintenance.	Total.			Operation.	Maintenance.	Total.	Operation.	Maintenance.	Total.				
\$0.50	\$0.60	\$1.10	\$3.28	\$1.50	\$3.44	\$0.02	\$3.46	\$2.65	\$0.17	\$2.82	\$22.32	\$5.81	\$3.48	\$31.61
5.78	6.00	11.78	6.90	6.64	45.46	.....	45.46	19.76	.61	20.37	286.22	226.80	35.33	548.35
.43	.59	1.02	1.27	.54	5.54	.....	5.54	.71	.....	.71	21.15	1.38	2.63	25.16
1.87	1.01	2.88	2.19	1.64	3.27	.04	3.31	1.44	.04	1.48	24.42	.....	1.83	26.25
.52	.72	1.24	.62	.70	2.31	.....	2.31	.76	.....	.76	7.60	.....	2.78	10.38
1.27	1.53	2.80	3.73	2.29	6.85	.....	6.85	2.09	.11	2.20	34.84	7.75	3.01	45.60
2.02	1.67	3.69	4.01	1.84	6.62	.22	6.84	2.67	.14	2.81	64.24	9.55	7.35	81.14
.01	.03	.04	.02	.00	.61	.....	.61	.78	.00	.78	4.82	.....	1.91	6.73
1.35	2.76	4.11	2.69	2.62	4.02	.....	4.02	.....	.....	.....	34.29	10.19	1.79	46.27
.00	.....	.00	.....	.....	1.69	.....	1.69	.32	.07	.39	4.59	5.00	.07	9.76
1.09	1.59	2.68	3.67	1.80	4.39	.....	4.39	1.30	.....	1.30	39.61	.....	2.17	41.78
3.48	2.13	5.61	7.12	12.50	15.66	.81	16.47	22.54	.....	22.54	180.05	18.04	6.69	204.78
1.33	.26	1.59	3.28	.76	1.97	.....	1.97	.40	.60	.40	29.62	4.68	10.85	35.15
3.27	.....	3.27	.....	.....	5.69	.....	5.69	8.44	.73	9.17	54.23	10.43	5.87	65.53
.71	1.09	1.80	3.18	2.31	.49	.04	.53	.44	.02	.46	16.76	4.61	2.38	23.75
1.73	.87	2.60	2.84	3.44	.75	.05	.80	1.11	.02	1.13	23.73	6.19	3.43	33.35
.87	1.58	2.45	4.42	.46	7.55	.04	7.59	2.16	.18	2.34	39.52	.....	2.28	41.80
.03	.02	.05	.02	.01	.40	.....	.40	.04	.....	.04	4.03	.....	11.38	5.41
.97	1.81	2.78	2.48	3.33	6.65	.....	6.65	2.91	.....	2.91	35.55	.....	1.94	37.49
.79	1.41	2.20	.68	2.39	4.53	.03	4.56	1.27	.18	1.45	17.79	6.67	2.89	27.35
26.53	25.37	51.90	21.64	41.56	42.61	.....	42.61	.....	.....	.....	351.09	120.00	24.21	495.30
\$0.75	\$0.88	\$1.63	\$2.13	\$1.65	1.75	\$0.03	\$1.78	\$0.78	\$0.04	\$0.82	\$18.22	\$4.08	\$2.26	\$24.56
2.60	2.43	5.03	3.52	4.11	8.12	.06	8.18	3.42	.11	3.53	61.74	20.81	5.21	86.56
2.60	2.43	5.03	3.90	4.54	8.12	.06	8.18	3.78	.12	3.90	61.74	31.22	5.21	86.56
26.53	25.37	51.90	21.64	41.56	45.46	.81	45.46	22.54	.73	22.54	351.09	226.80	35.33	548.35
.00	.02	.00	.02	.01	.40	.02	.40	.04	.00	.04	4.03	1.38	.07	5.41
1.09	1.41	2.60	3.18	1.84	4.39	.04	4.39	1.30	.11	1.45	29.62	7.21	2.38	35.15

CLASS A. ELECTRIC UTILITIES.
MISCELLANEOUS CONSUMER EXPENSES.
Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Number of consumers.	Collection salaries and commissions.	Collection supplies and expenses.	Commercial lamp renewals.	Customers premises expense.	Total commercial consumption expense.
Appleton	Wis. Tr. Light & Power Co.	1,821	\$0.18	\$0.02	\$1.46	\$1.16	\$2.67
Ashland	Ashland Lt. P. & St. Ry. Co.	1,008				.11	.17
Beloit	Beloit Water, Gas & El. Co.	1,133	.51		.51	.44	1.08
Chp. Falls	Chp. Val. Ry. Lt. & Pr. Co.	550		.01	2.24	.73	3.66
Eau Claire	Chp. Val. Ry. Lt. & Pr. Co.	1,356	.19	.01		.51	.80
Fond du Lac	Eastern Wis. Ry. & Lt. Co.	2,841	.20	.06	.37	.44	1.39
Green Bay	Minahan Building Co.	231				.13	.62
Green Bay	Consolidated Companies	2,144		.12		.01	.47
Janesville	Janesville Electric Co.	1,471	.38	.07	1.14	.75	1.96
La Crosse	La Crosse Gas & Elec. Co.	4,274	.09	.00	.76	.34	1.13
Madison	Madison Gas & Electric Co.	4,459	.82	.19	.81	.54	1.56
Manitowoc	Electric Light Company	1,873	.19	.09	.76	.11	1.01
Marinette	Men. & Mar. Light & Tr. Co.	1,743	.12	.01	.40	.13	.52
Milwaukee	Commonwealth Power Co.	209	.06		21.07	14.31	39.27
Milwaukee	The Milw. El. Ry. & Lt. Co.	12,891	.20	.00	4.87	1.76	7.19
Milwaukee	Milwaukee Lt. Ht. & T. Co.	3,809		.00	1.96	1.34	3.44
Milwaukee	Wells Power Co.	582	9.23		4.11	.99	7.24
Oshkosh	Oshkosh Gas Light Co.	1,741		.02	.80	.55	3.37
Sheboygan	Sheboygan Ry. & Elec. Co.	1,722	.74		.61	.49	2.16
Superior	Superior W. Lt. & Pr. Co.	3,316	.62	.34		.46	.51
Watertown	Watertown Gas & Elec. Co.	736	.23	.08	1.66	.52	2.21
Wausau	Wausau Street Railway Co.	2,061	.08	.14	.06	.42	.59
Weighted average.....			\$0.36	\$0.06	\$1.87	\$0.91	\$3.16
Arithmetic average, all utilities.....			.63	.06	1.98	1.21	3.77
Arithm. average utilities report'g item.....			.86	.07	2.42	1.21	3.77
Maximum.....			9.23	.34	21.07	14.31	39.27
Minimum.....			.06	.00	.01	.11	.17
Median.....			.20	.04	.80	.50	1.47

NOTE:—All units less than .005 reported as .00.

Wisconsin Improvement Company at St. Croix, Northern Power Company at Superior and La Crosse Water Power Company are excluded as wholesale power distributors.

Other class A utilities not appearing above are excluded because of incomplete records or unavailable data.

CLASS A. ELECTRIC UTILITIES.

MISCELLANEOUS CONSUMER UNITS.

Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Operating revenues per consumer.	Operating expenses per consumer.	Book value per consumer.
Appleton.....	Wis. Trac. Lt. & Pr. Co.....	\$63 78	\$34 72	\$511 40
Ashland.....	Ashland Lt. Pr. & St. Ry. Co....	67 02	40 80	460 55
Beloit.....	Beloit Water, Gas & Elec. Co....	72 87	31 10	553 60
Chippewa Falls...	Chip. Val. Ry. Lt. & Pr. Co.....	66 14	39 63	205 67
Eau Claire.....	Chip. Val. Ry. Lt. & Pr. Co.....	101 15	32 44	1,263 60
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.....	34 59	16 59	194 65
Green Bay.....	Minahan Bldg. Co.....	64 02	71 04	248 70
Janesville.....	Janesville Electric Company....	63 29	42 00	366 85
La Crosse.....	La Crosse Gas & Elec. Co.....	44 23	29 81	247 70
La Crosse.....	La Crosse Water Pr. Co. ¹	358 30	587 56	115,157 11
Madison.....	Madison Gas & Electric Co.....	57 54	34 36	195 07
Madison.....	Southern Wisconsin Power Co. ¹ .	21,706 55	6,509 21	398,210 16
Manitowoc.....	Electric Light Company.....	27 74	18 07	90 81
Marquette.....	Men. & Mar. Lt. & Tr. Co.....	30 88	29 37	84 19
Milwaukee.....	Commonwealth Power Company	725 60	420 50	1,034 60
Milwaukee.....	Plankinton El. Lt. & Power Co..	511 90	425 35	1,410 35
Milwaukee.....	The Milw. El. Ry. & Lt. Co.....	96 90	70 08	490 50
Milwaukee.....	Mil. Lt. Ht. & Tr. Co.....	72 12	50 72	386 70
Oshkosh.....	Oshkosh Gas Light Co.....	82 39	43 23	750 79
St. Croix Falls....	Wis. Improvement Co. ¹	1,118 50	466 40	9,064 22
Sheboygan.....	Sheboygan Ry. & El. Co.....	62 66	32 67	272 78
Superior.....	Superior Water, Lt. & Pr. Co....	45 25	29 87	282 33
Watertown.....	Watertown Gas & Elec. Co.....	66 73	33 48	506 74
Wausau.....	Wausau St. Ry. Co.....	46 36	23 88	239 21
Milwaukee.....	Wells Power Co.....	235 16	181 06	460 05
Weighted average.....		\$72 36	\$47 85	\$385 75
Arithmetic av'ge.....		119 94	78 67	466 22
Maximum.....		725 60	425 35	1,263 60
Minimum.....		27 74	16 59	84 19
Median.....		65 08	34 54	376 78

NOTE:—Units larger than 4 figures are approximate as to fifth.
Other class A utilities not appearing are omitted because of incomplete records or unavailable data.

¹Not included in averages; as being wholesale generators.

CLASS A—ELECTRIC UTILITIES.
UNIT COST OF OPERATING ELECTRICITY BY STEAM POWER PER SWITCHBOARD KW-HR.
Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	OPERATION.					MAINTENANCE.				Total cost of generation.
		Super-intend-ence-	Engine, elec. and misc. ex-penses.	Steam gener-ated.	Lubr. and misc. power plant supplies and ex-penses.	Total opera-tion.	Steam engines, turbines and aux. equipm't	Gener-ators and aux. equipm't	Power plant build'gs fixtures and grounds.	Total main-te-nance.	
		Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Appleton	Wisconsin Tr. Light & Pr. Co.....	0.02	0.04	0.90	0.16	1.12	0.05	0.01	0.00	0.06	1.18
Ashland	Ashland Lt. Pr. & St. Ry. Co.....	.04	.00	1.14	.05	1.23	.06	.01	.01	.08	1.31
Beloit.....	Beloit Water, Gas & Electric Co..	.04	.16	.88	.08	1.16	.01	.01	.00	.02	1.18
Fond du Lac.....	Eastern Wis. Ry. & Light Co.....	.04	.07	.97	.03	1.11	.01	.00	.02	.03	1.14
Kenosha.....	Kenosha Electric Ry. Co.....	.06	.15	1.27	.04	1.52	.05	.01	.01	.07	1.59
Kenosha.....	Kenosha Electric Railway Co.....	.05	.18	1.43	.06	1.72	.04	.01	.00	.05	1.77
La Crosse.....	La Crosse Gas & Elec. Co.....	.06	.16	1.48	.07	1.77	.02	.01	.01	.04	1.81
Madison.....	Madison Gas & Electric Co.....	.06	.12	.98	.02	1.18	.01	.02	.03	.06	1.24
Manitowoc.....	Electric Light Co.....	.10	.26	1.22	.14	1.72	.10	.01	.01	1.12	1.84
Milwaukee.....	Commonwealth Power Co.....	.03	.06	.66	.03	.78	.60	.00	.00	.00	.78
Milwaukee.....	Plankinton Electric Lt. & Pr. Co..	.02	.29	1.38	.04	1.73	.07	.00	.00	.07	1.80
Milwaukee.....	The Milwaukee El. Ry. & Lt Co. ¹	.01	.05	.65	.01	.72	.01	.02	.00	.63	.75
Oshkosh.....	Oshkosh Gas Light Company.....	.05	.11	.84	.06	1.06	.08	.02	.02	.12	1.18
Sheboygan.....	Sheboygan Ry. & El. Co.....	.02	.12	.80	.05	.99	.06	.01	.03	.10	1.09
Weighted average.....		0.02	0.07	0.74	0.02	0.85	0.01	0.02	0.01	0.04	0.89
Maximum.....		.10	.29	1.48	.16	1.77	.10	.02	.03	.12	1.84
Minimum.....		.01	.00	.65	.01	.72	.00	.00	.00	.00	.75
Arithmetic average.....		.04	.13	1.04	.06	1.27	.04	.01	.01	.06	1.33
Median.....		.04	.12	.98	.05	1.17	.04	.01	.01	.06	1.21

NOTE:—Other class A companies not appearing are excluded on account of incomplete or unavailable data.

Units less than .005 appear as .00.

¹ Includes 3 power plants of The Milwaukee Electric Railway & Light Company, and 1 of the Milwaukee Light, Heat & Traction Co.

CLASS A — ELECTRIC UTILITIES.

UNIT COST OF GENERATING ELECTRICITY BY HYDRAULIC POWER PER SWITCHBOARD KW.-HR.
Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY,	Electric generation hydraulic power switch-board kw.-hr.	OPERATION.					MAINTENANCE.					Total cost of generation.
			Superintendence.	Hydraulic, electrical and misc. labor.	Hydraulic power purch'd.	Lubricants misc. power plant supplies and expenses.	Total operation.	Dams, canals and flumes.	Turbines, water wheels and auxiliary equipment.	Generators and auxiliary equipment.	Power plant buildings, fixtures and grds.	Total maintenance.	
			Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
Appleton	Wis. Tract. Lgt. & Pr. Co.	3,424,945	0.03	0.07	0.57	0.03	0.70	0.00	0.00	0.00	0.00	0.00	0.70
Ashland	Ashl. Lt., Pr. & St. Ry. Co.	3,825,034		.06		.00	.06						.06
Beloit	Beloit Wr. Gas & Elec. Co.	568,703											.07
Eau Claire	Chp. Val. Ry., Lt. & Pr. Co. ¹	8,497,529	.03	.02	.04	.01	.16	.03	.04	.01	.00	.00	.18
Green Bay	Northern Hydro Elect. Co.	5,121,584	.00	.05		.00	.04	.00	.00	.00	.00	.00	.05
Green Bay	Wis. Public Service Co.	4,612,897	.01	.06		.01	.08	.00	.00	.00	.01	.01	.09
La Crosse	Water Power Co. ²	2,176,699	.02	.09		.01	.12	.01	.00		.00	.01	.13
Madison	Southern Wis. Power Co.	33,540,544		.03		.00	.03	.00	.00	.01	.00	.01	.04
Milwaukee	The Mil. El. Ry. & Lt. Co. ³	569,135	.22	.22		.01	.45	.00	.01	.01	.00	.02	.47
St. Croix Falls..	Wis. Improvement Co.	54,412,331	.00	.01	.09	.00	.10	.00	.00	.00	.00	.00	.10
Weighted average..			.01	0.03	0.05	0.00	0.09	.01	0.00	0.00	0.00	.01	0.10
Minimum .....			.00	.01	.04	.00	.03	.00	.00	.00	.00	.00	.04
Maximum .....			.22	.22	.57	.03	.70	.03	.04	.01	.01	.07	.70
Arithmetic average, all utilities.....			.03	.07	.07	.01	.17	.00	.00	.00	.00	.01	.19
Arithmetic average, utilities reporting item...			.04	.07	.23	.01	.19	.01	.01	.00	.00	.02	.19
Median.....			.02	.06	.09	.01	.10	.00	.00	.00	.00	.01	.10

NOTES:—.00 denotes reported but less than .005.

¹ Includes combined expenses of Eau Claire, Chippewa Falls, Menomonie and Cedar Falls hydraulic plants, reported by Eau Claire electric department and railway department, and Chippewa Falls electric department. The generation includes the four plants and is only approximate.

² Hydraulic generation estimated.

³ Includes hydraulic expenses of The Milwaukee Electric Railway & Light Co., Milwaukee Light, Heat and Traction Company and Watertown Gas and Electric Company for Watertown Hydraulic plant.

CLASS A. ELEC

UNIT COST OF GENERATING STEAM

Year Ending

LOCATION.	NAME OF COMPANY.	Electric generation by steam power in switchboard kw-hr.	Pounds of coal consumed per switchboard kw-hr.
	W		
Appleton.....	Wis. Traction, Lt. & Power Co.....	671,857	4.58
Ashland.....	Ashland Lt. Pr. & St. Ry. Co.....	880,145	6.66
Beloit.....	Beloit Water, Gas & Elec. Co.....	1,387,880	5.81
Pond du Lac.....	Eastern Wis. Ry. & Light Co.....	3,121,686	4.83
Kenosha.....	Kenosha Gas & Electric Co.....	1,560,795	7.95
Kenosha ..	Kenosha Electric Railway Co.....	1,110,885	8.11
La Crosse.....	La Crosse Gas & Electric Co.....	3,670,835	6.86
Madison.....	Madison Gas & Electric Co.....	5,438,170	5.01
Manitowoc.....	Electric Light Company.....	1,085,489	6.02
Milwaukee.....	Commonwealth Power Co.....	6,574,444	3.76
Milwaukee.....	Plankinton El. Lt. & Pr. Co.....	1,482,168	6.38
Milwaukee.....	The Milw. El. Ry. & Lt. Co. ²	91,345,955	3.91
Oshkosh.....	Oshkosh Gas Light Company.....	3,405,400	4.08
Sheboygan.....	Sheboygan Ry. & Electric Co.....	4,215,800	5.14
Weighted average.....			5.84
Maximum.....		91,345,955	8.11
Minimum.....		671,857	3.76
Arithmetic average.....		8,987,251	5.65
Median.....		2,341,240	5.48

NOTE:—Other class A companies not appearing above are excluded because of incomplete or unavailable data. .00 shows that an expense is reported but less than .005.

TRIC UTILITIES.

PER SWITCHBOARD KILOWATT-HOUR.

June 30, 1912.

Average cost of coal per ton of 2,000 lb. del. at plant.	Operating labor.	Fuel for steam.	Water for steam and misc. steam sups. and expenses.	Total operation.	Total maintenance.	Total cost of steam.
	cts.	cts.	cts.	cts.	cts.	cts.
\$3 20	0.13	0.73	0.02	0.88	0.02	0.90
3 08	.20	.90	.04	1.14	.00	1.14
2 47	.16	.72	.00	.88	.00	.88
3 75	.07	.83	.02	.92	.05	.97
2 65	.19	1.04	.02	1.25	.02	1.27
2 85	.15	1.15	.02	1.32	.11	1.43
4 40	.12	1.31	.03	1.46	.02	1.48
3 05	.12	.77	.05	.94	.04	.98
13 44	.15	1.04	.00	1.19	.03	1.22
3 00	.04	.57	.02	.63	.03	.66
3 02	.08	.96	.24	1.38	.00	1.38
2 89	.06	.54	.02	.62	.03	.65
3 34	.07	.67	.01	.75	.09	.84
2 57	.09	.67	.00	.76	.04	.80
\$2 97	0.08	0.66	0.02	0.76	0.04	0.80
4 40	.20	1.31	.34	1.46	.11	1.48
2 47	.04	.54	.00	.62	.00	.65
3.12	.12	.85	.02	1.01	.03	1.04
3.04	.12	.80	.02	.93	.03	.98

¹ Computed from total amount and cost of fuel.

² Includes the 3 power plants of T. M. E. R. & L. Co. and 1 power plant of M. L. H. & T. Co.; details apportioned to electric generation in same ratio as total.

CLASS A. ELECTRIC
DEVELOPMENT
Year Ending

LOCATION.	POPULATION STATISTICS.			
	Population in hundreds.	Consumption per 100 population.	Commercial consumption per 100 population.	Kw. connected per 100 population.
Appleton.....	168	12,600	8,234	18.93
Ashland.....	116	.....	.....	15.26
Beloit.....	151	11,570	7,310	14.49
Chippewa Falls.....	89	.....	5,478	5.87
Eau Claire.....	183	15,105	9,947	21.28
Fond du Lac.....	188	8,936	6,559	12.26
Green Bay ³	252	16,700	15,230	18.33
Janesville.....	139	12,050	9,040	24.98
Kenosha ⁴	214	8,238	6,764	.....
La Crosse.....	304	9,872	9,034	22.95
Madison.....	255	13,085	11,904	27.97
Manitowoc.....	130	5,469	4,073	15.64
Marquette.....	146	8,082	7,630	16.80
Milwaukee ⁴	3,739	9,974	8,731	13.72
Oshkosh.....	331	8,912	7,297	6.80
Sheboygan.....	264	9,104	5,709	.....
Superior ^{2 4}	404	19,230	17,720	13.03
Watertown.....	88	11,595	9,483	20.06
Wausau.....	166	27,040	22,750	24.87
Weighted average...	(7,327)	11,248	9,477	15.37
Arithmetic average.....	.....	12,211	9,605	17.25
Maximum.....	.....	27,040	22,750	27.97
Minimum.....	.....	5,469	4,073	5.87
Median.....	.....	11,570	8,482	16.80

¹ Single consumer accounts for approximately 73 per cent.

² Connected Load of Northern Power Company is estimated.

³ Computed from Commission's data of associated companies, and not apportionable in Table (4).

⁴Apportionment of Development in Cities having more than one Utility.

City.	Company.
Kenosha.....	Kenosha Gas & Electric Co.....
	Kenosha Electric Railway Co.....
Milwaukee.....	Commonwealth Power Co.....
	Plankinton Elec. Lt. & Pr. Co.....
	The Milwaukee El. Lt. Co.....
	Wells Power Co.....
Superior.....	Northern Power Co.....
	Superior Water, Lt. & Power Co.....

UTILITIES.

STATISTICS.

June 30, 1912.

CONSUMER STATISTICS.			KILOWATTS CONNECTED.	
Consumers.	Kw. connect- ed per consumer.	Commercial consumption per consumer.	Total connected load.	Commercial consumption per kilowatt connected.
1,821	1.75	760	3,180	435
1,008	1.76	.....	.....	.....
1,133	1.93	974	2,188	504
550	.95	886	522	934
1,356	2.87	1,342	3,895	467
2,841	.81	434	2,305	535
2,180	2.12	831	4,620	1,761
1,471	2.36	854	3,473	362
4,274	1.63	750	6,965	460
4,459	1.60	681	7,134	426
1,873	1.09	283	2,033	260
1,743	1.41	639	2,453	454
13,796	3.72	2,366	51,339	636
1,741	1.29	1,387	2,250	1,074
1,722	.....	875	.....	.....
3,326	1.58	2,153	5,253	1,363
736	2.40	1,134	1,765	473
2,061	2.00	1,832	4,129	915
(48,091)	2.27	1,421	(103,504)	484
.....	1.84	1,069	.....	691
.....	3.72	2,366	.....	1,761
.....	.81	283	.....	260
.....	1.75	875	.....	488

NOTES:—Sales to other utilities and traction power excluded in all cases.
Units not computable from incomplete reports or unavailable data are omitted above.

La Crosse Water Power Company, Southern Wisconsin Power Company, and Wisconsin Improvement Company are excluded as wholesalers; Milwaukee Light, Heat and Traction Company as operated in suburban towns.

Consumer. Per cent.	Consumption. Per cent.	Commercial consumption. Per cent.	Kw. connected. Per cent.
.....	72.58	66.61	.....
.....	27.42	33.39	.....
1.51	15.21	17.38	9.54
.83	3.55	4.05	2.06
93.44	77.26	74.03	84.71
4.22	3.98	4.54	3.69
.30	69.90	75.86	23.32
99.70	30.10	24.14	76.68

CLASS A. ELECTRIC UTILITIES.

METER EXPENSES.

Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Number of meters.	Labor removing and resetting meters, per meter.	Labor inspecting and testing meters, per meter.	Meter department supplies and expense, per meter.	Maintenance of meters, per meter.	Reading meters and delivering bills, per meter.
Appleton.....	Wis. Tr. Lt. & Pr. Co.....	1,700	cts.	cts.	cts.	cts.	cts.
Ashland.....	Ashland Lt. Pr. & St. Ry. Co.....	1,082	14.78	25.11	3.19	7.00	24.82
Beloit.....	Beloit Water, Gas & Elec. Co.....	891	9.79	23.75	.....	5.44	46.83
Chippewa Falls.....	Chip. Val. Ry. Lt. & Power Co.....	550	11.52	.....	.....	52.56	.....
Eau Claire.....	Chip. Val. Ry. Lt. & Power Co.....	1,245	82.90	.....	.....	2.45	37.52
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.....	2,294	92.36	43.50	1.05	4.76	18.50
Green Bay.....	Green Bay Gas & Elec. Co.....	1,700	79.44	64.56	12.53	17.68	37.64
Green Bay.....	Minahan Bldg. Co.....	231	.97	17.94	.....	5.98	28.68
Green Bay.....	Northern Hydro El. Pr. Co.....	.....	.....	.....	.....	.....	.....
Green Bay.....	Wis. Public Service Co.....	47	.....	.....	.....	.....	.....
Janesville.....	Janesville Elec. Co.....	1,396	20.26	41.79	5.48	30.55	40.16
Kenosha.....	Kenosha Gas & Elec. Co.....	1,374	19.04	18.24	1.40	13.62	32.00
Kenosha.....	Kenosha Elec. Ry. Co.....	147	34.30	.....	1.00	14.13	71.74
La Crosse.....	La Crosse Gas & Elec. Co.....	3,718	12.68	43.77	3.50	17.46	23.44
La Crosse.....	La Crosse Water Power Co.....	55	.....	.....	1.08.30	.....	.....
Madison.....	Madison Gas & Elec. Co.....	4,574	25.97	34.79	32.47	47.07	21.01
Madison.....	Southern Wis. Pr. Co.....	12	.....	.....	.....	.....	.....
Manitowoc.....	Electric Light Co.....	1,736	3.12	39.50	8.44	5.48	9.80
Marinette.....	Men. & Mar. Lt. & Tr. Co.....	1,536	3.78	31.51	8.20	9.51	22.77
Milwaukee.....	Commonwealth Power Co.....	642	4.98	63.30	48.77	66.26	.....
Milwaukee.....	Plankinton El. Lt. & Pr. Co.....	149	.....	.....	.....	.....	.....
Milwaukee.....	The Milw. El. Ry. & Lt. Co.....	17,220	17.65	48.32	8.93	18.67	24.03
Milwaukee.....	Milwaukee Lt. Ht. & Tr. Co.....	3,966	37.34	60.56	.53	.....	48.20
Milwaukee.....	Wells Power Co.....	628	27.65	87.48	46.36	6.16	35.89
Oshkosh.....	Oshkosh Gas Light Co.....	1,575	6.92	25.54	2.26	11.48	13.03
St. Croix Falls.....	Wisconsin Improvement Co.....	189	.....	.....	76.33	38.57	84.66
Sheboygan.....	Sheboygan Ry. & Elec. Co.....	21,657	8.41	50.57	13.56	39.43	26.81
Superior.....	Northern Power Co.....	19	.....	23.89.00	3.68	3.88	.....
Superior.....	Superior W. Lt. & Tr. Co.....	3,067	65.12	.....	.....	74.18	34.38
Watertown.....	Watertown Gas & Elec. Co.....	689	7.84	48.19	2.83	.20	30.82
Wausau.....	Wausau St. Ry. Co.....	21,855	2.66	21.26	8.63	10.06	14.54
Total.....	.....	55,985	.....	.....	.....	.....	.....
Weighted average.....	.....	2	25.47	44.44	10.24	16.16	27.05
Minimum for utilities reporting this item.....	.....	2	.97	17.94	.53	.20	9.80
Maximum.....	.....	17,220	92.56	23.89.00	1.08.30	74.18	84.66
Average—all utilities.....	.....	1,806	19.31	103.67	12.89	16.53	24.23
Average for utilities reporting this item.....	.....	1,866	25.63	115.26	18.17	20.49	32.05
Median for utilities reporting this item.....	.....	1,245	14.78	43.50	8.20	11.48	28.68

¹ Consumers on meter basis. ² Number taken from meters owned.

CLASS A. ELECTRIC UTILITIES.
 COMPARATIVE TABLE. REVENUES PER KILOWATT HOUR SOLD.
 Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Revenues per kw-hr. sold. (Excludes public util. and trac. sales).	Revenues per kw-hr. sold. Total current sold.
		cts.	cts.
Appleton.....	Wisconsin Traction Light & Power Co..	5.49	5.49
Beloit.....	Beloit Water, Gas & Electric Co.....	4.73	4.73
Eau Claire.....	Chippewa Valley Ry., Light & Pr. Co..	5.73	2.05
Fond du Lac.....	Eastern Wisconsin Ry. & Light Co.....	5.84	5.84
Janesville.....	Janesville Electric Co.....	4.95	4.60
Kenosha.....	Kenosha Gas & Electric Co.....	4.62	4.62
La Crosse.....	La Crosse Gas & Electric Co.....	6.08	5.42
La Crosse.....	La Crosse Water Power Co.....	1.16	.89
Madison.....	Madison Gas & Electric Co.....	6.96	5.55
Madison.....	Southern Wisconsin Power Co.....	(¹)	² 61
Manitowoc.....	Electric Light Co.....	7.30	7.30
Marinette.....	Menom. & Marinette Light & Trac. Co..	4.56	4.56
Milwaukee.....	Commonwealth Power Co.....	2.67	.267
Milwaukee.....	Plankinton Electric Light & Pr. Co.....	4.41	4.41
Milwaukee.....	The Milwaukee Electric Ry. & Lt. Co..	4.14	3.74
Milwaukee.....	Milwaukee Light, Heat & Power Co.....	4.43	4.43
Milwaukee.....	Wells Power Co.....	9.22	9.22
Oshkosh.....	Oshkosh Gas Light Co.....	4.86	4.86
Sheboygan.....	Sheboygan Railway & Electric Co.....	4.49	4.49
Superior.....	Superior Water, Light & Power Co.....	6.42	6.42
Superior.....	Northern Power Co.....	³ 1.46	1.12
Watertown.....	Watertown Gas & Electric Co.....	4.81	4.81
Wausau.....	Wausau Street Railway Co.....	1.99	1.81
Weighted average.....		4.27	2.90
Arithmetic aver.....		4.74	4.33
Maximum.....		9.22	9.22
Minimum.....		1.16	.61
Median.....		4.67	4.60

NOTE:—Other class A utilities not appearing are omitted because of incomplete reports or unavailable data.

¹ Not available for statistical purposes.

² Represents wholesale sales.

³ Includes no commercial lighting.

CLASS B. ELECTRIC UTILITIES.
 PERCENTAGE ANALYSIS OF OPERATING EXPENSES.
 Year Ending June 30 1912.

LOCATION.	NAME OF COMPANY.	Power.	Transformation and transmission.	Storage.	Distribution.	Consumption.	Commercial.	General.	Undistributed.	Total.
<i>Private Utilities:</i>										
Antigo.....	Antigo El. Co.....	50.78			7.85	2.86	7.70	25.06	5.75	100.00
Baraboo.....	Baraboo Gas & El. Co.....	66.19			1.77	3.92	7.92	18.03	2.17	100.00
Beaver Dam.....	Beaver Dam Lt. & Pr. Co.....	61.77			7.56	6.00	7.92	14.43	2.32	100.00
Berlin.....	Berlin Public Service Co.....	76.05	0.09		3.67	2.26	3.29	11.68	2.96	100.00
Burlington.....	Burlington El. Lt. & Pr. Co.....	57.88			3.38	12.99	3.68	18.41	3.66	100.00
Delavan.....	United Ht. Lt. & Pr. Co.....	73.44			5.53	2.32	1.09	15.47	2.15	100.00
De Pere.....	De Pere El. Lt. & Pr. Co.....	58.41			6.49	4.35	9.34	17.17	4.24	100.00
Edgerton.....	Edgerton El. Lt. Co.....	64.57			5.27	6.41	10.98	10.73	2.04	100.00
Grand Rapids.....	El. & Water Co.....	56.69	4.48		6.74	5.03	1.71	20.71	4.64	100.00
Hudson.....	Burkhardt Mfg. & El. Pr. Co.....	34.04	1.51		6.94	1.88	2.65	48.72	4.26	100.00
Hurley.....	Ironwood & Bess'm. Ry. & Lt. Co.....	74.93			4.14	4.96	.38	13.19	2.40	100.00
Ladysmith.....	Ladysmith Ltg. Co.....	42.07			28.48	7.60	5.17	16.18	.50	100.00
Lake Geneva.....	Equitable El. Lt. Co.....	48.81			14.75	.19	2.45	19.81	13.99	100.00
Mayville.....	Northwestern Lt. & Pr. Co.....	84.25	3.00		2.54	3.31	.20	5.48	1.22	100.00
Medford.....	Medford Lt. & Htg. Co.....	81.30			5.82	5.35	4.34	.15	3.04	100.00
Mellen.....	Mellen W. & Lt. Co.....	41.00			10.87	1.63	2.09	31.28	13.13	100.00
Menomonee.....	Chip. Valley Ry. Lt. & Pr. Co.....	61.45			3.74	3.02	5.56	25.27	.96	100.00
Merrill.....	Merrill Ry. & Lt. Co.....	28.02		3.11	14.86	11.57	11.63	26.16	4.65	100.00
Mineral Point.....	Mineral Point Pub. Serv. Co.....	66.76			1.05	.74		29.14	2.31	100.00
Monroe.....	Monroe El. Co.....	56.73			2.64	2.60	2.09	35.28	.66	100.00
New Richmond.....	New Richmond Pr. Co.....	98.90						1.10		100.00
N. Milwaukee.....	North Milwaukee Lt. & Pr. Co.....	65.65			4.15	9.76	4.53	12.79	3.12	100.00
Oconto.....	Oconto El. Co.....	53.36			11.42	4.77	24.50	1.66	4.29	100.00
Oconto.....	Peoples Land & Mfg. Co.....	40.76	2.31		7.24	9.69	1.97	34.84	2.69	100.00
Platteville.....	Interstate Lt. & Pr. Co.....	91.78	1.69		1.38	.21	1.10	2.65	1.19	100.00

Portage.....	Portage El. Lt. Co.....	59.25	18.07	.....	4.34	2.95	.42	12.52	2.45	100.00
Prairie du Chien..	Prairie City El. Co.....	80.24	.....	.....	4.76	6.55	1.63	.62	6.20	100.00
Rhinelanders.....	Rhinelanders Lt. Co.....	27.16	9.23	.....	16.05	9.34	1.69	20.46	16.07	100.00
Rice Lake.....	Red Cedar Valley El. Co.....	32.84	.....	.....	28.18	5.64	.....	24.80	8.54	100.00
Ripon.....	Ripon Lt. & W. Co.....	57.99	.....	.....	6.38	2.50	9.88	18.92	4.33	100.00
Sparta.....	O. I. Newton Son's Co.....	31.90	.....	.....	10.17	9.01	3.10	41.05	4.77	100.00
Stevens Point.....	Stevens Point Lt. Co.....	58.52	3.86	.....	7.71	.52	3.69	19.87	5.83	100.00
Stevens Point.....	Stevens Point Pr. Co.....	99.51	.....	.....	.....	.....	.....	.....	.49	100.00
Tomah.....	Tomah El. & Tel. Co.....	62.04	.....	.....	3.73	11.90	1.67	19.91	.75	100.00
Tomahawk.....	Tomahawk Lt. Tel. & Impr. Co.	50.35	1.94	.39	11.38	9.86	2.85	12.59	10.64	100.00
Walworth.....	Walworth Lt. Plant.....	55.86	.....	.....	4.43	4.09	2.13	4.13	29.36	100.00
Washburn.....	Washburn El. Lt. & Pr. Co.....	53.88	6.07	.....	12.09	4.03	4.13	19.80	.....	100.00
Waukesha.....	Waukesha Gas & El. Co.....	66.30	.04	.....	6.37	5.45	6.23	12.54	3.07	100.00
Waupaca.....	Waupaca El. Lt. & Ry. Co.....	29.76	.....	.....	10.42	9.14	6.43	38.89	5.36	100.00
West Bend.....	West Bend Htg. & Lt. Co.....	79.34	.....	.....	3.79	4.63	3.00	7.33	1.91	100.00
Whitewater.....	Whitewater El. Lt. Co.....	71.75	.....	.....	10.68	6.37	1.50	8.31	1.39	100.00
Weighted average, private plants.....		68.28	1.65	0.06	5.80	3.63	3.29	13.56	3.73	100.00
<i>Municipal Utilities:</i>										
Columbus.....	Municipal Electric Light Plant.	79.12	.....	.....	2.29	2.29	.....	11.73	3.87	100.00
Ft. Atkinson.....	" " " " " "	69.98	.....	.....	4.70	2.92	2.96	18.74	.70	100.00
Hartford.....	" " " " " "	73.29	.....	.....	22.06	.....	.....	4.65	.....	100.00
Marshfield.....	" " " " " "	67.46	5.07	.....	4.53	6.21	4.44	11.02	1.27	100.00
New London.....	" " " " " "	78.36	.....	.....	10.84	4.08	6.70	.01	.01	100.00
New Richmond.....	" " " " " "	77.93	1.27	.....	18.48	.....	.....	.55	1.77	100.00
Oconomowoc.....	" " " " " "	65.13	.....	.....	23.62	1.36	.95	5.84	3.10	100.00
Pt. Washington.....	" " " " " "	82.55	.....	.....	3.16	7.07	2.08	.....	.14	100.00
Richland Center.....	" " " " " "	64.57	.....	.....	33.83	.70	.32	.....	.58	100.00
River Falls.....	" " " " " "	47.67	.....	.....	24.61	5.21	4.76	17.75	.....	100.00
Shawano.....	" " " " " "	86.20	.....	.....	6.71	.65	.53	5.77	.14	100.00
Stoughton.....	" " " " " "	58.16	1.04	.....	3.63	2.75	5.09	17.14	7.19	100.00
Sturgeon Bay.....	" " " " " "	81.14	.....	.....	4.85	2.22	1.64	9.67	.48	100.00
Two Rivers.....	" " " " " "	70.06	.....	.....	15.56	10.13	.97	3.28	.....	100.00
Weighted average, municipal plants.....		71.68	0.57	.....	13.72	2.85	1.95	7.74	1.50	100.00
Arithmetical average—all utilities.....		62.80	1.09	0.66	9.05	4.57	3.66	14.97	3.80	.....
Arithmetical average—utilities reporting this item..		62.80	4.01	1.17	9.39	4.92	4.19	15.84	4.17	.....
Maximum.....		99.51	18.07	3.11	33.83	12.99	24.50	48.72	29.36	.....
Minimum.....		27.16	.04	.39	1.05	.19	.32	.01	.01	.....
Median.....		64.57	2.81	1.75	6.75	4.09	2.98	14.95	2.80	.....

CLASS B. ELEC

PERCENTAGE ANALYSIS OF

Year Ending

LOCATION.	NAME OF COMPANY.	Commercial lighting earnings.
<i>Private Plants.</i>		
Antigo.....	Antigo Electric Company.....	76.52
Baraboo.....	Baraboo Gas & Electric Company.....	73.44
Beaver Dam.....	Beaver Dam Light & Power Company.....	58.82
Berlin.....	Berlin Public Service Company.....	39.46
Burlington.....	Burlington Electric Light & Power Company.....	61.33
Delavan.....	United Heat, Light & Power Company.....	73.42
De Pere.....	De Pere Electric Light & Power Company.....	54.30
Edgerton.....	Edgerton Electric Light Company.....	73.56
Grand Rapids.....	Electric & Water Company.....	70.64
Hudson.....	Burkhardt Milling & Elec. Power Co.....	60.66
Hurley.....	Ironwood & Bessemer Railway & Light Co.....	80.72
Ladysmith.....	Ladysmith Lighting Company.....	77.87
Lake Geneva.....	Equitable Electric Light Company.....	76.96
Mayville.....	Northwestern Light & Power Company.....	39.30
Medford.....	Medford Light & Heating Company.....	68.62
Mellen.....	Mellen Water & Light Company.....	82.13
Menomonie.....	Chippewa Valley Railway, Light & Power Co.....	65.97
Merrill.....	Merrill Railway & Light Company.....	69.13
Mineral Point.....	Mineral Point Public Service Company.....	57.04
Monroe.....	Monroe Electric Company.....	66.01
New Richmond.....	New Richmond Power Company.....	.....
North Milwaukee.....	North Milwaukee Light & Power Company.....	47.39
Oconto.....	Oconto Electric Company.....	75.84
Oconto.....	People's Land & Manufacturing Company.....	58.90
Platteville.....	Interstate Light & Power Company.....	8.03
Portage.....	Portage Electric Light Company.....	47.47
Prairie du Chien.....	Prairie City Electric Company.....	75.27
Rhineland.....	Rhineland Lighting Company.....	71.80
Rice Lake.....	Red Cedar Valley Electric Company.....	77.06
Ripon Lake.....	Ripon Light & Water Company.....	64.04
Sparta.....	O. I. Newton Sons Company.....	72.19
Stevens Point.....	Stevens Point Lighting Company.....	72.64
Stevens Point.....	Stevens Point Power Company.....	.....
Tomah.....	Tomah Electric & Telephone Company.....	78.26
Tomahawk.....	Tomahawk Light, Tel. & Improvement Co.....	90.23
Walworth.....	Walworth Lighting Plant.....	44.05
Washburn.....	Washburn Electric Light & Power Company.....	100.00
Waukesha.....	Waukesha Gas & Electric Company.....	42.33
Wauwata.....	Wauwata Electric Light & Railway Company.....	74.95
West Bend.....	West Bend Heating & Lighting Company.....	70.06
Whitewater.....	Whitewater Electric Light Company.....	73.89
	Weighted average, private plants.....	51.70
<i>Municipal Plants.</i>		
Columbus.....	Municipal Electric Light Plant.....	81.21
Fort Atkinson.....	" " " " " " " ".....	74.53
Hartford.....	" " " " " " " ".....	68.59
Kaukauna.....	" " " " " " " ".....	.....
Marshfield.....	" " " " " " " ".....	69.02
New London.....	" " " " " " " ".....	72.48
New Richmond.....	" " " " " " " ".....	88.55
Oconomowoc.....	" " " " " " " ".....	73.56
Port Washington.....	" " " " " " " ".....	75.87
Reedsburg.....	" " " " " " " ".....	.....

TRIC UTILITIES.

SOURCES OF REVENUE.

June 30, 1912.

Municipal contract lighting earnings.	Commercial power earnings.	Municipal power earnings.	Sales of electric current to other utilities.	Miscellaneous earnings from operation.	Total.
15.44	6.05			1.99	100.00
21.45	.11				100.00
18.72	17.36	1.19	3.91		100.00
9.01	51.53				100.00
19.24	19.43				100.00
25.55	1.03				100.00
9.16	30.73	5.64		.17	100.00
13.17	13.27				100.00
12.46	6.10	10.01		.79	100.00
16.05	5.76	17.03		.50	100.00
14.25	3.98	1.05			100.00
22.13					100.00
9.45	13.59				100.00
4.67	56.03			.00	100.00
31.38					100.00
15.63				2.24	100.00
22.37	10.38			1.08	100.00
9.12	15.11	.19	6.45		100.00
14.57	25.59	2.80			100.00
18.51	15.48				100.00
	23.15		76.16	.69	100.00
25.54	27.07				100.00
	23.10			1.06	100.00
24.58	16.52				100.00
2.26	87.30		2.41		100.00
20.92	31.61				100.00
24.73					100.00
21.71	5.57	.92			100.00
11.99	10.18	.77			100.00
30.17	5.79				100.00
21.14	6.67				100.00
27.36					100.00
			100.00		100.00
20.51	1.23				100.00
9.77					100.00
14.00	41.95				100.00
23.98	33.69				100.00
18.08	1.85			5.12	100.00
15.32	10.85	3.77		.00	100.00
22.48	3.63				100.00
13.50	31.06	1.04	2.45	.25	100.00
12.40	6.39				100.00
18.00	7.47				100.00
13.72	7.40	8.87		1.42	100.00
17.77	13.16	.06			100.00
27.39	.13				100.00
11.45					100.00
22.09		4.35			100.00
24.13					100.00

CLASS B. ELECTRIC
PERCENTAGE ANALYSIS OF
Year Ending

LOCATION.	NAME OF COMPANY.	Commercial lighting earnings.
	<i>Municipal Plants.</i>	
Richland Center.....	Municipal Electric Light Plant.....	67.92
River Falls.....	“ “ “ “	71.69
Shawano.....	“ “ “ “	78.89
Stoughton.....	“ “ “ “	60.70
Sturgeon Bay.....	“ “ “ “	63.26
Two Rivers.....	“ “ “ “	78.58
	Weighted average—municipal plants.....	72.16
	Weighted average—all utilities.....	55.56
	Arithmetic average—all utilities.....	65.46
	Arithmetic average—utilities reporting this item.....	69.23
	Maximum.....	100.00
	Minimum.....	8.03
	Median.....	70.35

UTILITIES.

SOURCES OF REVENUE—Concluded.

June 30, 1912.

Municipal contract lighting earnings.	Commercial power earnings.	Municipal power earnings.	Sales of electric current to other utilities.	Miscellaneous earnings from operation.	Total.
32.08					100.00
18.72	9.59				100.00
21.11					100.00
22.25	7.36	9.69		.00	100.00
29.75	2.47			4.52	100.00
21.42					100.00
20.99	4.41	2.04		.40	100.00
14.92	26.02	1.23	1.99	.28	100.00
17.26	12.28	1.21	3.43	.36	100.00
18.61	16.47	4.74	37.78	1.40	100.00
32.08	87.30	11.03	100.00	5.12	.....
2.26	.11	.06	2.41	.00	.....
18.72	10.38	3.29	6.45	1.20	.....

CLASS B. ELEC-
OPERATING EXPENSES PER
Year Ending

LOCATION.	NAME OF COMPANY.	Total switchboard kw-hr.	Power.			Transformation and Transmission.		
			Operation.	Maintenance.	Total.	Operation.	Maintenance.	Total.
<i>Private Plants</i>								
Antigo.....	Antigo Electric Co.....	612,970	cts. 1.71	cts. 0.03	cts. 1.74	cts.	cts.	cts.
Baraboo.....	Baraboo Gas & Electric Co....	252,000	2.34	.17	2.51	.....	.....	.....
Beaver Dam.....	Beaver Dam Lt. & Pr. Co.....	692,967	1.97	.05	2.03	.....	.....	.....
Burlington.....	Burlington El. Lt. & Pr. Co....	330,994	2.08	.12	2.20	.....	.....	.....
Delavan.....	United Ht., Lt. & Pr. Co.....	115,266	7.38	.26	7.66	.....	.....	.....
Depere.....	Depere El. Lt. & Pr. Co.....	687,958	.94	.13	1.07	.....	.....	.....
Edgerton.....	Edgerton Electric Light Co....	1213,735	3.24	.....	3.24	.....	.....	.....
Grand Rapids.....	Electric & Water Co.....	1644,199	1.47	.....	1.47	0.11	0.01	0.12
Hudson.....	Burkhardt Mfg. & El. Pr. Co....	745,620	.33	.09	.42	.....	.02	.02
Lake Geneva.....	Equitable Electric Light Co....	368,945	3.01	.13	3.14	.....	.....	.....
Mayville.....	Northwestern Ltg. Pr. Co.....	1,263,410	1.75	.03	1.78	.02	.04	.06
Medford.....	Medford Elect. & Htg. Co.....	168,000	2.93	.15	3.08	.....	.....	.....
Mellen.....	Mellen Water & Light Co.....	111,286	1.55	.18	1.73	.....	.....	.....
Menomonie.....	Chp. Val. Ry. Lt. & Pr. Co....	1363,710	1.76	.....	1.76	.....	.....	.....
Merrill.....	Merrill Ry. & Lt. Co.....	486,085	.16	.10	.26	.....	.....	.....
Mineral Point.....	Mineral Pt. Pub. Service Co....	245,696	2.03	.....	2.03	.....	.....	.....
Monroe.....	Monroe Electric Co.....	374,140	2.33	.05	2.38	.....	.....	.....
Oconto.....	Oconto Electric Co.....	221,356	1.10	.24	1.34	.....	.....	.....
Oconto.....	Peoples' Land & Mfg. Co.....	1415,585	.82	.....	.82	.02	.04	.06
Platteville.....	Interstate Light & Power Co....	17,149,383	2.25	.03	2.25	.03	.01	.04
Portage.....	Portage Electric Light Co....	1886,760	1.11	.....	1.11	.....	.....	.....
Prairie du Chien.....	Prairie City Electric Co.....	179,472	3.02	.07	3.09	.34	.....	.34
Rice Lake.....	Red Cedar Valley Elect. Co....	305,540	.58	.06	.64	.....	.....	.....
Ripon.....	Ripon Light & Water Co.....	157,906	2.65	.19	2.84	.....	.....	.....
Tomah.....	Tomah Elect. & Tel. Co.....	1297,380	1.91	.....	1.91	.....	.....	.....
Tomahawk.....	Tomaha'k Lt. Tel. & Imp. Co.²	120,000	2.34	.45	2.79	.....	.11	.11
Walworth.....	Walworth Lighting Plant.....	179,170	2.40	.08	2.48	.....	.....	.....
Washburn.....	Washburn El. Lt. & Pr. Co....	1175,300	2.25	.....	2.25	.22	.03	.25
Waukesha.....	Waukesha Gas & Electric Co....	1,041,199	1.47	.07	1.54	.....	.....	.....
Waupaca.....	Waupaca El. Lt. & Ry. Co.....	206,281	.82	.17	.99	.....	.00	.00
West Bend.....	West Bend Htg. & Ltg. Co.....	143,178	6.05	.24	6.29	.....	.....	.....
Whitewater.....	Whitewater Elec. Light Co....	169,442	4.45	.22	4.57	.....	.....	.....
Weighted average—private plants.....			2.18	0.12	2.30	0.04	0.01	0.05
<i>Municipal Plants</i>								
Ft. Atkinson.....	Municipal electric light plant	439,180	2.57	0.08	2.65	.....	.....	.....
Marshfield.....	" " " "	333,195	2.40	.09	2.49	0.19	.....	0.19
New London.....	" " " "	216,840	2.50	.14	2.64	.....	.....	.....
Oconomowoc.....	" " " "	362,150	2.99	.83	3.82	.....	.....	.....
Pt. Washington.....	" " " "	250,200	2.65	.01	2.66	.....	.....	.....
Richland Center.....	" " " "	206,070	3.51	.....	3.51	.....	.....	.....
River Falls.....	" " " "	328,545	.61	.02	.63	.....	.....	.....
Stoughton.....	" " " "	315,932	1.43	.07	1.50	.03	.....	.03
Sturgeon Bay.....	" " " "	185,400	4.92	.09	5.01	.....	.....	.....
Two Rivers.....	" " " "	128,386	3.53	.01	3.54	.....	.....	.....
Weighted average—municipal plants.....			3.34	0.17	3.51	0.01	0.02	0.03
Arithmetic average, all utilities.....			2.33	0.11	2.38	0.02	0.006	0.03
Arithmetic average, utilities reporting item.....			2.33	.14	2.38	.12	.03	.11
Maximum.....			7.38	.83	7.66	.34	.04	.25
Minimum.....			.16	.01	.26	.02	.00	.00
Median.....			2.16	.11	2.25	.07	.03	.06

NOTE:—Other class B utilities not appearing above are omitted because of incomplete reports or a unavailable data. Units less than .005 appear as .00. Railway generation is excluded.

TRIC UTILITIES.
 SWITCHBOARD KILOWATT-HOUR.
 June 30, 1912.

Storage.	Distribution.			Consumption.	Commercial.	General.			Undistributed.	Total of foregoing.	Depreciation.	Taxes.	Total.
	Total.	Operation.	Maintenance.			Total.	Total.	Operation.						Maintenance.	Total.
cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.
.....	0.18	0.09	0.27	0.10	0.26	0.86	.....	0.86	0.20	3.42	0.73	0.31	4.47
.....	.02	.05	.07	.15	.30	.68	.....	.68	.08	3.79	.....	.24	4.03
.....	.16	.09	.25	.20	.26	.47	.....	.47	.08	3.29	1.35	.15	4.79
.....	.02	.11	.13	.49	.14	.70	.....	.70	.14	3.80	.91	.10	4.81
.....	.40	.18	.58	.24	.11	1.41	0.20	1.61	.22	10.42	.....	.15	10.57
.....	.03	.09	.12	.08	.17	.31	.....	.31	.08	1.83	.35	.15	2.33
.....	.22	.04	.26	.32	.55	.54	.....	.54	.10	5.01	.50	.13	5.64
.....	.16	.02	.18	.13	.04	.54	.....	.54	.12	2.60	.67	.10	3.37
.....	.03	.06	.09	.02	.03	.61	.....	.61	.05	1.24	.70	.10	2.04
.....	.57	.38	.95	.01	.16	1.27	.....	1.27	.90	6.43	1.47	.16	8.06
.....	.02	.04	.06	.20	.00	.12	.....	.12	.03	2.12	.32	.01	2.45
.....	.18	.04	.22	.07	.16	.01	.....	.01	.11	3.78	.....	.11	3.89
.....	.25	.21	.46	.07	.09	1.30	.02	1.32	.55	4.22	1.08	.30	5.60
.....	.08	.03	.11	.09	.16	.72	.....	.72	.03	2.87	.63	.16	3.66
0.07	.02	.31	.33	.26	.26	.57	.02	.59	.10	1.87	1.03	.19	3.09
.....	.....	.03	.03	.02	.....	.88	.....	.88	.07	3.03	.....	.08	3.11
.....	.04	.07	.11	.11	.09	1.47	.01	1.48	.03	4.20	.64	.12	4.96
.....	.18	.11	.29	.12	.62	.04	.....	.04	.11	2.52	.....	.09	2.61
.....	.14	.01	.15	.20	.04	.67	.03	.70	.05	2.02	.66	.06	2.74
.....	.02	.01	.03	.01	.03	.06	.....	.06	.03	2.45	.....	.02	2.47
.....	.03	.05	.08	.05	.01	.23	.....	.23	.05	1.87	.44	.04	2.35
.....	.11	.07	.18	.25	.06	.02	.....	.02	.24	3.84	.65	.11	4.60
.....	.33	.22	.55	.11	.....	.49	.....	.49	.17	1.96	.....	.46	2.42
.....	.06	.25	.31	.12	.48	.91	.02	.93	.21	4.89	1.72	.32	6.93
.....	.04	.07	.11	.37	.05	.61	.....	.61	.02	3.07	.93	.07	4.07
.....	.44	.19	.63	.55	.16	.70	.....	.70	.59	5.55	1.27	.12	6.94
.....	.02	.18	.20	.18	.09	.18	.....	.18	1.30	4.44	.37	.05	4.86
.....	.28	.23	.51	.17	.17	.83	.....	.83	.....	4.18	.40	.....	4.53
.....	.08	.07	.15	.13	.14	.29	.....	.29	.07	2.33	.19	.09	2.60
.....	.22	.13	.35	.30	.21	1.30	.....	1.30	.18	3.33	.....	.18	3.51
.....	.21	.09	.30	.37	.24	.58	.....	.58	.15	7.93	1.17	.07	9.17
.....	.44	.24	.68	.41	.09	.53	.....	.53	.09	6.37	1.06	.29	7.72
.....	0.11	0.08	0.19	0.12	0.11	0.44	0.01	0.45	0.12	3.34	0.38	0.11	3.83
.....	0.05	0.13	0.18	0.11	0.11	0.71	.....	0.71	0.03	3.79	0.55	.....	4.34
.....	.09	.07	.16	.23	.16	.40	0.01	.41	.05	3.69	.....	.....	3.69
.....	.13	.23	.36	.14	.23	.00	.....	.00	.00	3.37	.....	.....	3.37
.....	.23	1.16	1.39	.08	.06	.34	.....	.34	.18	5.87	1.22	.....	7.09
.....	.12	.14	.26	.23	.07	.....	.....	.....	.00	3.22	.....	.....	3.22
.....	.37	1.47	1.84	.04	.02	.....	.....	.....	.03	5.44	.....	.....	5.44
.....	.10	.23	.33	.07	.06	.24	.....	.24	.....	1.33	.56	.....	1.89
.....	.17	.05	.22	.07	.13	.44	.....	.44	.18	2.57	1.13	0.02	3.72
.....	.09	.21	.30	.14	.10	.60	.....	.60	.03	6.18	.....	.....	6.18
.....	.....	.79	.79	.51	.05	.17	.....	.17	.....	5.06	.....	.....	5.06
.....	0.30	0.34	0.64	0.15	0.11	0.39	.....	0.39	0.08	4.91	0.46	.....	5.37
0.00	0.15	0.20	0.35	0.18	0.15	0.54	0.01	0.55	0.16	3.84	0.54	.11	4.49
.05	.16	.20	.35	.18	.15	.57	.04	.58	.17	3.84	.78	.14	4.49
.07	.57	1.47	1.84	.49	.62	1.47	.20	1.61	1.30	10.42	1.72	.46	10.57
.02	.02	.01	.03	.01	.00	.00	.01	.00	.00	1.24	.32	.01	1.89
.....	.10	.10	.22	.14	.12	.56	.02	.56	.09	3.56	.68	.12	4.05

¹Purchased.
²Estimated.

CLASS B. ELEC
OPERATING EXPENSES
Year Ending

LOCATION.	NAME OF COMPANY.	Power.			Transmission and transformation.			Storage.
		Operation.	Maintenance.	Total.	Operation.	Maintenance.	Total.	Total.
<i>Private Plants.</i>								
Antigo.....	Antigo Electric Co.....	\$9.69	\$0.16	\$9.85				
Baraboo.....	Baraboo Gas & Electric Co.....	12.87	.94	13.81				
Beaver Dam.....	Beaver Dam Lt. & Power Co.....	20.20	.57	20.77				
Berlin.....	Berlin Public Service Co.....	38.65	.27	38.92		\$0.05	\$0.05	
Burlington.....	Burlington El. Lt. & Power Co.....	12.96	.72	13.68				
Delavan.....	United Heat Lt. & Power Co.....	28.05	.98	29.03				
De Pere.....	De Pere El. Light & Power Co.....	10.88	1.57	12.45				
Edgerton.....	Edgerton Electric Light Co.....	17.94		17.94				
Grand Rapids.....	Electric & Water Co.....	11.70		11.70	\$0.90	.03	.93	
Hudson.....	Burkhardt Mfg. & El. Pr. Co.....	4.03	1.13	5.16		.23	.23	
Hurley.....	Ironw'd & Bessemer R & L Co.....	15.46	.11	15.57				
Ladysmith.....	Ladysmith Lighting Co.....	13.29		13.29				
Lake Geneva.....	Equitable Electric Light Co.....	15.76	.67	16.43				
Mayville.....	Northwestern Lt. & Power Co.....	71.77	1.40	73.17	.97	1.64	2.61	
Medford.....	Medford Light & Heating Co.....	27.75	1.43	29.18				
Mellen.....	Mellen Water & Light Co.....	15.53	1.83	17.36				
Menomonee.....	Chip. Valley Ry. Lt. & Pr. Co.....	13.89		13.89				
Merrill.....	Merrill Ry. & Lt. Co.....	2.80	1.85	4.65				\$0.52
Mineral Point.....	Mineral Pt. Public Service Co.....	12.56		12.56				
Monroe.....	Monroe Electric Co.....	13.51	.28	13.79				
N. Milwaukee.....	N. Milwaukee Lt. & Pr. Co.....	34.35	.78	35.13				
Oconto.....	Oconto Electric Co.....	8.34	1.84	10.18				
Oconto.....	People's Land & Mfg. Co.....	6.39		6.39	.11	.33	.44	
Platteville.....	Interstate Light & Pr. Co.....	292.75		292.75	4.15	1.23	5.38	
Portage.....	Portage Electric Light Co.....	19.05		19.05	5.81		5.81	
Prairie du Chien.....	Prairie City Electric Co.....	18.47	.47	18.94				
Rhineland.....	Rhineland Lighting Co.....	8.02		8.02	2.00	.73	2.73	
Rice Lake.....	Red Cedar Valley Elec. Co.....	2.62	.27	2.89				
Ripon.....	Ripon Light & Water Co.....	13.24	.93	14.17				
Sparta.....	O. I. Newton Son's Co.....	4.24	1.79	6.03				
Stevens Point.....	Stevens Point Lighting Co.....	14.27	4.10	18.37	1.21		1.21	
Tomah.....	Tomah Electric & Tel. Co.....	16.38		16.38				
Tomahawk.....	Tomahawk Lt., Tel. & Imp. Co.....	9.82	1.87	11.69		.45	.45	.09
Walworth.....	Walworth Lighting Plant.....	17.70	.57	18.27				
Washburn.....	Washburn El. Lt. & Pr. Co.....	11.93		11.93	1.17	.18	1.35	
Waukesha.....	Waukesha Gas & Electric Co.....	35.10	1.63	36.73		.03	.03	
Waupaca.....	Waupaca El. Lt. & Ry. Co.....	5.03	1.06	6.09				
West Bend.....	West Bend Heating & Ltg. Co.....	35.33	1.44	36.77				
Whitewater.....	Whitewater Electric Light Co.....	16.61	.45	17.06				
Weighted av., private plants..		\$23.72	\$0.71	\$24.43	\$0.49	\$0.12	\$0.61	\$0.02

TRIC UTILITIES.
PER CONSUMER.
June 30, 1912.

Distribution.			Con- sump- tion.	Com- mer- cial.	General.			Undistributed.			Total of foregoing.	Depreciation total.	Taxes total.	Total of expenses.
Operation.	Maintenance.	Total.			Operation.	Maintenance.	Total.	Operation.	Maintenance.	Total.				
\$1.00	\$0.52	\$1.52	\$0.56	\$1.49	\$4.86	\$0.00	\$4.86	\$1.12	.....	\$1.12	\$19.40	\$4.16	\$1.76	\$25.32
.10	.27	.37	1.19	1.65	3.77	.....	3.77	.45	.....	.45	21.24	.....	1.33	22.57
1.62	.92	2.54	2.02	2.66	4.85	.....	4.85	.78	.....	.78	33.62	13.79	1.54	48.95
.43	1.45	1.88	1.16	1.68	5.90	.07	5.97	1.20	\$0.31	1.51	51.17	7.75	.86	59.78
.09	.71	1.80	3.07	.87	4.35	.....	4.35	.82	.05	.87	23.64	5.64	.61	29.89
1.52	.67	2.19	.91	.43	5.36	.76	6.12	.85	.....	.85	39.53	.....	.57	40.10
.31	1.08	1.39	.93	1.99	3.62	.04	3.66	.85	.05	.90	21.32	4.06	1.69	27.07
1.17	.29	1.46	1.78	3.05	2.98	.....	2.98	.57	.....	.57	27.78	2.80	.73	31.31
1.28	.11	1.39	1.04	.35	4.28	.00	4.28	.87	.09	.96	20.65	5.33	.78	26.76
.38	.67	1.05	.29	.40	7.37	.01	7.38	.64	.....	.64	15.15	8.55	1.18	24.88
.38	.48	.86	1.03	.08	2.74	.....	2.74	.50	.....	.50	20.78	.....	.97	21.75
7.27	1.73	9.00	11.40	1.63	5.11	.....	5.11	.....	.....	.....	40.43	.....	.70	41.13
2.98	1.98	4.96	.06	.82	6.62	.05	6.67	2.92	1.79	4.71	33.65	7.70	.83	42.18
.84	1.37	2.21	2.88	.17	4.75	.01	4.76	1.06	.....	1.06	86.86	13.00	.58	100.44
1.76	.33	2.09	1.92	1.56	.05	.....	.05	.53	.56	1.09	35.89	.....	1.08	36.97
2.51	2.09	4.60	.69	.89	13.09	.16	13.25	3.15	.61	5.56	42.35	10.81	2.98	56.14
.61	.23	.84	.68	1.26	5.71	.....	5.71	.13	.09	.22	22.60	4.98	1.23	28.81
.18	2.29	2.47	1.92	1.93	4.27	.09	4.34	.74	.03	.77	16.60	7.61	1.43	25.64
.....	.20	.20	1.14	.....	5.48	.....	5.48	.43	.....	.43	18.82	.....	.51	19.33
.25	.39	.64	.63	.51	8.51	.06	8.57	.16	.....	.16	24.30	3.72	.71	28.73
1.61	.61	2.22	5.22	2.42	6.85	.....	6.85	1.67	.....	1.67	53.51	5.07	3.29	61.87
1.36	.82	2.18	.91	4.68	.32	.....	.32	.82	.....	.82	19.09	.....	.70	19.79
1.08	.05	1.13	1.52	.31	5.12	.34	5.52	.42	.....	.42	15.73	5.11	.50	21.34
2.47	1.93	4.40	.69	3.51	8.45	.....	8.45	3.77	.04	3.81	318.99	.....	2.02	321.01
.45	.95	1.40	.95	.14	4.03	.....	4.03	.79	.....	.79	32.17	7.51	.67	40.35
.67	.45	1.12	1.55	.38	.15	.....	.15	1.44	.02	1.46	23.60	4.00	.68	28.28
2.46	2.28	4.74	2.76	.50	6.04	.....	6.04	4.52	.22	4.74	29.53	2.81	1.07	33.41
1.48	1.00	2.48	.50	.....	2.18	.....	2.18	.75	.....	.75	8.80	.....	2.06	10.86
.30	1.26	1.56	.61	2.42	4.57	.05	4.62	1.04	.02	1.06	24.44	8.60	1.58	34.62
.54	1.38	1.92	1.70	.59	7.48	.28	7.76	.78	.12	.90	18.90	6.45	.93	26.28
2.42	.00	2.42	1.16	6.24	.....	6.24	6.24	1.62	.21	1.83	31.39	.....	2.00	33.39
.40	.59	.99	3.14	.44	5.25	.....	5.25	.20	.....	.20	26.40	7.97	.57	34.94
1.84	.80	2.64	2.29	.66	2.92	.....	2.92	1.82	.65	2.47	23.21	5.33	.50	29.04
.16	1.34	1.44	1.34	.70	1.35	.....	1.35	9.60	.....	9.60	32.70	2.74	.37	35.81
1.46	1.22	2.68	.89	.91	4.38	.....	4.38	.....	.....	.....	22.14	.....	2.14	24.28
1.97	1.56	3.53	3.02	3.45	6.92	.03	6.95	1.70	.....	1.70	55.41	4.44	2.14	61.99
1.34	.80	2.14	1.87	1.31	7.95	.00	7.95	1.10	.....	1.10	20.46	.....	1.09	21.55
1.25	.51	1.76	2.14	1.40	3.40	.....	3.40	.88	.....	.88	46.35	6.82	.45	53.62
1.64	.90	2.54	1.51	.36	1.97	.....	1.97	.29	.04	.33	23.77	3.95	1.09	28.81
\$1.21	\$0.93	\$2.14	\$1.50	\$1.21	\$4.94	\$0.05	\$4.99	\$1.24	\$0.13	\$1.37	\$86.27	\$4.56	\$1.18	\$42.00

CLASS B. ELEC
OPERATING EXPENSES
Year Ending

LOCATION.	NAME OF COMPANY.	Power.			Transmission and transformation.			Storage.
		Operation.	Maintenance.	Total.	Operation.	Maintenance.	Total.	Total.
	<i>Municipal Plants.</i>							
Columbus.....	Municipal Elec. Light Plant.	\$20.25	\$0.14	\$20.39	.....	.....	.....	.....
Ft. Atkinson.....	" " " "	15.52	.53	16.05	.....	.....	.....	.....
Hartford.....	" " " "	14.84	.56	15.40	.....	.....	.....	.....
Marshfield.....	" " " "	14.93	.58	15.51	\$0.04	\$1.12	\$1.16	.....
New London.....	" " " "	13.65	.74	14.39	.....	.....	.....	.....
New Richmond..	" " " "	22.33	.....	22.33	.36	.....	.36	.....
Oconomowoc.....	" " " "	23.98	6.66	30.64	.....	.....	.....	.....
Pt. Washington..	" " " "	19.85	.05	19.90	.....	.....	.....	.....
Richland Center..	" " " "	16.87	.....	16.87	.....	.....	.....	.....
River Falls.....	" " " "	4.82	.20	5.02	.....	.....	.....	.....
Shawano.....	" " " "	24.37	.....	24.37	.....	.....	.....	.....
Stoughton.....	" " " "	8.42	.41	8.83	.15	.01	.16	.....
Sturgeon Bay.....	" " " "	18.84	.33	19.17	.....	.....	.....	.....
Two Rivers.....	" " " "	13.46	.04	13.50	.....	.....	.....	.....
	Weighted av., mun. plants.....	\$16.17	\$0.78	\$16.95	\$0.04	\$0.10	\$0.14	.....
	Weighted average, all utilities.....	\$21.76	\$0.72	\$22.48	\$0.37	\$0.12	\$0.49	\$0.01
	Arithmetic average, all utilities.....	22.10	.78	22.88	.32	.11	.43	.01
	Arithmetic average, utilities reporting item	22.10	.78	22.88	1.12	.40	1.52	.30
	Maximum.....	292.75	6.66	292.75	5.81	1.64	5.81	.52
	Minimum.....	2.62	.04	2.89	.04	.01	.03	.09
	Median.....	14.93	.72	15.57	.97	.28	.93	.30

TRIC UTILITIES.
PER CONSUMER.—Concluded.
June 30, 1912.

Distribution.			Con- sump- tion.	Com- mer- cial.	General.			Undistributed.			Total of foregoing.	Depreciation total.	Taxes total.	Total of expense.
Operation.	Maintenance.	Total.			Operation.	Maintenance.	Total.	Operation.	Maintenance.	Total.				
\$0.38	\$0.21	\$0.59	\$0.77		\$3.03		\$3.03	\$1.00		\$1.00	\$25.78			\$25.78
.28	.79	1.07	.67	\$0.68	4.30		4.30	.16		.16	22.93	\$3.31		26.24
1.14	3.50	4.64			.95	\$0.03	.98				21.02	4.53		25.55
.59	.45	1.04	1.43	1.02	2.48	.05	2.53	.29		.29	22.98			22.98
.71	1.28	1.99	.75	1.23	.00		.00	\$0.00	\$0.00		18.36			18.36
4.31	.98	5.29			.16		.16	.51		.51	28.65	1.63		30.28
1.80	9.31	11.11	.64	.45	2.75		2.75	1.46		1.46	47.05	9.80		56.85
.95	1.02	1.97	1.71	.50				.04		.04	24.12			24.12
7.07	1.77	8.84	.18	.08				.05	.11	.16	26.13			26.13
.77	1.82	2.59	.55	.50	1.87		1.87				10.53	4.41		14.94
1.91		1.91	.18	.15	1.63		1.63	.04		.04	28.28			28.28
1.04	.27	1.31	.42	.77	2.60		2.60	1.09	.00	1.09	15.18	6.62	\$0.13	21.93
.34	.80	1.14	.52	.39	2.28		2.28	1.05	.07	1.12	23.62			23.62
	3.00	3.00	1.95	.19	.63		.63				19.27			19.27
\$1.44	\$1.81	\$3.25	\$0.67	\$0.46	\$1.82	\$0.01	\$1.83	\$0.34	\$0.01	\$0.35	\$23.65	\$2.45	\$0.01	\$26.11
\$1.27	\$1.16	\$2.43	\$1.29	\$1.02	\$4.13	\$0.04	\$4.17	\$1.01	\$0.10	\$1.11	\$33.00	\$4.01	\$0.87	\$37.88
1.34	1.16	2.50	1.45	1.03	4.00	.04	4.04	1.08	.10	1.18	33.52	3.79	.87	38.18
1.34	1.16	2.50	1.51	1.14	4.08	.04	4.12	1.20	.11	1.31	33.52	6.09	1.15	38.18
7.27	9.31	11.11	11.40	4.68	13.09	.76	13.25	9.60	1.79	9.60	318.99	13.79	3.29	321.01
.10	.00	.20	.06	.08	.05	.00	.05	.04	.00	.00	8.80	1.63	.13	10.86
1.08	.86	1.97	1.03	.80	4.28	.05	4.30	.82	.09	.86	24.12	5.33	.95	28.28

CLASS B. ELEC
OPERATING EXPENSES
Year Ending

LOCATION.	NAME OF COMPANY.	Power.			Transmission and Transformation.			Storage.
		Operation.	Maintenance.	Total.	Operation.	Maintenance.	Total.	
<i>Private Plants.</i>								
Antigo.....	Antigo Electric Co.....	\$18.53	\$0.31	\$18.84				
Baraboo.....	Baraboo Gas & Electric Co.....	13.31	.97	14.28				
Beaver Dam.....	Beaver Dam Lt. & Pr. Co.....	26.25	.75	27.00				
Berlin.....	Berlin Public Service Co.....	32.58	.23	32.81	\$0.04	\$0.04		
Burlington.....	Burlington Electric Lt. & Pr. Co.....	21.21	1.18	22.39				
Delavan.....	United Ht. Lt. & Pr. Co.....	28.42	.90	29.41				
De Pere.....	De Pere Electric Lt. & Pr. Co.....	32.15	4.65	36.80				
Grand Rapids.....	Electric and Water Co.....	37.92		37.92	\$2.91	.08	2.99	
Hudson.....	Burkhardt Mfg. & Elec. Pr. Co.....	8.22	2.30	10.52			.47	
Hurley.....	Ironw'd & Bes'mer Ry. & Lt. Co.....	5.33	.04	5.37				
Ladysmith.....	Ladysmith Lighting Co.....	12.43		12.43				
Lake Geneva.....	Equitable Electric Lt. Co.....	29.23	1.24	30.47				
Mayville.....	Northwestern Light & Pr. Co.....	24.56	.48	25.04	.33	.56	.89	
Medford.....	Medford Lt. & Htg. Co.....	45.48	2.35	47.83				
Mellen.....	Mellen Water & Light Co.....	28.73	3.39	32.12				
Menomonie.....	Chippewa Val. Ry. Lt. & Pr. Co.....	53.35		53.35				\$0.75
Merrill.....	Merrill Ry. & Lt. Co.....	4.09	2.70	6.79				
Mineral Pt.....	Mineral Pt. Pub. Ser. Co.....	16.58		16.58				
Monroe.....	Monroe Electric Company.....	34.84	.73	35.57				
No. Milwaukee..	North Milwaukee Lt. & Pr. Co.....	51.25	1.17	52.42				
Oconto.....	Oconto Electric Co.....	10.83	2.38	13.21				
Portage.....	Portage Electric Lt. Co.....	13.66		13.66	4.17		4.17	
Prairie du Chien..	Prairie City Electric Co.....	23.97	.61	24.58				
Rice Lake.....	Red Cedar Valley Electric Co.....	5.58	.57	6.15				
Ripon.....	Ripon Light & Water Co.....	18.60	1.31	19.91				
Sparta.....	O. I. Newton Son's Co.....	5.62	2.37	7.99				
Stevens Point.....	Stevens Point Lighting Co.....	14.14	4.07	18.21	1.20		1.20	
Tomahawk.....	Tomahawk Lt. Tel. & Imp. Co.....	8.28	1.58	9.86		.38	.38	.08
Walworth.....	Walworth Lighting Plant.....	43.01	1.39	44.40				
Waukesha.....	Waukesha Gas & Electric Co.....	14.19	.66	14.85		.01	.01	
Waupaca.....	Waupaca Electric Lt. & Ry. Co.....	5.20	1.10	6.30				
West Bend.....	West Bend Htg. & Ltg. Co.....	42.65	1.73	44.38				
Whitewater.....	Whitewater Electric Light Co.....	25.13	.82	25.81				
	Weighted ave. private plants.....	\$18.76	\$1.00	\$19.76	\$0.37	\$0.07	\$0.44	\$0.03
<i>Municipal Plants.</i>								
Columbus.....	Municipal Electric Light Plant	\$31.33	\$0.21	\$31.54				
Fort Atkinson.....	" " " " " "	56.34	1.91	58.25				
Marshfield.....	" " " " " "	24.57	.95	25.52	\$0.07	\$1.85	\$1.92	
New London.....	" " " " " "	27.80	1.50	29.30				
Oconomowoc.....	" " " " " "	27.44	7.62	35.06				
Port Washington.....	" " " " " "	29.46	.08	29.54				
Richland Center.....	" " " " " "	26.32		26.32				
River Falls.....	" " " " " "	8.00	.34	8.34				
Shawano.....	" " " " " "	26.74		26.74				
Stoughton.....	" " " " " "	10.30	.50	10.80	.19	.00	.19	
Sturgeon Bay.....	" " " " " "	43.51	.76	44.27				
Two Rivers.....	" " " " " "	39.45	.11	39.56				
	Weighted av., municipal plants..	\$24.85	\$1.34	\$26.19	\$0.03	\$0.18	\$0.21	
	Weighted average.....	\$20.06	\$1.08	\$21.14	\$0.30	\$0.09	\$0.39	\$0.02
	Arithmetic average, all utilities.....	24.59	1.24	25.83	.20	.07	.27	.02
	Arithmetic average, utilities reporting item.....	24.59	1.24	25.83	.89	.34	1.23	.39
	Maximum.....	53.35	7.62	58.25	4.17	1.85	4.17	.75
	Minimum.....	4.09	.04	5.37	.07	.00	.01	.08
	Median.....	25.13	1.05	25.81	.76	.23	.68	.41

NOTE:--Units less than .005 are given as .00.
Utilities not appearing above are omitted because of incomplete reports or unavailable data.

TRIC UTILITIES.
PER KILOWATT CAPACITY.
June 30, 1912.

Distribution.			Con- sump- tion.	Com- mer- cial.	General.			Undistributed.			Total of forego- ing.	Depreciation.	Taxes.	Total of expenses.
Operation.	Maintenance.	Total.			Operation.	Maintenance.	Total.	Operation.	Maintenance.	Total.				
\$1.92	\$1.00	\$2.92	\$1.06	\$2.86	\$9.30	\$0.00	\$9.30	\$2.14	.....	\$2.14	\$37.12	\$7.97	\$3.36	\$48.45
.10	.28	.38	.85	1.71	3.89	.....	3.89	.47	.....	.47	21.58	.....	1.37	22.95
2.11	1.19	3.30	2.62	3.46	6.31	.....	6.31	1.01	.....	1.01	43.70	17.93	2.01	63.64
.36	1.22	1.58	.97	1.42	4.98	.06	5.04	1.02	\$0.26	1.28	43.14	6.54	.73	50.41
.15	1.16	1.31	5.03	1.42	7.12	.....	7.12	1.34	.08	1.42	38.69	9.23	1.01	48.93
1.54	.68	2.22	.93	.44	5.43	.77	6.20	.86	.....	.86	40.06	.....	.58	40.64
.91	3.18	4.09	2.74	5.89	10.69	.13	10.82	2.51	.16	2.67	63.01	12.00	4.99	80.00
4.15	.36	4.51	3.37	1.14	13.86	.00	13.86	2.81	.30	3.11	66.90	17.28	2.53	86.71
.77	1.38	2.15	.58	.82	15.03	.02	15.05	1.32	.....	1.32	30.91	17.44	2.40	50.75
.13	.17	.30	.35	.03	.94	.....	.94	.17	.....	.17	7.16	.....	.34	7.50
6.80	1.61	8.41	2.25	1.52	4.78	.....	4.78	.15	.....	.15	29.54	.....	.66	30.20
5.54	3.67	9.21	.12	1.53	12.28	.09	12.37	5.41	3.32	8.73	62.43	14.28	1.54	78.25
.29	.47	.76	.98	.06	1.62	.01	1.63	.36	.....	.36	29.72	4.45	2.0	34.37
2.87	.55	3.42	3.15	2.55	.09	.....	.09	.88	.92	1.78	58.82	.....	1.77	60.59
4.65	3.87	8.52	1.27	1.64	24.22	.29	24.51	9.16	1.12	10.28	78.34	20.00	5.53	103.87
2.35	.90	3.25	2.62	4.83	21.94	.....	21.94	.50	.34	.84	86.83	19.13	4.73	110.69
.26	3.34	3.60	2.80	2.82	6.21	.13	6.34	1.09	.04	1.13	24.23	11.11	2.09	37.43
.....	.26	.26	.18	.07	7.24	.....	7.24	.57	.....	.57	24.83	.....	.67	25.50
.64	1.02	1.66	1.63	1.31	21.96	.16	22.12	.41	.....	.41	62.70	9.60	1.84	74.14
2.40	.92	3.32	7.79	3.61	16.21	.....	16.21	2.49	.....	2.49	79.84	7.57	4.91	92.32
1.76	1.07	2.83	1.18	6.07	.41	.....	.41	1.06	.....	1.06	24.76	.....	.92	25.68
.32	.68	1.00	.68	1.10	2.88	.....	2.88	.57	.....	.57	23.06	5.38	.48	28.92
.88	.58	1.46	2.01	.50	.19	.....	.19	1.87	.03	1.90	30.64	5.19	.88	36.71
3.15	2.13	5.28	1.06	.....	4.64	.....	4.64	1.60	.....	1.60	18.73	.....	4.39	23.12
.42	1.77	2.19	.86	3.39	6.41	.08	6.49	1.46	.03	1.49	34.33	12.08	2.22	48.63
.71	1.84	2.55	2.26	7.89	9.91	.....	9.91	1.03	.16	1.19	25.06	8.55	1.23	34.84
2.40	.00	2.40	.16	1.15	6.19	.38	6.19	1.60	.21	1.81	31.12	.....	1.58	32.10
1.56	.67	2.23	1.93	.56	2.47	.....	2.47	1.53	.55	2.08	19.59	4.50	.42	24.51
.25	3.27	3.52	3.25	1.69	3.28	.....	3.28	23.33	.....	23.33	79.47	6.65	.89	87.01
.80	.63	1.43	1.22	1.40	2.80	.01	2.81	.69	.....	.69	22.40	1.79	.86	25.05
1.38	.83	2.21	1.93	1.36	8.22	.01	8.23	1.13	.....	1.13	21.16	.....	1.13	22.29
1.51	.61	2.12	2.59	1.68	4.10	.....	4.10	1.07	.....	1.07	55.94	8.23	.55	64.72
2.48	1.36	3.84	2.29	.54	2.99	.....	2.99	.44	.06	.50	35.97	5.98	1.65	43.60
\$1.35	\$1.06	\$2.41	\$1.50	\$1.40	\$5.77	\$0.05	\$5.82	\$1.33	\$0.17	\$1.50	\$32.84	\$5.81	\$1.42	\$40.07
\$0.59	\$0.32	\$0.91	\$1.19	.....	\$4.68	.....	\$4.68	\$1.54	.....	\$1.54	\$39.86	.....	.....	\$39.86
1.01	2.90	3.91	2.43	\$2.46	15.60	.....	15.60	.58	.....	.58	83.23	\$12.00	.....	95.23
.97	.74	1.71	2.35	1.68	4.08	\$0.09	4.17	.48	.....	.48	37.87	.....	.....	37.87
1.45	2.61	4.06	1.52	2.50	.01	.....	.01	.....	\$0.00	.00	37.39	.....	.....	37.39
2.06	10.66	12.72	.73	.51	3.14	.....	3.14	1.67	.....	1.67	53.82	11.21	.....	65.04
1.40	1.52	2.92	2.53	.74	.....	.....	.....	.05	.....	.05	35.78	.....	.....	35.78
11.03	2.76	13.79	.29	.13	.....	.....	.....	.07	.16	.23	40.76	.....	.....	40.76
1.27	3.03	4.30	.91	.83	3.10	.....	3.10	.....	.....	.....	17.48	7.32	.....	24.80
2.08	.....	2.08	.20	.17	1.79	.....	1.79	.04	.....	.04	31.02	.....	.....	31.02
1.27	.33	1.60	.51	.95	3.18	.....	3.18	1.33	.00	1.33	18.56	8.69	\$0.17	26.82
.79	1.85	2.64	1.21	.90	5.28	.....	5.28	.11	.15	.26	54.56	.....	.....	54.56
.....	8.79	8.79	5.72	.55	1.85	.....	1.85	.....	.....	.....	56.47	.....	.....	56.47
\$1.99	\$2.65	\$4.64	\$1.23	\$0.84	\$3.17	\$0.01	\$3.18	\$0.57	\$0.02	\$0.59	\$36.88	\$3.60	\$0.02	\$40.50
\$1.48	\$1.41	\$2.89	\$1.44	\$1.28	\$5.21	\$0.04	\$5.25	\$1.17	\$0.14	\$1.31	\$33.77	\$5.33	\$1.12	\$40.17
1.77	1.72	3.50	1.83	1.55	6.34	.05	6.39	1.73	.18	1.91	41.50	6.02	1.30	48.69
1.77	1.73	3.50	1.83	1.66	6.64	.05	6.69	1.81	.18	1.99	41.30	10.05	1.79	48.69
1.10	10.66	12.72	7.79	6.07	24.22	.77	24.51	23.33	3.32	23.33	86.83	10.00	5.5	110.19
.10	.00	.26	.12	.03	.01	.00	.01	.05	.00	.00	7.16	4.45	.17	7.50
1.38	1.12	2.64	1.27	1.38	4.78	.09	4.78	1.05	.16	1.13	37.12	8.55	1.30	40.64

CLASS B. ELECTRIC UTILITIES.
CONSUMER AND METER EXPENSES.
For Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Number of consumers.	Comm'l consumption per consumer.	Comm'l expense per consumer.	Number of meters.	Meter maintenance per meter.
<i>Private Plants.</i>						
Antigo	Antigo Electric Co.	1,081	0.11	\$1.49	10.61	\$3.49
Baraboo	Baraboo Gas & Electric Co. . .	458	.38	1.65	4.56	.00
Beaver Dam	Beaver Dam Light & P. Co. . .	676	.67	2.66	6.53	.22
Berlin	Berlin Public Service Co.	489	.62	1.68	4.59	.82
Burlington	Burlington El. Light & P. Co. .	532	2.58	.87	5.32	.48
Delavan	United Ht. Lt. & Power Co. . .	304	.....	.43	3.11	.26
De Pere	De Pere El. Lt. & Pr. Co.	591	.70	1.99	5.15	.45
Edgerton	Edgerton Electric Light Co. . .	386	.89	3.05	3.78	.24
Grand Rapids	Electric & Water Company. . .	810	.....	.35	8.15	.11
Hudson	Burkhardt Mfg. & El. Pr. Co. .	612	.....	.40	5.85	.01
Hurley	Ironwood & Bess. Ry. & Lt. Co. .	366	1.03	.08	3.62	.49
Ladysmith	Ladysmith Light Co.	304	.....	1.63	1.19	.84
Lake Geneva	Equitable Electric Light Co. .	705	.06	.83	6.15	1.06
Mayville	Northwestern Lt. & Pr. Co.	308	1.44	.17	3.23	.78
Medford	Medford Light & Htg. Co.	177	.49	1.56	1.56	.12
Mellen	Mellen Water & Light Co.	111	.09	.88	1.20	.11
Menomonee	Chip. Val. Ry. Lt. & Pr. Co. . .	461	.17	1.26	3.67	.04
Merrill	Merrill Railway & Light Co. . .	657	1.47	1.93	5.86	1.42
Mineral Point	Mineral Point Pub. Serv. Co. .	396	.....	.....	3.96	.17
Monroe	Monroe Electric Company.	645	.38	.51	6.02	.03
N. Milwaukee	North Milw. Lt. & Pr. Co.	194	3.44	2.42	2.03	.08
Oconto	Oconto Electric Company.	292	.91	4.68	2.75	.....
Oconto	People's Land & Mfg. Co.	535	.79	.31	3.23	.08
Platteville	Interstate Light & Power Co. .	550	.41	3.51	5.38	.13
Portage	Portage Electric Light Co.	516	.35	.13	5.16	.....
Prairie du Chien	Prairie City Electric Co.	292	.80	.38	3.08	.03
Rhineland	Rhineland Lighting Co.	636	1.08	.50	5.40	.44
Rice Lake	Red Cedar Valley Elec. Co.	682	.....	.....	6.54	.23
Ripon	Ripon Light & Water Co.	316	.....	2.42	3.16	.61
Sparta	O. I. Newton's Sons Company . .	464	1.19	.58	4.42	1.07
Stevens Point	Stevens Point Lighting Co.	446	.....	1.16	4.53	.60
Tomah	Tomah Electric & Tel. Co.	346	1.98	.44	3.46	.04
Tomahawk	Tomahawk Lt. Tel. & Imp. Co. . .	287	.68	.66	2.77	.14
Walworth	Walworth Ltg. Plant.	243	.72	.70	2.56	.03
Washburn	Washburn El. Lt. & Pr. Co.	331	.89	.91	3.24	.66
Waukesha	Waukesha Gas & Elec. Co.	437	1.54	3.45	4.37	.01
Waupaca	Waupaca El. Lt. & Ry. Co.	336	.....	1.32	3.10	.29
West Bend	West Bend Htg. & Ltg. Co.	245	.98	1.39	4.17	.01
Whitewater	Whitewater El. Lt. Co.	454	.63	.35	4.65	.....
Private plant-weighted average ¹ .....		.....	0.83	\$1.29	.....	\$0.26

¹ Apportionment is only approximate.

CLASS B. ELECTRIC UTILITIES.
 CONSUMER AND METER EXPENSES.—Concluded.
 For Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Number of consumers.	Comm'l consumption per consumer.	Comm'l expense per consumer.	Number of meters.	Meter maintenance per meter.
<i>Municipal Plants.</i>						
Columbus.....	Municipal Elec. Light Plant.	348	0.76	.....	3 51	\$0.03
Ft. Atkinson.....	" " " "	726	.52	\$0.68	6.79	.24
Hartford.....	" " " "	526	.....	.....	4.96	2.30
Marshfield.....	" " " "	535	.51	1.02	4.78	.07
New London.....	" " " "	397	.26	1.23	3.84	.15
Oconomowoc.....	" " " "	452	.....	.45	4.50	2.50
Pt. Washington...	" " " "	334	.79	.50	3.08	.02
Reedsburg.....	" " " "	479	.....	.....	5.21	.....
Bichland Center..	" " " "	429	.....	.08	4.12	.....
River Falls.....	" " " "	415	.14	.50	3.98	.91
Shawano.....	" " " "	317	.....	.15	3.17	.....
Stoughton.....	" " " "	538	.09	.77	5.54	.02
Sturgeon Bay.....	" " " "	485	.08	.39	.....	.....
Two Rivers.....	" " " "	337	1.95	.19	3.37	.....
Municipal plant—weighted average ¹			0.51	\$0.58	.....	\$0.71
Weighted average—all utilities ¹			0.76	1.13	.....	\$0.43
Arithmetic average.....			.84	1.14	.....	.41
Maximum.....			3.44	4.68	.....	2.50
Minimum.....			.06	.08	.....	.00
Median.....			.72	.80	.....	.17

NOTE—Units less than .005 reported as .00.
 Utilities not appearing in this table are excluded because of incomplete or unavailable data.
¹ Do not include consumers reported but not utilized.

CLASS B ELECTRIC UTILITIES.
MISCELLANEOUS CONSUMER UNITS.
Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Operating revenue per consumer.	Operating expenses per consumer.	Book value per consumer.
<i>Private Plants.</i>				
Antigo	Antigo Electric Co.	\$34.73	\$25.32	\$143.26
Baraboo	Baraboo Gas & Electric Co.	34.33	22.57	270.90
Beaver Dam	Beaver Dam Light & Power Co.	55.52	48.96	204.95
Berlin	Berlin Public Service Co.	63.87	59.79	219.88
Burlington	Burlington El. Lt. & Pr. Co.	37.35	29.89	116.10
Delavan	United Ht. Lt. & Pr. Co.	44.62	40.10	132.27
De Pere	De Pere El. Lt. & Pr. Co.	41.44	27.07	139.80
Edgerton	Edgerton El. Lt. Co.	35.89	31.34	82.50
Grand Rapids	Electric & Water Co.	40.69	26.77	52.26
Hudson	Burkhardt Mfg. & El. Pr. Co.	33.11	24.88	122.97
Hurley	Ironwood, Bessemer R. & L. Co.	32.78	21.75	1613.50
Ladysmith	Ladysmith Lighting Co.	35.48	41.13	111.85
Lake Geneva	Equitable Electric Light Co.	40.26	42.18	77.00
Mayville	Northwestern Light & Pr. Co.	139.48	100.43	2194.77
Medford	Medford Light & Heating Co.	40.31	36.97	146.42
Mellen	Mellen Water & Light Co.	60.26	56.14	354.32
Menomonie	Chip. Val. Ry. Lt. & Pr. Co.	44.16	28.83	79.93
Merrill	Merrill Ry. & Lt. Co.	42.46	25.64	154.40
Mineral Point	Mineral Point Public Service Co.	27.03	19.32	140.09
Monroe	Monroe Electric Co.	40.36	28.74	115.45
New Richmond	New Richmond Power Co. ³	372.35	346.05	66.63
No. Milwaukee	No. Milwaukee Lt. & Power Co.	71.08	61.87	174.87
Oconto	Oconto Electric Co.	24.94	19.78	136.45
Oconto	Peoples Land & Mfg. Co.	23.26	21.34	133.45
Platteville	Interstate Lt. & Pr. Co.	349.69	321.03	531.50
Portage	Portage El. Lt. Company	57.35	40.25	112.42
Prairie du Chien	Prairie City Electric Co.	38.47	28.28	81.29
Rhineland	Rhineland Lighting Co.	36.96	33.40	179.10
Rice Lake	Red Cedar Valley El. Co.	23.92	10.85	2:8.21
Ripon	Ripon Light & Water Co.	45.53	34.63	211.35
Sparta	O. J. Newtons Sons Co.	45.46	26.28	282.36
Stevens Point	Stevens Point Lighting Co.	52.21	33.40	323.25
Stevens Point	Stevens Point Power Co. ⁴			
Tomah	Tomah El. & Tel. Co.	43.06	34.94	111.17
Tomahawk	Tomahawk Lt. Tel. & Imp. Co.	37.66	29.04	67.50
Walworth	Walworth Lighting Plant.	37.23	35.80	57.97
Washburn	Washburn El. Lt. & Pr. Co.	27.73	24.27	75.38
Waukesha	Waukesha Gas & Electric Co.	87.17	61.98	535.30
Waupaca	Waupaca El. Lt. & Ry. Co.	40.75	21.56	105.48
West Bend	West Bend Htg. & Ltg. Co.	58.20	53.48	142.16
Whitewater	Whitewater Electric Light Co.	36.41	28.81	135.08
Weighted average, private plants		\$53.36	\$42.62	\$178.54.

NOTE.—Last unit of numbers having five figures are approximate.
¹ No apportionment to electric railway department.—New construction.
² Based on estimated value of \$60,000 of leased plant.
³ This company wholesales power only.
⁴ Physical data not available.

CLASS B ELECTRIC UTILITIES.
 MISCELLANEOUS CONSUMER UNITS—Concluded.
 Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Operating expenses per consumer.	Operating revenues per consumer.	Book value per consumer.
<i>Municipal plants:</i>				
Columbus	Municipal El. Lt. Plant	\$32.54	\$25.78	\$108.89
Pt. Atkinson.....	" " " "	30.61	26.24	76.73
Hartford.....	" " " "	32.14	25.54	75.49
Kaukauna ¹	" " " "	46.28	22.98	132.34
Marshfield.....	" " " "	46.28	22.98	132.34
New London.....	" " " "	34.77	18.36	79.14
New Richmond.....	" " " "	27.36	30.29	54.50
Oconomowoc.....	" " " "	57.29	56.85	163.32
Pt. Washington.....	" " " "	38.53	22.54	394.75
Reedsburg.....	" " " "	38.53	22.54	394.75
Richland Center.....	" " " "	36.33	26.13	81.14
River Falls.....	" " " "	27.03	14.94	87.20
Shawano.....	" " " "	36.31	28.28	95.08
Stoughton.....	" " " "	35.90	21.94	162.09
Sturgeon Bay.....	" " " "	29.69	23.62	92.14
Two Rivers.....	" " " "	34.29	19.27	73.58
Weighted average, municipal plants.....		\$35.67	\$26.03	\$115.84
Weighted average, all utilities.....		\$48.78	\$38.31	\$162.26
Arithmetic average.....		53.55	43.85	163.70
Maximum.....		372.35	346.05	613.50
Minimum.....		23.26	10.85	52.26
Median.....		38.50	28.78	132.88

¹ Not reporting.

CLASS B. ELECTRIC UTILITIES.

COMPARATIVE TABLE, REVENUES PER KILOWATT-HOUR SOLD.

Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Revenues per kw-hr. sold, ex- cludes sales to public utilities and traction companies.	Revenues per kw-hr. sold, in- cludes all current sold.
	<i>Private Plants.</i>	cts.	cts.
Antigo.....	Antigo Electric Company.....	7.35	7.35
Baraboo.....	Baraboo Gas & Electric Co.....	6.24	6.24
Beaver Dam.....	Beaver Dam Light & Power Co.....	7.56	7.16
Berlin.....	Berlin Public Service Co.....	4.20	4.20
Delavan.....	United Heat, Light and Power Co.....	2.22	2.22
De Pere.....	DePere Electric Light & Power Co.....	4.26	4.26
Edgerton.....	Edgerton Electric Light Co.....	7.61	7.61
Grand Rapids.....	Electric & Water Company.....	5.27	15.27
Hudson.....	Burkhardt Milling & El. Pr. Co.....	3.68	3.68
Lake Geneva.....	Equitable Electric Light Co.....	12.32	12.32
Mayville.....	Northwestern Light & Power Co.....	3.78	3.78
Mellen.....	Mellen Water & Light Co. ²	8.24	8.24
Menomonie.....	Chippewa Valley Ry. Light & Pr. Co.....	6.84	6.84
Merrill.....	Merrill Ry. & Light Co.....	5.91	4.75
Mineral Point.....	Mineral Point Public Service Co.....	6.36	6.36
Monroe.....	Monroe Electric Company.....	9.16	9.16
No. Milwaukee.....	North Milwaukee Light & Power Co.....	5.84	5.84
Oconto.....	Oconto Electric Co.....	4.63	4.63
Oconto.....	Peoples Land & Manufacturing Co.....	4.23	4.23
Platteville.....	Interstate Light & Power Co. ²	3.65	3.66
Portage.....	Portage Electric Light Co. ²	4.57	4.57
Prairie du Chien.....	Prairie City Electric Co. ²	8.58	8.58
Rice Lake.....	Red Cedar Valley Electric Co.....	6.87	6.87
Ripon.....	Ripon Light & Water Co.....	11.89	11.89
Tomah.....	Tomah Electric & Telephone Co. ²	6.86	6.86
Walworth.....	Walworth Lighting Plant.....	6.24	6.24
Washburn.....	Washburn El. Lt. & Power Co. ²	7.17	7.17
Waukesha.....	Waukesha Gas & Electric Co.....	4.12	4.12
Waupaca.....	Waupaca El. Lt. & Ry. Co.....	9.09	9.09
West Bend.....	West Bend Heating & Lighting Co.....	10.00	10.00
Whitewater.....	Whitewater Electric Light Co. ²	13.26	13.26
Weighted average, private plants.....		4.89	4.95
	<i>Municipal Plants.</i>		
Columbus.....	Municipal Electric Light Plant.....	8.10	8.10
Ft. Atkinson.....	" " " " ".....	7.55	7.55
Hartland.....	" " " " ".....	10.25	10.25
Kaukauna.....	" " " " ".....	4.16	4.16
Oconomowoc.....	" " " " ".....	10.00	10.00
Richland Center.....	" " " " ".....	10.36	10.36
River Falls.....	" " " " ".....	4.41	4.41
Stoughton.....	" " " " ".....	8.37	8.37
Sturgeon Bay.....	" " " " ".....	9.01	9.01
Two Rivers.....	" " " " ".....	9.00	9.00
Weighted average, municipal plants.....		7.76	7.76
Weighted average, all utilities.....		5.19	5.26
Arithmetic average.....		7.05	6.91
Maximum.....		13.26	13.26
Minimum.....		2.22	2.22
Median.....		6.87	6.87

NOTE:—All other class B utilities not appearing above are omitted because of incomplete reports or unavailable data.

¹ Does not include miscellaneous items.² Estimated.

CLASS B. ELECTRIC UTILITY
DEVELOPMENT STATISTICS.
Year Ending June 30, 1912.

LOCATION.	POPULATION STATISTICS.				CONSUMER STATISTICS.			KILOWATTS CONNECTED.	
	Population in hundreds.	Consumption per 100 population.	Commercial consumption per 100 population.	Kw. connected per 100 population.	Consumers.	Kw. connected per consumer.	Commercial consumption per consumer.	Total connected load.	Commercial consumption per kilowatt connected.
<i>Private Plants.</i>									
Antigo.....	72	7,093	5,434	1,282	1,081	0.85	361	923	424
Baraboo.....	63	4,000	2,857	.....	458	.....	393	.....	.....
Beaver Dam.....	68	7,013	4,842	1,641	676	1.65	487	1,116	295
Berlin.....	46	16,189	16,189	2,450	489	2.30	1,523	1,127	661
Burlington.....	32	10,342	.....	2,394	532	1.44	.....	766	.....
Delavan.....	25	4,611	3,215	864	304	.71	264	216	372
De Pere.....	45	12,793	10,178	2,740	591	2.09	775	1,233	371
Edgerton.....	25	7,286	6,271	2,044	386	1.32	406	511	307
Grand Rapids.....	65	9,541	5,798	1,923	810	1.54	465	1,250	301
Hudson.....	28	19,673	19,673	1,707	612	.78	900	478	1,152
Hurley.....	30	.....	.....	.....	366	.....	.....	.....	.....
Ladysmith.....	24	.....	.....	.....	304	.....	.....	.....	.....
Lake Geneva.....	31	7,434	6,498	3,164	705	1.39	286	981	205
Mayville.....	23	49,440	46,890	3,856	308	2.88	3,502	887	1,216
Medford.....	18	9,334	.....	394	177	.44	.....	71	.....
Mellen.....	18	6,182	5,071	500	111	.81	822	90	1,014
Menomonie.....	50	5,954	3,382	1,086	461	1.18	367	543	311
Merrill.....	87	5,080	4,010	986	657	1.31	531	858	407
Mineral Point.....	29	11,383	9,770	1,507	396	1.10	715	437	648
Monroe.....	44	6,460	5,554	1,659	645	1.13	379	730	335
New Richmond ⁶.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
North Milwaukee.....	19	12,435	7,666	1,589	194	1.56	751	302	482
Oconto ⁷	56	8,070	6,453	1,134	827	.77	437	635	569
Platteville.....	45	114,170	.....	6,492	550	5.31	.....	2,921	.....
Portage.....	54	11,985	.....	1,228	516	1.28	.....	663	.....

CLASS B. ELECTRIC UTILITIES—Concluded.
DEVELOPMENT STATISTICS.
Year Ending June 30, 1912.

LOCATION.	POPULATION STATISTICS.				CONSUMER STATISTICS.			KILOWATTS CONNECTED.	
	Population in hundreds.	Consumption per 100 population.	Commercial consumption per 100 population.	Kw. connected per 100 population.	Consumers.	Kw. connected per consumer.	Commercial consumption per consumer.	Total connected load.	Commercial consumption per kilowatt connected.
<i>Private Plants—Concluded.</i>									
Prairie du Chien.....	31	14,226			292				
Rhineland.....	56			193	636				
Rice Lake.....	40	5,936	4,456	1,387	682	.81	251	565	321
Ripon.....	37	3,269	2,039	900	316	1.05	239	333	227
Sparta.....	40				464				
Stevens Point.....	87			521	446	1.02		453	
Tomah.....	34	16,385			346				
Tomahawk.....	29	14,138		1,228	287	1.24		356	
Walworth.....	8	18,110	14,684	4,425	243	1.46	483	354	332
Washburn.....	38	3,368		221	331	.25		356	
Waukesha.....	87	10,640	7,084	1,582	437	3.15	1,410	1,376	448
Waupaca.....	28	14,701			336				
West Bend.....	25	14,181			245				
Whitewater.....	32	13,397		1,568	454	1.08		495	
Weighted av. private plants.....		11,430	7,432	1,612		1.45	630		469
<i>Municipal Plants.</i>									
Columbus.....	25	5,594	4,533	1,924	348	1.38	326	481	236
Ft. Atkinson.....	39	7,545	6,519	1,192	726	.64	350	465	547
Hartford.....	30	24,190	4,190		526		239		
Kaukauna.....	47	5,411		1,704				801	
Marshfield.....	58	4,181		388	535	.42		225	
New London.....	34	4,656		112	397	.10		38	
New Richmond ^s	20			1,825	402	.91		365	
Oconomowoc.....	31	8,354		2,316	452	1.52		718	
Port Washington.....	38	4,806			334				
Reedsburg.....	26	8,060			479				

<i>Municipal Plants—Concl.</i>									
Richland Center.....	27	5,570	.....	322	429	.20	.....	87	.....
River Falls.....	20	12,705	5,226	2,160	415	1.04	252	432	242
Shawano.....	29	.....	.....	703	317	.64	.....	204	.....
Stoughton.....	48	4,807	3,255	104	538	.92	290	497	314
Sturgeon Bay.....	43	3,718	2,686	.....	485	.84	229	.....	.....
Two Rivers.....	49	2,620	2,059	214	337	.31	299	105	961
Weighted av., mun. plants..		5,417	4,713	1,035		.67	286		368
Weighted average.....		9,830	6,956	1,466		1.24	552		457
Arithmetic average.....		10,570	7,806	1,562		1.24	611		488
Maximum.....		114,170	46,890	6,492		5.31	3,502		1,216
Minimum.....		2,620	2,039	104		.20	229		205
Median.....		6,385	5,434	1,447		1.09	393		372

NOTE: Sales to other utilities and traction power excluded in all cases.
 Units not computed from incomplete reports or unavailable data are blank above.

- ¹Estimated from reports.
- ²Commercial sales only.
- ³Commercial lighting only.
- ⁴Approximately 50% apportionable to single consumer.
- ⁵Approximately 33% apportionable to single consumer.
- ⁶Included with city plant under municipal developments. This company carries 8% of the consumers and 28% of the connected load.
- ⁷As between Oconto Electric Company and Peoples' Light & Mfg. Company in Oconto, the former carries 35% of the consumers; 35% of consumption; 44% of commercial consumption; and 48% of the connected load.
- ⁸Includes New Richmond Power Company as shown in note 6.

CLASS C. ELEC
REVENUES AND EX
Year Ending

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	Operating Revenue.				
		Per capita 1910 census.	Per consumer.	Per kw. con- nected.	Per kw. capa- city.	Per kw.-hr. gen- erated in cts.
<i>Private Plants.</i>						
Albany.....	Albany Elect. Lt. & Mfg. Co.....	\$3.66	\$16.11	\$86.56	\$54.44	5.10
Alma.....	Alma Elect. Lt. Co.....	4.01	28.38	66.20	81.02	7.79
Amery.....	Amery Elect. Co.....	4.54	36.73	71.18	74.74	3.77
Amherst.....	B. E. Dwinell Co.....	4.38	24.13	51.93	45.88	10.20
Athens.....	Athens Elect. Lt. & Pr. Co.....	4.90	30.32	39.67	46.65	6.82
Augusta.....	J. L. Ball El. Lt. Co.....	2.85	31.40	48.47	28.63	9.78
Baldwin.....	Baldwin Elec. Lt. & Fuel Co.....	6.26	24.01	54.41	73.08	6.83
Bangor.....	Hussa Bros. Lt. & Pr. Co.....	6.45	26.54	39.86	111.60	.....
Belleville.....	Belleville Mills & El. Lt. Plant.....	2.87	50.51	75.73	67.31	5.52
Bloomer.....	Bloomer Elect. Lt. & Pr. Co.....	2.60	26.72	42.36	.....	.....
Boyd.....	Boyd Lumber Imp. Co.....	3.92	70.00	.....	.....	.....
Brillion.....	F. Paustian Mfg. Co.....	6.14	41.43	.....	81.66	8.16
Brodhead.....	Brodhead Elect. Co.....	5.56	19.60	.....	60.20	6.96
Browtown.....	Browtown Elect. Co.....	4.30	35.35	.....	47.75	11.45
Campbellsport.....	Campbellsport El. Lt. & Pr. Co.....	3.04	23.63	.....	48.67	12.17
Cazenovia.....	Cazenovia Lt. & Pr. Co.....	2.06	18.37	37.60	64.66	.....
Cedar Grove.....	Wis. Fdry. & Steel Wks.....	2.46	29.93	122.76	.....	.....
Chetek.....	Chetek Lt. & Pr. Co.....	3.11	21.65	35.83	42.94	4.21
Chilton.....	Calumet Service Co.....	3.61	27.32	.....	40.14	.....
Darlington.....	Darlington El. Lt. & W. Pr. Co.....	4.25	30.63	40.95	80.94	5.49
Dodgeville.....	Dodgeville El. Lt. Co.....	3.88	43.46	73.21	41.21	10.70
Durand.....	Durand Lt. & Pr. Co.....	6.08	31.07	29.32	26.10	2.08
Elkhart Lake.....	Milw. & Fox R. Val. Ry. Co.....	8.33	31.42	.....	76.86	.....
Ellsworth.....	Ellsworth Ht. Lt. & Pr. Co.....	7.55	51.99	.....	.....	.....
Elmwood.....	Enter County Lt. & Pr. Co.....	2.40	31.23	16.79	.....	4.46
Endeavor.....	Endeavor Lt. & Pr. Co.....	1.22	12.08	46.40	38.66	.....
Fountain City.....	Fountain City Lt. & Pr. Co.....	5.74	54.79	27.73	.....	3.74
Frederick.....	Frederick Elect. Lt. Plant.....	3.58	26.16	.....	40.70	9.16
Galesville.....	Davis Mill Co.....	4.69	24.25	28.49	25.32	5.56
Gays Mills.....	Gays Mills Elect. Lt. Plant.....	2.79	18.51	72.98	51.82	3.44
Gillett.....	Great Northern Pail Co.....	2.96	23.18	.....	48.85	9.27
Glenwood.....	Glen-Downing El. Lt. & Pr. Co.....	5.25	32.75	104.40	83.53	.....
Grafton.....	Grafton Lt. Ht. & Pr. Co.....	3.15	42.25	19.09	10.31	5.16
Hayward.....	Hayward Elect. Lt. & Pr. Co.....	5.24	39.90	.....	44.43	.....
Horicon.....	Horicon Lt. & Pr. Co.....	2.04	45.16	20.10	.....	7.84
Iron River.....	Iron River W. Lt. & Pr. Co.....	6.70	37.30	50.88	.....	.....
Kewaskum.....	Kewaskum Elec. Lt. Co.....	4.24	50.94	103.10	.....	.....
La Farge.....	La Farge Elect. Co.....	2.66	17.60	.....	29.03	.....
Lancaster.....	Lancaster Elect. Lt. Co.....	4.79	46.62	31.88	63.67	11.11
Manawa.....	Little Wolf River Lbr. Co.....	2.98	24.43	.....	.....	.....
Mauston.....	Mauston Elect. Ser. Co.....	5.19	40.10	.....	75.40	.....
Milwaukee.....	Railway Exch. Bldg. Co.....	0.01	51.05	28.43	35.49	4.09
Mondovi.....	Mondovi Lt. & Pr. Co.....	2.77	26.75	35.03	61.11	.....
Montello.....	Montello Granite Co.....	3.43	22.13	36.37	31.53	5.33
Mt. Horeb.....	Mt. Horeb Elect. Lt. Co.....	3.57	24.94	46.77	74.83	.....
Necedah.....	Necedah Mfg. & Elect. Co.....	3.83	33.94	80.79	80.79	8.00
Neillsville.....	Neillsville Elect. Co.....	2.90	36.81	.....	.....	.....
Neshkora.....	Neshkora Lt. & Pr. Co.....	18.55	45.06	87.87	.....	.....
No. Freedom.....	No. Freedom El. Lt. Co.....	1.30	.....	.....	36.58	.....
Omro.....	Omro Elect. Lt. Co.....	3.41	34.21	30.48	76.83	10.90

TRIC UTILITIES.
PENSES PER UNIT.
June 30, 1912.

Operating Expenses, excl. Depreciation, Taxes and Interest.					Taxes.					Non-operating Revenue.				
Per capita 1910 census.	Per consumer.	Per kw. connected.	Per kw. capacity.	Per kw-hr. generated in cts.	Per capita 1910 census.	Per consumer.	Per kw. connected.	Per kw. capacity.	Per kw-hr. generated in cts.	Per capita 1910 census.	Per consumer.	Per connected.	Per kw. capacity.	Per kw-hr. generated in cts.
\$2.41	\$10.62	\$57.06	\$35.89	3.36	\$0.09	\$0.39	\$2.12	\$1.33	0.12	\$0.14	\$0.60	\$3.21	\$2.02	0.19
3.80	27.80	62.69	76.72	7.38	.08	.59	1.32	1.62	.15					
3.43	28.96	53.78	56.46	2.85	.16	1.36	2.52	2.64	.13					
2.36	21.81	27.98	24.73	5.49	.25	2.31	2.97	2.62	.58	.31	2.88	3.70	3.27	.73
3.31	24.75	26.81	31.52	4.61	.13	1.01	1.09	1.28	.19	.24	1.83	1.99	2.34	.34
2.31	29.17	39.16	23.12	7.90	.13	1.67	2.24	1.32	.45	.03	.43	.58	.34	.12
3.83	19.11	33.30	44.73	4.18	.16	.79	1.38	1.86	.17	.17	.84	1.47	1.98	.18
5.21	23.72	32.20	90.17		.24	1.10	1.49	4.16		.37	1.70	2.31	6.46	
2.25	39.58	59.36	52.80	4.33	.07	1.24	1.86	1.65	.14					
2.51	25.58	40.84			.11	1.14	1.83							
4.62	40.13	37.23	61.53	6.1	.15	1.30	1.21	2.00	.20					
4.68	16.51		50.73	5.87	.08	.29		.91	.12					
5.90	84.00		113.43	27.21										
1.02	7.95		16.37	4.01	.02	.15		.30						
.27	2.41	4.93	8.47		.10	.94	1.92	3.31						
2.01	24.41	100.36												
3.08	21.49	35.57	42.62	4.7	.09	.66	1.09	1.31	.13	.04	.26	.43	.52	.05
4.18	31.68		46.55		.09	.67		.99						
3.52	25.33	33.86	66.92	4.54	.09	.70	.93	1.84	.12	.18	1.28	1.71	3.38	.23
2.85	31.92	53.76	31.92	7.86	1.10	1.13	1.91	1.13	.28					
2.51	12.83	12.11	10.78	.86	.23	1.18	1.12	.99	.79	.04	.22	.21	.19	1.51
1.22	38.39		93.91		.32	1.01		2.48						
4.46	30.67				.25	1.75								
2.21	28.74	15.45		4.11	.002	.03			.04	1.47	19.17	10.31		2.74
.95	9.44	36.26	30.22											
4.73	45.12	22.83		3.08	.05	.46	.23		.32	.14	1.38	.69		.09
2.77	20.19		31.40	7.07	.06	.45		.70	.16					
2.03	10.53	12.37	10.99	2.41	.18	.95	1.12	.99	.22					
2.26	15.01	59.19	42.03	2.79	.06	.44	1.72	1.22	.08	.18	1.18	4.67	3.32	.22
2.22	17.35		36.57	6.94										
4.74	29.57	94.28	75.42		.05	.30	.96	.76						
2.74	36.82	16.63	8.98	4.50	.31	4.17	1.88	1.02	.51	.37	4.99	2.26	1.22	.61
1.28	28.22	12.56		4.90	.14	3.10	1.38		.54					
5.20	28.92	39.45			.43	2.41	3.28							
3.58	43.00	87.00												
1.88	12.43		20.52											
4.28	41.70	28.52	56.95	9.94	.08	.81	.56	1.11	.19	.29	2.87	1.97	3.93	.68
2.10	17.25													
4.02	31.08		58.43		.56	4.35		8.18		.42	3.28		6.17	
.01	60.34	33.60	41.94	4.84										
1.39	13.46	17.62	30.74	.10	1.10	1.02	1.34	2.33		.05	.49	1.65	1.13	
7.42	47.94	78.80	68.30	11.54	.07	.47	.78	.67	.11					
3.14	21.93	41.13	65.81		.05	.34	.63	1.01						
2.45	21.74	51.75	51.75	5.17	.16	1.41	3.36	3.36	.33					
2.55	32.36				.07	.96								
1.65			46.34		.05			1.52						
2.61	26.25	23.39	58.95	8.40	.09	.93	.83	2.08	.30	.34	3.45	3.07	7.74	1.10

CLASS C. ELEC
REVENUES AND EX
Year Ending

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	Operating Revenues.				
		Per capita 1910 census.	Per consumer.	Per kw. connected.	Per kw. capacity.	Per kw-hr. generated in cts.
	<i>Private Plants—Concl.</i>					
Owen.....	John S. Owen Lbr. Co.....	6.59	59.90	62.22	46.78	.....
Pardeeville.....	Pardeeville El. Lt. Plant.....	2.88	20.05	30.77	35.59	7.10
Park Falls.....	Park Falls W. Lt. & Pr. Co.....	4.08	47.65	47.66	67.10	.....
Phillips.....	Phillips Lt. W. Ht. & Pr. Co.....	11.66	87.34	122.07	100.92	11.35
Plainfield.....	Starks & Skeel.....	4.17	24.69	44.63	.....	.....
Rio.....	Rio Elect. Lt. Plant.....	4.71	44.85	.....	55.31	.....
Seymour.....	Seymour Elect. Lt. Plant.....	3.07	25.45	18.22	68.21	7.65
Sheboygan Falls.....	Sheb. Falls Lt. & Pr. Co.....	5.13	64.79	.....	9.70	.....
Soldiers Grove.....	Soldiers Grove El. Lt. Co.....	3.59	22.62	.....	63.93	.....
Spring Valley.....	Spring Valley Lt. & Pr. Co.....	4.31	48.77	37.27	46.60	9.26
Stanley.....	Northwestern Lbr. Co.....	3.30	38.26	122.75	.....	.....
Stratford.....	R. Connor Elect. Lt. Plant.....	4.53	93.45	.....	.....	.....
Valders.....	Oslo Pr. & Lt. Co.....	4.45	34.78	17.51	33.39	.....
Viroqua.....	Viroqua Elec. Lt. Co.....	4.46	37.64	33.94	51.03	9.23
Waterford.....	Waterford Mfg. & Lt. Co.....	4.45	24.14	11.85	43.05	8.33
Westfield.....	Westfield Mfg. & El. Lt. Co.....	4.63	45.44	.....	71.80	.....
West Salem.....	Neshonoc Lt. & Pr. Co.....	4.82	31.41	.....	.....	.....
Weyauwega.....	Weyauwega Elect. Lt. Co.....	2.16	19.12	27.79	27.79	4.47
Wild Rose.....	Wild Rose Mfg. Co.....	3.39	26.65	.....	62.18	13.32
Wilton.....	Wilton Lt. & Pr. Co.....	2.66	39.93	60.94	54.31	.....
Winneconne.....	Winneconne Ht. Lt. & Pr. Co.....	2.47	31.81	53.72	92.87	12.47
Wittenberg.....	Wittenberg Elect. Co.....	6.23	49.60	44.12	50.33	6.21
Weighted average..		\$0.72	\$35.62	\$47.99	\$49.13	6.46
Minimum.....		.01	12.08	11.85	10.31	2.08
Maximum.....		18.55	93.45	122.7	111.60	13.32
Arithmetic average.....		4.38	35.65	51.21	55.97	7.55
Median.....		4.05	31.42	44.12	53.06	7.65

TRIC UTILITIES.

PENSES PER UNIT.—Continued.

June 30, 1912.

Operating Expenses, excl. Depreciation, Taxes and Interest.					Taxes.					Non-operating Revenue.				
Per capita 1910 census.	Per consumer.	Per kw. connected.	Per kw. capacity.	Per kw-hr. generated in cts.	Per capita 1910 census.	Per consumer.	Per kw. connected.	Per kw capacity.	Per kw-hr. generated in cts.	Per capita 1910 census.	Per consumer.	Per kw. connected.	Per kw. capacity.	Per kw-hr. generated in cts.
4.24	38.57	33.62	30.12	9.50	.10	.91	.80	.71	.....	.49	4.47	3.90	3.49	.....
3.92	27.23	41.80	48.34	.....	.11	.80	1.23	1.43	.29	.....	.....	.....	.....	.....
3.97	46.37	46.38	65.30	.....	.13	1.50	1.50	2.12	.....	.02	.18	.18	.25	.06
9.11	68.24	95.40	78.86	8.87	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4.03	38.26	.....	47.18	.....	.08	.76	.....	.94	.....	.05	.49	.....	.61	.....
2.67	22.09	15.82	59.21	6.64	.06	.49	.35	1.32	.15	.10	.84	.60	2.25	.25
4.22	53.35	.....	49.16	.....	.03	.45	.....	.41	.....	.....	.....	.....	.....	.....
4.38	49.47	37.81	47.26	9.39	.19	2.14	1.64	2.05	.41	.....	.....	.....	.....	.....
2.83	32.76	105.09	.....	.....	.02	.19	.63	.....	.....	.10	1.21	3.88	.....	.....
6.04	47.20	23.76	45.31	.....	.04	.30	.02	.29	.....	.....	.....	.....	.....	.....
2.37	20.03	18.06	27.16	4.91	.15	1.29	1.17	1.75	.32	.....	.....	.....	.....	.....
2.75	14.95	7.34	26.67	5.16	.08	.42	.21	.75	.15	.....	.....	.....	.....	.....
2.83	26.33	.....	41.61	.....	.15	1.42	.....	2.25	.....	.....	.....	.....	.....	.....
3.56	23.17	.....	.....	.....	.51	3.31	.....	.....	.....	.....	.....	.....	.....	.....
1.34	11.88	17.27	17.27	2.78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3.36	26.43	.....	61.67	13.22	.14	1.14	.....	2.67	.57	.....	.....	.....	.....	.....
1.20	17.92	27.35	24.38	.....	.09	1.30	1.98	1.77	.....	.....	.....	.....	.....	.....
3.25	41.91	70.78	122.38	16.44	.18	2.33	3.93	6.80	.91	1.70	21.93	37.06	64.06	8.60
3.49	27.80	24.74	28.22	3.48	.18	1.43	1.27	1.45	.18	.04	.34	.31	.35	.04
\$0.53	\$26.20	\$33.14	\$37.88	\$5.10	\$0.018	\$0.91	\$1.21	\$1.26	.16	\$0.016	\$0.78	\$1.23	\$1.12	.19
.01	2.41	4.93	8.47	2.41	.002	.03	.02	.29	.04	.14	1.38	.69	.52	.09
9.11	84.00	105.09	122.38	27.21	.56	4.17	3.93	8.18	.91	1.70	21.93	37.06	64.06	8.60
3.17	29.11	40.56	46.94	6.74	1.37	1.16	1.32	1.82	.28	.29	3.10	3.94	5.44	.97
2.84	26.43	34.72	45.82	5.17	.10	.96	1.46	1.43	.19	.18	1.24	1.99	2.25	.24

CLASS C.—ELECTRIC
REVENUES AND EXPENSES
Year Ending

Location.	Operating Revenues.				
	Per capita.	Per consumer.	Per kw. connected.	Per kw. capacity	Per kw.-hr. generated.
<i>Municipal Plants.</i>					
Algoma.....	\$2.68	\$29.98	\$28.79	\$74.36	cts. 6.06
Arcadia.....	2.12	13.48	22.81	17.82	4.85
Barron.....	2.99	18.89	44.68	49.76	.....
Bayfield.....	3.52	26.09	42.04	37.76	5.06
Belmont.....	3.43	35.46	110.00	27.42	.....
Benton.....	3.09	24.38	.....	.....	7.26
Blair.....	3.76	16.93	.....	37.57	2.39
Blanchardville.....	2.15	16.89	.....	.....	.....
Boscobel.....	4.17	26.74	.....	77.03	9.08
Bruce.....	9.67	69.89	.....	193.36	.....
Cadott.....	2.63	25.50	54.98	33.58	.....
Cashton.....	6.17	43.43	83.80	45.74	10.28
Cassville.....	2.16	24.52	.....	28.76	.....
Cedarburg.....	6.03	48.22	91.15	49.30	6.26
Crandon.....	1.77	39.67	.....	43.37	45.08
Cuba City.....	2.76	19.49	.....	35.61	7.17
Cumberland.....	4.56	35.60	31.38	37.63	.....
Elkhorn.....	6.07	36.77	.....	.....	7.32
Elroy.....	3.20	22.39	33.89	38.36	.....
Evansville.....	5.17	37.41	30.78	.....	8.76
Fennimore.....	2.18	16.14	.....	52.28	.....
Grantsburg.....	4.64	23.68	.....	66.77	.....
Greenwood.....	4.47	24.77	58.06	49.54	2.43
Jefferson.....	3.97	33.23	44.07	37.23	8.97
Kewaunee.....	2.87	24.87	35.90	114.78	.....
Kilbourn.....	3.51	29.55	42.30	89.85	3.32
Lake Mills.....	4.21	38.81	96.48	93.73	6.73
Lodi.....	3.27	35.72	.....	63.37	.....
Loyal.....	3.20	38.09	.....	.....	.....
Mazomanie.....	2.63	24.60	65.82	35.10	10.53
Merrillan.....	2.77	13.94	29.98	.....	.....
Monticello.....	4.60	22.21	.....	51.44	.....
Muscoda.....	3.28	18.32	39.46	26.20	10.32
Plymouth.....	8.14	45.08	71.98	64.61	.....
Princeton.....	3.53	25.19	.....	.....	.....
Randolph.....	4.65	30.46	.....	96.13	9.83
Rib Lake.....	3.12	29.14	.....	57.31	.....
Shell Lake.....	2.46	26.71	.....	40.96	.....
South Wayne.....	1.11	10.32	.....	15.48	.....
Spring Green.....	6.37	43.75	.....	152.76	.....
Thorp.....	4.39	38.72	.....	.....	.....
Waterloo.....	3.94	27.34	22.05	38.50	6.29
Waupun.....	6.48	38.21	.....	72.62	.....
Westby.....	3.51	24.81	83.80	79.40	9.26
Whitehall.....	2.85	13.41	.....	38.01	.....
Weighted average.....	\$4.18	\$31.04	\$45.28	\$52.02	6.44
Minimum.....	1.11	10.32	22.05	15.48	2.39
Maximum.....	9.67	69.89	110.00	193.36	10.53
Arithmetic av. util. reporting item	3.87	29.08	52.92	57.66	7.11
Median.....	3.51	26.71	45.05	49.30	7.22

UTILITIES.

PER UNIT—Concluded.

June 30, 1912.

Operating Expenses. Excluding Taxes, Depreciation and Interest.					Non Operating Revenues.				
Per capita.	Per consumer.	Per kw. connected.	Per kw. capacity	Per kw-hr. generated.	Per capita.	Per consumer.	Per kw. connected.	Per kw. capacity	Per kw-hr. generated.
				cts.					cts.
\$2.39	\$26.70	\$25.64	\$66.21	5.40					
2.24	14.28	24.17	18.87	5.14					
1.21	7.68	18.15	20.21		\$0.08	\$0.49	\$1.15	\$1.29	
2.17	16.11	25.96	23.33	3.12	.60	4.44	7.16	6.43	0.86
3.27	33.84	104.99	26.18		.60	5.31	16.48	4.11	
4.17	18.79		41.71	2.66					
1.77	13.87				.01	.89			
1.89	18.31	39.47	24.11						
3.50	24.63	47.54	25.95	5.83	.08	.57	1.10	.60	.13
5.34	42.74	80.80	43.71	5.55	.14	1.12	2.12	1.15	.15
1.72	38.57		42.17						
3.02	21.29		38.89	7.83					
4.77	37.26	32.84	39.39						
3.81	23.06			4.59					
2.99	21.62	17.79		5.06	.04	.27	.22		.006
2.47	13.21	32.14	27.42	1.35					
1.74	14.61	19.37	16.36	3.94	.16	1.34	1.78	1.50	.36
3.06	25.74	36.84	78.24	2.89					
3.64	33.58	83.50	55.16	5.82	.51	4.66	11.59	7.66	.81
3.22	35.16		62.38						
1.92	18.03	48.22	25.71	7.71					
5.63	28.35	60.96							
3.88	18.73		43.39		1.27	6.11		14.17	
6.51	36.43	78.48	52.10	20.53					
5.58	30.90	49.35	44.29						
1.36	9.70								
4.28	28.05		88.50	9.05	.29	1.89		5.96	.61
1.95	21.20		32.51						
2.82	26.29		39.45						
6.29	43.23		151.00						
3.82	33.52								
5.88	40.74	32.84	57.34	9.37	.32	2.20	1.77	3.10	.51
5.14	30.29		57.57						
2.82	19.90	67.22	63.68	7.43					
2.97	13.97		39.57						
\$2.78	\$20.66	\$34.12	\$35.37	4.74	\$0.09	\$0.47	\$1.39	\$1.36	.25
1.21	7.68	17.79	16.36	1.35	.01	.27	.22	.60	.006
6.51	43.23	104.99	151.00	20.53	1.27	6.11	16.48	14.17	.86
3.41	25.17	46.31	46.39	6.29	.34	2.44	4.82	4.59	.429
3.06	24.63	38.15	41.71	5.47	.23	1.61	1.78	3.60	.44

Financial and Operating Statistics of Public Utilities.—G. Unit Costs. 2. Gas Utilities.

CLASS A, GAS UTILITIES.
 PERCENTAGE ANALYSIS OF OPERATING EXPENSES.
 Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Production.	Distribu- tion.	Municipal contract lighting.	Commer- cial.	General.	Undistrib- uted.	Total.
Appleton.....	Wis. Trac. Lt. Ht. & Pr. Co.....	68.13	9.99	.....	5.92	9.43	6.53	100.00
Ashland.....	Ashland Lt. Pr. & St. Ry. Co.....	63.28	6.20	.....	4.51	23.80	2.21	100.00
Beloit.....	Beloit Water, Gas & Elec. Co.....	72.94	10.42	.....	1.73	14.15	.76	100.00
Chippewa Falls...	Chip. Val. Ry. Lt. & Pr. Co.....	71.50	10.53	.....	1.09	14.22	2.66	100.00
Eau Claire.....	Eau Claire Gas Light Co.....	73.36	7.41	.....	4.75	13.38	1.10	100.00
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.....	73.30	9.95	.....	4.67	9.96	2.12	100.00
Green Bay.....	Green Bay Gas & Elec. Co.....	70.68	11.45	.....	4.77	10.08	3.02	100.00
Janesville.....	New Gas Light Co.....	54.82	10.09	.....	22.59	10.59	1.91	100.00
Kenosha.....	Kenosha Gas & Elec. Co.....	64.67	12.62	.....	10.20	8.70	3.81	100.00
La Crosse.....	La Crosse Gas & Elec. Co.....	86.33	3.12	.....	1.69	5.74	3.12	100.00
Madison.....	Madison Gas & Elec. Co.....	59.61	19.22	.....	8.78	12.39	.....	100.00
Manitowoc.....	Manitowoc Gas Co.....	71.58	3.14	.....	1.43	21.15	2.70	100.00
Marinette.....	Men & Mar. Lt. & Power Co.....	74.38	5.97	.....	9.10	6.14	4.41	100.00
Milwaukee.....	Milwaukee Gas Light Co.....	61.12	18.57	.55	12.89	6.87	.....	100.00
Oshkosh.....	Oshkosh Gas Light Co.....	73.06	4.55	.....	2.46	15.22	4.71	100.00
Racine.....	Racine Gas Light Co.....	73.70	9.65	.....	6.55	6.52	3.58	100.00
Sheboygan.....	Sheboygan Gas Light Co.....	67.13	7.25	.....	7.90	15.18	2.54	100.00
Superior.....	Superior Water, Light & Power Co.....	60.62	16.56	.....	14.13	8.69	.....	100.00
Watertown.....	Watertown Gas & Elec. Co.....	73.83	4.89	2.59	5.76	8.93	4.00	100.00
Wausau.....	Wausau Gas Co.....	74.29	7.73	.....	3.84	12.83	1.31	100.00
Weighted average.....		65.83	14.03	.31	9.62	8.79	1.42	100.00
Minimum for utilities reporting this item.....		54.82	3.12	.55	1.09	5.74	.76	.....
Maximum.....		86.33	19.22	2.59	22.59	23.80	6.53	.....
Arithmetic average for all utilities.....		69.42	9.47	.16	6.74	11.70	2.52	.....
Arithmetic average for utilities reporting this item...		69.42	9.47	1.57	6.74	11.70	2.97	.....
Median.....		71.54	9.80	1.57	5.26	10.34	2.70	.....

CLASS A. GAS UTILITIES.
GAS UNIT COSTS.
Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Production coal gas per M cu. ft. made.	Production water gas per M cu. ft. made.	Production gas purchased per M cu. ft. purchased.	Net earnings from res. per. M cu. ft. coal gas made.	Total production less residuals per M cu. ft. purchased.
Appleton.....	Wis. Tr., Lt., Ht. & Pr. Co.	\$0.596	\$0.313	.....	\$0.355	\$0.253
Ashland.....	Ashland L. P. & St. Ry. Co.	.....	.578	.....	.....	.578
Beloit.....	Beloit Water, Gas & El. Co.	.732	.396	.....	.404	.353
Chippewa Falls...	Chipp. Val. Ry. L. & P. Co.	.....	.653	.....	.....	.653
Eau Claire.....	Eau Claire Gas Lt. Co.	.677	.....	.....	.401	.276
Fond du Lac..	Eastern Wis. Ry. & Lt. Co.	.745	.....	.....	.406	.339
Green Bay.....	Green Bay Gas & El. Co.	.675	.....	.....	.307	.368
Janesville.....	New Gas Light Co.	.....	.388	.....	.....	.381
Kenosha.....	Kenosha Gas & Electric Co.	.....	.335	\$0.422	.....	.367
La Crosse.....	La Crosse Gas & Elec. Co.	.847	.....	.....	.480	.367
Madison.....	Madison Gas & Elec. Co.	.....	.344	.....	.....	.341
Manitowoc.....	Manitowoc Gas Co.	.615	.....	.....	.365	.250
Marinette.....	Men. & Mar. Lt. & Tr. Co.	.667	.....	.....	.310	.357
Milwaukee.....	Milwaukee Gas Lt. Co.	.431	.345	.183	.266	² .182
Oshkosh.....	Oshkosh Gas Lt. Co.	.664	.....	.....	.339	.325
Racine.....	Racine Gas Lt. Co.	.526	.....	.....	.335	.191
Sheboygan.....	Sheboygan Gas Lt. Co.	¹ .625	.....	.....	.312	.313
Superior.....	Superior Water Lt. & Pr. Co.	.....	.....	.387	.....	.387
Watertown.....	Watertown Gas & Elec. Co.	.705	.....	.....	.228	.477
Wausau.....	Wausau Gas Co.	.853	.....	.....	.388	.465
Weighted average.....		\$0.585	\$0.364	\$0.192	\$0.332	\$0.225
Minimum for utilities reporting this item..		.431	.313	.183	.228	.182
Maximum.....		.853	.653	.422	.480	.653
Arithmetic average, all utilities.....		.468	.168	.050	.245	.361
Arith. av., for utilities reporting this item.		.668	.419	.331	.350	.361
Median.....		.671	.366	.387	.347	.368

¹ Includes \$3^c1.97 water gas production.

² Includes \$1,679.65 credit for gas used by company.

CLASS A. GAS UTILITIES.
GAS UNIT COSTS.
Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	M cubic feet sold.	Total production per M cu. ft. total sales.	Total production less residuals per M cu. ft. total sales.	Distribution per M cu. ft. sold.	Municipal contract lighting per M cu. ft. sold.	Commercial per M cu. ft.	General per M cu. ft.	Undistributed per M cu. ft.	Total of foregoing without deducting residuals per M cu. ft.	Total of foregoing less residuals per M cu. ft.	Taxes per M cu. ft.
Appleton	Wis. Tr. Lt. Ht. & Pr. Co....	73,094.4	\$0.629	\$0.293	\$0.092	.....	\$0.055	\$0.087	\$0.060	\$0.923	\$0.587	\$0.065
Ashland	Ashland Lt., Pr. & St. Ry. Co.	13,434.4	.668	.668	.066	.....	.048	.251	.023	1.056	1.056	.062
Beloit	Beloit Water. Gas & Elec. Co.	53,814.7	.709	.411	.101	.....	.017	.137	.007	.971	.673	.066
Chippewa Falls	Chipp. Val. Ry., Lt. & Pr. Co.	¹ 6,971.7	.694	.694	.102	.....	.011	.138	.026	.971	.971	.154
Eau Claire	Eau Claire Gas Light Co.....	¹ 40,076.5	.737	.300	.074	.....	.048	.134	.011	1.004	.567	.103
Fond du Lac....	Eastern Wis. Ry. & Lt. Co....	54,428.2	.844	.385	.115	.....	.054	.115	.024	1.152	.693	.051
Green Bay	Green Bay Gas & Elect. Co.	53,730.0	.838	.458	.136	.....	.056	.120	.036	1.186	.806	.059
Janesville	New Gas Light Company.....	60,767.7	.411	.404	.076	.....	.170	.079	.014	.750	.743	.053
Kenosha	Kenosha Gas & Electric Co.	112,649.8	.420	.420	.082	.....	.066	.056	.025	.649	.649	.025
La Crosse	La Crosse Gas & Electric Co.	79,324.4	.929	.403	.034	.....	.018	.062	.034	1.077	.551	.073
Madison	Madison Gas & Electric Co....	162,867.4	.395	.392	.128	.....	.058	.082	.....	.663	.660	.041
Manitowoc	Manitowoc Gas Co.....	41,653.5	.680	.276	.030	.....	.014	.201	.026	.951	.547	.075
Marinette	Meno. & Marin. Lt. & Tr. Co.	12,452.4	.790	.423	.063	.....	.097	.065	.047	1.062	.695	.107
Milwaukee	Milwaukee Gas Light Co.....	3,032,445.2	.220	.189	.067	.002	.046	.025	.....	.360	.329	.062
Oshkosh	Oshkosh Gas Light Co.....	90,779.6	.722	.353	.045	.....	.024	.151	.047	.989	.620	.045
Racine	Racine Gas Light Co.....	270,261.1	.578	.210	.076	.....	.051	.051	.028	.784	.416	.063
Sheboygan	Sheboygan Gas Light Co.....	44,429.1	.705	.354	.076	.....	.083	.160	.027	1.051	.700	.104
Superior	Superior Water, Lt. & Pr. Co.	² 67,260.0	.417	.417	.114	.....	.097	.060	.....	.688	.688	.041
Watertown	Watertown Gas & Elect. Co.	27,732.0	.858	.581	.057	.030	.067	.104	.046	1.162	.885	.034
Wausau	Wausau Gas Company.....	25,257.2	1.000	.545	.104	.....	.052	.173	.018	1.347	.892	.085
Weighted average.....			\$0.339	\$0.239	\$0.072	\$0.002	\$0.050	\$0.045	\$0.007	\$0.515	\$0.415	\$0.061
Minimum for utilities reporting this item.....			.220	.189	.030	.002	.011	.025	.007	.360	.329	.025
Maximum.....			1.000	.694	.136	.030	.170	.251	.060	1.186	1.056	.154
Arithmetic average, all utilities.....			.662	.409	.082	.002	.057	.113	.025	.940	.686	.088
Arithmetic average for utilities reporting this item....			.662	.409	.082	.016	.057	.113	.029	.940	.686	.068
Median.....			.700	.404	.076	.016	.053	.110	.026	.980	.682	.062

¹ Includes gas used by company.
² Includes gas used by company and transferred credit.

CLASS A. GAS UTILITIES.
METER EXPENSES PER METER.
Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Number of meters.	Labor removing and resetting meters.	Meter and fittings department labor.	Meter and fittings department supplies and expenses.	Maintenance of meters.	Reading meters and delivering bills.
Appleton.....	Wis. Tr. Lt. Ht. & Pr. Co.	4,600	\$0.112	\$0.098	\$0.003	\$0.291	\$0.112
Ashland.....	Ashland Lt. Pr. & St. Ry. Co.	923	.095	.....	.....	.083	.688
Beloit.....	Beloit W. Gas & Elec. Co.	2,199	.318	.....	.042	.432	.....
Chippewa Falls...	Chip. Val. Ry. Lt. & Pr. Co.	733	.296	.....	.....	.047	.004
Eau Claire.....	Eau Claire Gas Light Co.	2,773	.091	.123	.....	.213	.257
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.	2,922	.133	.225	.097	.648	.140
Green Bay.....	Green Bay Gas & Elec. Co.	3,466	.181	.022	.089	.240	.160
Janesville.....	New Gas Light Co.	2,783	.128	.019	.073	.227	.309
Kenosha.....	Kenosha Gas & Elec. Co.	3,666	.283	.023	.030	.615	.187
La Crosse.....	La Crosse Gas & Elec. Co.	3,640	.095	.113	.011	.132	.120
Madison.....	Madison Gas & Elec. Co.	5,510	.240	.151	.090	.729	.171
Manitowoc.....	Manitowoc Gas Co.	2,101	.151	.079	.000	.199	.150
Marinette.....	Men. & Mar. Lt. & Pr. Co.	654	.083	.064	.012	.221	.269
Milwaukee.....	Milwaukee Gas Light Co.	82,098	.272	.069	.119	.485	.226
Oshkosh.....	Oshkosh Gas Light Co.	6,337	.086	.....	.193	.042	.134
Racine.....	Racine Gas Light Co.	11,316	.052	.023	.....	.638	.151
Sheboygan.....	Sheboygan Gas Light Co.	3,205	.157	.....	.052	.131	.162
Superior.....	Superior Water, Lt. & Pr. Co.	3,351	.573	.....	.....	.343	.539
Watertown.....	Watertown Gas & Elec. Co.	1,581	.283	.001	.129	.139	.111
Wausau.....	Wausau Gas Co.	1,593	.989	.....	.....	.447	.157
	Total	145,451					
Weighted average.....			\$0.235	\$0.062	\$0.093	\$0.436	.202
Minimum for utilities reporting this item.....			.052	.001	.000	.032	.004
Maximum.....			.989	.225	.193	.629	.688
Arithmetic average for all utilities.....			.231	.050	.051	.315	.192
Arith. av. for utilities reporting this item.....			.231	.078	.068	.315	.202
Median.....			.154	.069	.073	.234	.160

CLASS A. GAS UTILITIES.
UNIT COMMERCIAL EXPENSE.
Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Meters.	Con- sumers.	Commercial Expenses.	
				Per meter.	Per con- sumer.
Appleton.....	Wis. Tr. Lt. Ht. & Pr. Co..	4,600	4,600	\$0.868	\$0.868
Ashland.....	Ashland L. Pr. & St. Ry. Co.	923	923	.693	.693
Beloit.....	Beloit Water. G. & El. Co...	2,199	2,199	.412	.412
Chippewa Falls..	Chp. Val. Ry. Lt. & Pr. Co.	733	733	.101	.101
Eau Claire.....	Eau Claire Gas Light Co....	2,773	2,773	.689	.689
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co..	2,922	2,922	1.002	1.002
Green Bay.....	Green Bay Gas & Elec. Co.	3,466	3,466	.876	.876
Janesville.....	New Gas Light Co	2,783	2,783	3.702	3.702
Kenosha.....	Kenosha Gas & Electric Co.	3,666	3,666	2.034	2.034
La Crosse.....	La Crosse Gas & Elec. Co....	3,640	3,640	.398	.398
Madison.....	Madison Gas & Electric Co..	5,510	5,510	1.722	1.722
Manitowoc.....	Manitowoc Gas Co.....	2,101	2,101	.270	.270
Marinette.....	Men. & Mar. Lt. & Tr. Co..	654	654	1.842	1.842
Milwaukee.....	Milwaukee Gas Light Co.....	82,098	82,730	1.716	1.703
Oshkosh.....	Oshkosh Gas Light Co.....	6,337	6,337	.348	.348
Racine.....	Racine Gas Light Co.....	11,316	11,316	1.227	1.227
Sheboygan.....	Sheboygan Gas Light Co ...	3,205	3,205	1.152	1.152
Superior.....	Superior Wt. Lt. & Pr. Co..	3,351	3,351	1.949	1.949
Watertown.....	Watertown Gas & Elec. Co..	1,581	1,581	1.174	1.174
Wausau.....	Wausau Gas Co.....	1,593	1,593	.821	.821
	Total	145,451	146,083		
	Weighted average.....			\$1.474	\$1.467
	Minimum for utilities reporting this item..			.101	.101
	Maximum.....			3.702	3.702
	Arithmetic average for all utilities.....			1.150	1.149
	Arith aver. for utilities reporting this item.			1.150	1.149
	Median.....			.939	.939

CLASS A. GAS UTILITIES.

UNIT WAGES AND SALARIES.

Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Total sales per M cu. ft.	Prod. coal gas per M total sales.	Prod. watergas per M total sales.	Prod. purchased gas per M total sales.	Steam generation per M total sales.	Distribution per M total sales.	Mun. contract lighting per M total sales.	Commercial per M total sales.	General per M total sales.	Undistributed per M total sales.	Total foregoing per M total sales.	Stock accounts per M total sales.	Total per M total sales.
Appleton	Wisconsin Trac Lt. Ht. & Pr. Co...	73,094.4	\$0.087	\$0.012	.....	\$0.011	\$0.103	.....	\$0.033	\$0.061	\$0.017	\$0.324	\$0.032	\$0.356
Ashland.....	Ashland Light, Power & St. Ry. Co...	13,434.4	.....	.149	.....	.030	.062	.....	.047	.199	.....	.487	.....	.487
Beloit.....	Beloit Water, Gas & Electric Co.....	53,814.7	.087	.027	.....	.024	.052	.....	.013	.103	.....	.506	.038	.344
Chippewa Falls..	Chippewa Val. Rv., Lt. & Pr. Co.....	16,971.7	.....	.137	.....	.001	.085	.....	.001	.071	.003	.298	.014	.312
Eau Claire.....	Eau Claire Gas Light Co.....	140,076.5	.091	.....	.....	.007	.057	.....	.069	.136	.....	.360	.018	.378
Fond du Lac.....	Eastern Wis. Railway & Light Co...	54,428.2	.148	.....	.....	.008	.080	.....	.028	.075	.006	.345	.044	.389
Green Bay.....	Green Bay Gas & Electric Co.....	53,730.0	.....	.165	.....	.021	.099	.....	.031	.061	.003	.380	.002	.382
Janesville.....	New Gas Light Co.....	60,767.7	.....	.062	.....	.027	.059	.....	.103	.015	.008	.274	.007	.281
Kenosha.....	Kenosha Gas & Electric Co.....	112,649.8	.....	.028	\$0.001	.009	.043	.....	.036	.031	.004	.152	.004	.156
La Crosse.....	La Crosse Gas & Electric Co.....	79,324.4	.147	.....	.....	.012	.020	.....	.008	.044	.002	.233	.030	.263
Madison.....	Madison Gas & Electric Co.....	162,867.4	.....	.062	.....	(1)	.078	.....	.031	.056	.....	.227	.008	.235
Manitowoc.....	Manitowoc Gas Co.....	41,653.5	.143	.....	.....	(2)	.026	.....	.042	.119	.000	.330	.049	.379
Marinette.....	Menom. & Mari. Lt. & Tract. Co.....	12,452.4	.....	.177	.....	.....	.057	.....	.057	.031	.056	.378	.031	.409
Milwaukee.....	Milwaukee Gas Light Co.....	3,032,445.2	.006	.001	.005	.003	.036	\$0.001	.034	.018	.015	.119	.007	.126
Oshkosh.....	Oshkosh Gas Light Co.....	90,779.6	.139	.....	.....	.016	.029	.....	.015	.081	.002	.282	.042	.324
Racine.....	Racine Gas Light Co.....	270,261.1	.090	.....	.....	.014	.027	.....	.036	.025	.....	.192	.077	.269
Sheboygan.....	Sheboygan Gas Light Co.....	44,429.1	.158	.002	.....	.013	.102	.....	.059	.100	.002	.436	.035	.471
Superior.....	Superior Water, Light & Power Co...	267,260.0	.....	.....	.025	.....	.033	.....	.065	.036	.....	.209	.....	.209
Watertown.....	Watertown Gas & Electric Co.....	27,732.0	.169	.....	.....	.013	.046	.011	.011	.061	.008	.319	.074	.393
Wausau.....	Wausau Gas Co.....	25,257.2	.135	.....	.....	.035	.067	.....	.032	.082	.000	.351	.020	.371
Total.....		4,323,429.3												
Weighted Average.....			\$0.028	\$0.006	\$0.004	\$0.006	\$0.041	\$0.001	\$0.035	\$0.029	\$0.012	\$0.162	\$0.015	\$0.177
Minimum for utilities reporting this item.....			.006	.001	.001	.001	.020	.001	.001	.015	.000	.119	.002	.126
Maximum.....			.177	.149	.025	.035	.103	.011	.103	.199	.056	.487	.077	.487
Arithmetic average for all utilities.....			.087	.024	.002	.012	.061	.001	.038	.070	.006	.300	.027	.327
Arithmetic average for utilities reporting this item.....			.124	.053	.010	.015	.061	.006	.038	.070	.009	.030	.030	.327
Median.....			.141	.028	.005	.013	.058	.005	.034	.061	.004	.312	.030	.350

¹ Steam purchased from electric department.

² Steam generation labor included in retort house labor.

CLASS A. GAS UTILITIES.
MISCELLANEOUS UNIT EXPENSES.
Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	General Law Expenses.		Dividends per M cu. ft. sold.	Interest on indebtedness per M cu. ft. sold.	Depreciation per M cu. ft. sold.
		Total.	Per M cu. ft. sold.			
Appleton	Wis. Lt. Ht. & Pr. Co.....	\$553 83	\$0.008		\$0.275	\$0.163
Ashland.....	Ashland Lt. Pr & St. Ry. Co				.290	
Beloit.....	Beloit Wt. Gas & Elec. Co...	262 64	.005	\$0.081	.358	.016
Chippewa Falls.	Chip. Val. Ry. Lt. & Pr. Co...	56 00	.008	.178	.156	.172
Eau Claire.....	Eau Claire Gas Lt. Co.....	159 21	.004	.311	.328	
Fond du Lac....	Eastern Wis. Ry. & Lt. Co....	400 95	.007	.109	.330	
Green Bay.....	Green Bay Gas & Elec Co....	408 99	.008		.270	
Janesville.....	New Gas Light Company.....	204 20	.003	.185	.188	.051
Kenosha.....	Kenosha Gas & Elec. Co.....	1,126 49	.010	.088	.107	.050
La Crosse.....	La Crosse Gas & Elec. Co....	148 62	.002	.038	.220	.095
Madison.....	Madison Gas & Elec. Co.....	600 00	.004	.118	.121	.070
Manitowoc.....	Manitowoc Gas Co.....	108 00	.003		.279	1.002
Marquette.....	Men. & Mar. Lt. & Pr. Co.....	12 00	.001	.161	.105	.117
Milwaukee.....	Milwaukee Gas Light Co.....	5,318 35	.002	.132	.107	.059
Oshkosh.....	Oshkosh Gas Lt. Co.....	2,400 42	.026		.193	
Racine.....	Racine Gas Lt. Co.....	1,886 98	.007	.139	.211	.005
Sheboygan.....	Sheboygan Gas Lt. Co.....	66 64	.001	.236	.272	
Superior.....	Superior Wt. Lt. & Pr. Co...	298 91	.004		.198	.089
Watertown.....	Watertown Gas & Elec. Co...	271 04	.010	.318	.230	.129
Wausau.....	Wausau Gas Company.....	95 00	.004		.518	
	Total.....	\$14,378 27				
	Weighted average.....		\$0.003	\$0.117	\$0.136	\$0.054
	Minimum for utilities reporting this item.....		.001	.038	.105	.002
	Maximum.....		.026	.318	.518	.172
	Arithmetic average for all utilities.....		.006	.105	.238	.051
	Arithmetic average for utilities reporting this item.....		.006	.161	.238	.079
	Median.....		.004	.139	.225	.070

¹ Contingencies (Extraordinary).

CLASS A. GAS UTILITIES.
UNIT COSTS OF MAINTENANCE.
Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Cu. ft. sold, in M's.	Production, per M sold.	Distribution, per M sold.	General, per M sold.	Municipal contract lighting, per M sold.	Total per M sold.
			cts.	cts.	cts.	cts.	cts.
Appleton.....	Wis. Tr. Lt. Ht. & Pr. Co....	73,094	0.69	2.11	0.07	.....	2.87
Ashland.....	Ash. Lt. Pr. & St. Ry. Co....	13,434	.....	4.81	.....	.....	4.81
Beloit.....	Beloit W. Gas & Elec. Co....	53,815	2.62	2.67	.....	.....	5.29
Chippewa Falls.	Chip. V. Ry. Lt. & Pr. Co....	6,972	.85	1.11	0.02	.....	1.98
Eau Claire.....	Eau Claire Gas Light Co....	40,077	2.17	2.55	.....	.....	4.72
Fond du Lac....	East. Wis. Ry. & Lt. Co....	54,428	4.17	6.53	.12	.....	10.82
Green Bay.....	Green Bay Gas & El. Co....	53,730	4.17	7.61	.14	.....	11.92
Janesville.....	New Gas Light Co.....	60,768	2.33	2.17	.....	.....	4.50
Kenosha.....	Kenosha Gas & Elec. Co....	112,650	2.16	5.00	.10	.....	7.26
La Crosse.....	La Crosse Gas & Elec. Co....	79,324	.85	.74	.22	.....	1.81
Madison.....	Madison Gas & Elec. Co....	162,867	3.30	6.04	.....	.....	9.34
Manitowoc.....	Manitowoc Gas Co.....	41,654	4.20	1.22	.....	.....	5.42
Marinette.....	Men. & Mar. Lt. & Tr. Co....	12,452	3.74	3.04	.31	.....	7.09
Milwaukee.....	Milwaukee Gas Light Co....	3,032,445	.33	3.75	.05	0.09	4.22
Oshkosh.....	Oshkosh Gas Light Co....	90,780	7.08	1.65	.07	.....	8.80
Racine.....	Racine Gas Light Co.....	270,261	5.03	5.37	.....	.....	10.40
Sheboygan.....	Sheboygan Gas Light Co....	44,429	3.14	2.25	.06	.....	5.45
Superior.....	Superior Wt. Lt. & Pr. Co....	67,260	1.70	2.24	.....	.....	3.94
Watertown.....	Watertown Gas & El. Co....	27,732	.65	1.33	.....	0.01	1.99
Wausau.....	Wausau Gas Co.....	25,257	3.03	3.85	.....	.....	6.88
	Total.....	4,323,429	.....	.....	.....	.....	.....
Weighted average.....			1.23	3.80	0.05	0.06	5.14
Minimum for utilities reporting this item		6,972	.33	.74	.02	.01	1.81
Maximum.....		3,032,445	7.08	7.61	.31	.09	11.92
Average, all utilities.....		216,172	2.61	3.30	.06	.005	5.97
Average, utilities reporting this item.....		216,172	2.75	3.30	.12	.05	5.96
Median.....		54,428	2.62	2.67	.10	.....	5.42

CLASS A. GAS UTILITIES.
MISCELLANEOUS UNIT COSTS—1912.
Year ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Miles of mains.	Street de- part- ment labor per mile of main.	Mainte- nance of mains per mile of main.	Total dis- tribution per mile of main.	Number of con- sumers.	Custom- er's expenses per con- sumer.	Number of services.	Mainte- nance of services per ser- vice.
Appleton.....	Wis. Tr. Lt. Ht. & Pr. Co.....	51.33	\$0.71	\$2.60	\$131.24	4,600	\$0.644	3,807	\$0.116
Ashland.....	Ashland Lt. Pr. & St. Ry. Co.....	15.12	.....	26.19	58.22	923	.158	760	.229
Beloit.....	Beloit Wt. Gas & El. Co.....	30.24	.....	10.14	180.00	2,199	.272	2,329	.077
Chippewa Falls.....	Chippewa Valley Ry. Lt. & Pr. Co.....	8.57	1.19	3.48	83.22	733	.557	.....	(?)
Eau Claire.....	Eau Claire Gas Light Co.....	36.35	8.60	11.88	82.11	2,773	.200	3,182	(?)
Fond du Lac.....	Eastern Wis. Ry. & Lt. Co.....	37.69	15.06	20.54	165.64	2,922	.264	3,532	.248
Green Bay.....	Green Bay Gas & Elec. Co.....	41.57	14.62	40.14	175.62	3,466	.280	2,748	.577
Janesville.....	New Gas Lt. Co.....	30.89	49.51	9.88	148.83	2,783	.361	2,475	.154
Kenosha.....	Kenosha Gas & Elec. Co.....	35.26	8.29	63.90	261.76	3,666	.387	3,218	.350
La Crosse.....	La Crosse Gas & Elec. Co.....	46.00	.21	1.08	57.97	3,640	.318	942	.059
Madison.....	Madison Gas & Elec. Co.....	57.79	37.77	63.15	359.25	5,510	.626	4,817	.450
Manitowoc.....	Manitowoc Gas Co.....	28.25	.85	2.64	43.98	2,101	.091	2,472	.006
Marinette.....	Men. & Mar. Lt. & Tr. Co.....	13.19	2.87	11.40	59.84	654	.406	581	.144
Milwaukee.....	Milwaukee Gas Lt. Co.....	443.01	30.40	65.70	458.35	82,730	.230	56,764	.783
Oshkosh.....	Oshkosh Gas Lt. Co.....	39.60	2.20	15.32	103.32	6,337	.098	3,956	.158
Racine.....	Racine Gas Lt. Co.....	73.10	2.47	53.47	279.83	11,316	.251	7,345	.361
Sheboygan.....	Sheboygan Gas Lt. Co.....	35.67	1.66	9.64	94.95	3,205	.556	2,870	.082
Superior.....	Superior Wt. Lt. & Pr. Co.....	28.51	64.31	4.03	268.65	3,351	.560	2,249	.107
Watertown.....	Watertown Gas & Elec. Co.....	18.87	.21	1.18	83.54	1,581	.302	1,564	.081
Wausau.....	Wausau Gas Company.....	23.41	.....	3.07	112.37	1,593	.....	1,254	.140
	Total.....	1,094.42	.....	.....	.....	146,083	.....	106,965	.....
Weighted average.....			\$19.41	\$41.23	\$285.49		\$0.277		\$0.516
Minimum for utilities reporting this item.....			.21	1.08	43.98		.091		.006
Maximum.....			64.31	65.70	458.35		.644		.783
Arithmetic average for all utilities.....			12.05	21.47	160.44		.328		.201
Arithmetic average for utilities reporting this item.....			14.17	21.47	160.44		.345		.223
Median.....			2.87	10.77	121.80		.302		.149

¹Includes maintenance of services.
²Item \$13.28 omitted, no service data.
³Included in maintenance of mains.

CLASS B.—GAS UTILITIES.

PRODUCTION UNIT COSTS.

Year Ending June 30, 1912.

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	M cu. ft. made and purchased.	Production coal gas per M cu. ft. made.	Production water gas per M cu. ft. made.	Gas purchased per M cu. ft. made.	Net earnings from residuals per M cu. ft. coal gas made.	Prod. less resid. total gas made & purchased per M cu. ft. made & purchased.	M cu. ft. sold.	Total production for gas made & purchased per M sold.	Prod. less residuals total gas made & purchased per M sold.	Municipal contract lighting per M sold.	Distribution per M sold.
			cts.	cts.	cts.	cts.	cts.		cts.	cts.	cts.	cts.
Antigo.....	Antigo Gas Co.....	3,628		57.24				2,665	77.96			11.42
Baraboo.....	Baraboo Gas & Elect. Co.....	10,773	93.34			20.95	72.39	9,474	106.14	83.29		2.18
Beaver Dam.....	Beaver Dam Fuel & Lt. Co.....	11,243		56.29				10,199	62.05			6.05
Berlin.....	Berlin Public Service Co.....	9,240	97.23			49.15	48.18	8,781	102.41	50.70		7.39
Burlington.....	Citizen's Gas Co.....	9,929		65.15				9,440	68.33			4.77
Ft. Atkinson.....	Ft. Atkinson Gas Co.....	6,632		74.27				6,038	81.58			3.55
Hudson.....	St. Croix Gas Co.....	4,277			92.57			4,131	96.84			15.61
Hurley.....	Hurley Gas Co.....	14,567		47.60				10,349	67.01			19.50
Menomonee.....	Menomonee Gas Co.....	6,660		63.08				6,460	65.03			11.92
Monroe.....	Monroe Light & Fuel Co.....	7,585		59.63				7,585	59.64			9.55
Platteville.....	Platteville Gas Co.....	7,642	95.35			30.22	65.14	5,561	131.04	89.52		12.56
Portage.....	Portage American Gas Co.....	22,168	76.82			35.18	41.64	21,174	80.43	43.60	3.66	6.78
Rhineland.....	Oneida Gas Co.....	5,899		47.12				5,734	48.48			
Ripon.....	Ripon Light & Water Co.....	6,096	90.48			1.33	91.81	4,777	115.45	117.15		20.10
Stevens Point.....	Stevens Point Lighting Co.....	12,584	69.70			6.11	63.59	10,800	81.22	74.11		7.22
Stoughton.....	Stoughton Light & Fuel Co.....											
Waukesha.....	Waukesha Gas & Elect. Co.....	40,338	74.60			33.41	41.19	36,107	83.34	46.04		7.79
Wauwatosa.....	Wauwatosa Gas Co.....	19,191			60.18			19,191	60.19			
West Allis.....	West Allis Gas Co.....	33,137			60.08			33,137	60.08			
Weighted average.....			37.88	19.09	15.29	13.38	24.51		7.90	26.80		6.49
Minimum for utilities reporting this item.....			69.70	47.12	60.08	1.33	41.19		48.48	46.04		2.18
Maximum.....			97.23	74.27	92.57	49.15	91.81		131.04	117.15		20.10
Arithmetic average all utilities.....			31.54	24.74	11.20	9.14	22.31		76.12	26.56		7.70
Arithmetic average for utilities reporting this item.....			85.33	58.79	70.94	24.81	60.56		80.35	63.05		9.76
Median.....			90.48	59.63	60.18	30.22	63.59		89.43	74.11		7.79

CLASS B. GAS UTILITIES.

UNIT COSTS.

Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	MISCELLANEOUS UNIT COSTS.							COMMERCIAL UNIT COSTS.		OPERATING EXPENSES. UNIT COSTS.								
		Miles of mains.	Maintenance of mains per mi. of main.	No. of services.	Maintenance of services per service.	No. of consumers.	Customer's premises expenses per consumer.	No. of meters.	Maintenance of meters per meter.	Total distribution per mi. of main.	Per consumer.	Per meter.	Production per M sold.	Distribution per M sold.	Mun. Cont. Lig. per M sold.	Commercial per M sold.	General per M sold.	Undistributed per M sold.	Total of foregoing per M sold.
Antigo.....	Antigo Gas Co.....	2.98	\$14.02	245	cts. 12.48	245	cts. 10.75	245	1.74	\$102.12	151.13	151.13	77.96	11.42	13.89	53.61	156.88
Baraboo.....	Baraboo G. & E. Co.....	7.72	1.10	560	3.45	588	26.64	588	1.79	26.75	109.77	109.77	106.14	2.18	6.81	13.86	1.40	130.49	
Beaver Dam.....	B. Dam Fuel & Lt. Co.....	10.30	.....	637	3.73	630	64.22	630	3.94	59.88	91.54	91.54	62.05	6.05	5.65	16.61	1.02	91.38
Berlin.....	Berlin Pub. Ser. Co.....	7.63	.79	480	1.62	658	36.08	658	2.58	85.10	14.60	14.60	102.41	7.39	1.10	17.10	1.71	129.71	
Burlington.....	Citizen's Gas Co.....	9.86	6.47	576	1.81	596	.....	590	2.50	45.67	2.62	2.65	88.33	4.77	.17	18.16	2.07	93.50
Ft. Atkinson.....	Ft. Atkinson Gas Co.....	.....	.....	293	.....	263	.....	263	.....	.....	51.32	51.32	81.58	3.55	2.23	20.82	.65	108.83
Hudson.....	St. Croix Gas Co.....	6.55	6.74	231	1.37	231	46.68	231	.58	98.50	112.54	112.54	95.84	15.61	6.29	35.13	.80	153.67	
Hurley.....	Hurley Gas Co.....	7.97	77.78	.....	.....	515	3.15	253.40	.....	327.79	.....	327.79	67.01	19.50	16.31	23.64	1.29	127.75
Menomonie.....	Menomonie Gas Co.....	9.08	16.28	386	7.38	457	62.16	457	2.65	84.80	198.55	198.55	65.03	11.92	14.05	28.39	.89	120.28	
Monroe.....	Monroe Lt. & Fuel Co.....	9.56	.58	571	.94	576	.26	605	9.48	75.75	8.09	7.71	59.64	9.59	.61	22.93	.48	93.19	
Platteville.....	Platteville Gas Co.....	5.24	56.24	298	.....	307	125.32	271	5.87	133.30	207.19	234.70	131.04	12.56	11.43	26.43	10.30	191.76
Portage.....	Portage Amer. Gas Co.....	.....	.....	1,120	10.86	1,184	57.36	1,184	14.54	.....	48.22	48.22	80.43	6.78	2.70	17.05	.89	111.51
Rhineland.....	Oneida Gas Co.....	7.45	.....	337	.....	347	.....	347	.....	.....	.....	.....	48.48	.....	.....	47.41	1.46	97.35
Ripon.....	Ripon Lt. & Water Co.....	11.04	11.78	504	15.36	460	12.23	460	121.20	86.97	137.77	137.77	115.45	20.19	13.27	29.70	3.05	181.57	
Stevens Pt.....	Stevens Pt. Ltg. Co.....	10.91	.....	700	.....	945	.....	945	.....	71.49	116.18	116.18	81.22	7.22	10.17	17.91	5.34	121.86
Stoughton.....	Sto'ton Lt. & Fuel Co.....	11.58	5.27	715	1.82	763	38.70	763	1.99	39.08	91.66	91.66	.....	.....	.....	.....	.....	106.08
Waukesha.....	Waukesha Gas & El. Co.....	23.60	5.61	1,767	29.60	1,767	38.14	1,767	34.27	119.15	100.04	100.04	83.34	7.79	4.90	9.26	.79	106.08	
Wauwatosa.....	Wauwatosa Gas Co.....	11.70	.....	617	.....	632	.....	632	.....	.....	.....	.....	60.19	.....	.....	.....	.....	60.19
West Allis.....	West Allis Gas Co.....	13.30	.....	888	.....	1,038	.....	1,038	.....	.....	81.52	81.52	60.08	.....	.26	.....	.....	60.34
Weighted average.....	.....	.....	\$9.55	.....	10.84	.....	35.98	.....	13.38	\$81.32	86.96	83.39	79.10	6.49	4.66	15.41	1.31	107.52
Minimum for utilities reporting this item.....	.....	.....	.58	.....	1.37	.....	.26	.....	.58	26.75	8.09	2.65	48.48	2.18	.17	9.26	.46	60.34
Maximum.....	.....	.....	77.78	.....	29.60	.....	125.32	.....	121.20	253.40	207.19	327.79	131.04	20.10	3.66	53.61	10.30	191.76
Arith. average all utilities.....	.....	.....	13.86	.....	4.76	.....	27.29	.....	10.86	63.92	80.14	98.83	76.12	7.70	5.78	20.95	1.69	112.44
Arith. avg. utilities reporting this item.....	.....	.....	16.88	.....	7.54	.....	43.21	.....	14.73	85.31	89.57	110.45	80.35	9.76	6.46	23.41	2.00	112.44
Median.....	6.47	4.76	38.70	2.65	84.80	100.04	100.04	80.43	7.79	3.66	6.29	22.93	1.40	120.28

Financial and Operating Expenses of Public Utilities.—G. Unit Costs.—3. Water Utilities.

CLASS A. WATER UTILITIES. PERCENTAGE ANALYSIS OF OPERATING EXPENSES. Year Ending June 30, 1911.

LOCATION.	NAME OF COMPANY.	Pumping.	Distribution.	Commercial.	General.	Undis-tributed.	Total percent.
<i>Private.</i>							
Ashland	Ashland Water Company.....	53.76	9.92	5.35	26.38	4.59	100.00
Beloit.....	Beloit Water, Gas & Electric Company.....	63.58	9.17	1.25	25.12	.88	100.00
Chippewa Falls..	Chippewa Valley Ry. Light & Power Co.....	75.44	7.12	.64	14.83	1.97	100.00
Green Bay.....	Green Bay Water Company.....	53.84	15.77	1.68	20.82	7.89	100.00
Janesville.....	Janesville Water Company.....	46.50	11.58	4.13	35.40	2.39	100.00
Marinette.....	City Water Company.....	65.43	5.28	9.67	19.40	.22	100.00
Merrill.....	City Water Works Company.....	74.11	4.16	5.41	16.13	.19	100.00
Oshkosh.....	Oshkosh Water Works Company.....	59.44	10.24	.....	29.64	6.68	100.00
Racine.....	Racine Water Company.....	31.71	11.99	7.69	48.58	.03	100.00
Superior.....	Superior Water, Light & Power Co....	46.65	22.68	12.87	17.80	.....	100.00
	Total	52.90	12.30	5.34	27.46	2.00	100.00
<i>Municipal.</i>							
Appleton.....	Municipal Water Works Plant.....	74.87	12.86	2.81	7.89	1.57	100.00
Eau Claire.....	" " " "	46.00	30.56	12.50	7.72	3.22	100.00
Fond du Lac.....	" " " "	69.16	13.14	4.89	12.36	.45	100.00
Kenosha.....	" " " "	63.85	21.62	6.74	6.82	.97	100.00
La Crosse.....	" " " "	70.65	22.39	1.71	3.74	1.51	100.00
Madison.....	" " " "	73.03	13.11	8.61	4.09	1.16	100.00
Manitowoc.....	" " " "	68.59	20.74	1.34	6.62	2.71	100.00
Milwaukee.....	" " " "	42.03	23.02	20.83	8.45	5.67	100.00
Sheboygan.....	" " " "	63.36	14.45	1.79	13.98	6.42	100.00
Watertown.....	" " " "	67.44	18.65	.....	11.62	2.29	100.00
Waukesha.....	" " " "	59.55	29.96	2.44	8.05	.....	100.00
Wausau.....	" " " "	76.17	12.48	2.00	7.09	2.26	100.00
	Total.....	52.85	21.18	13.76	8.20	4.01	100.00

CLASS A. WATER UTILITIES.
UNIT COSTS, OPERATING EXPENSES.
Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Pumping per million gallons.	Distribution per million gallons.	Commercial per million gallons.	General per million gallons.	Undistributed per million gallons.	Total oper- ating per million gallons.
<i>Private.</i>							
Ashland.....	Ashland Water Co.....	\$29.63	\$5.47	\$2.95	\$14.54	\$2.53	\$55.12
Beloit.....	Beloit. Water, Gas & Electric Co.....	18.03	2.60	.35	7.13	.25	28.36
Chippewa Falls.....	Chippewa Valley Ry. Light & Power Co.....						
Green Bay.....	Green Bay Water Co.....	31.99	9.37	1.00	12.37	4.69	59.42
Janesville.....	Janesville Water Co.....	21.98	5.49	1.95	16.74	1.13	47.29
Marinette.....	City Water Co.....	19.97	1.61	2.95	5.92	.07	30.52
Merrill.....	City Water Works Co.....	27.06	1.52	1.98	5.89	.07	36.52
Oshkosh.....	Oshkosh Water Works Co.....	18.12	3.12		9.03	.21	30.48
Racine.....	Racine Water Co.....	9.72	3.67	2.36	14.89	.01	30.65
Superior.....	Superior Water, Light & Power Co.....	22.33	10.85	6.16	8.52		47.86
Weighted average, private plants.....		\$19.93	\$4.81	\$2.13	\$10.76	\$0.77	\$38.40
<i>Municipal.</i>							
Appleton.....	Municipal Water Works Plant.....	\$16.58	\$2.85	\$0.62	\$1.75	\$0.35	\$22.15
Eau Claire.....	" " " ".....	7.80	5.18	2.12	1.31	.55	16.96
Fond du Lac.....	" " " ".....						
Kenosha.....	" " " ".....	11.50	3.89	1.21	1.23	.17	18.00
La Crosse.....	" " " ".....	15.91	5.05	.39	.84	.34	22.53
Madison.....	" " " ".....	38.21	6.86	4.50	2.14	.61	52.32
Manitowoc.....	" " " ".....	19.51	5.90	.38	1.88	.77	28.44
Milwaukee.....	" " " ".....	6.69	3.66	3.32	1.34	.90	15.91
Sheboygan.....	" " " ".....	11.52	2.62	.33	2.54	1.17	18.18
Watertown.....	" " " ".....	25.25	6.99		4.85	.86	37.45
Waukesha.....	" " " ".....	54.59	27.47	2.23	7.38		91.67
Wausau.....	" " " ".....	12.64	2.07	.33	1.18	.38	16.60
Weighted average, municipal plants.....		\$9.84	\$4.08	\$2.69	\$1.51	\$0.79	\$18.91
Minimum for utilities reporting this item.....		\$7.80	\$1.52	\$0.33	\$0.84	\$0.01	\$15.91
Maximum.....		54.59	27.47	6.16	16.74	4.69	91.67
Arithmetic average, all utilities.....		19.05	5.28	1.60	5.56	.68	32.11
Arithmetic average, all utilities reporting this item.....		20.94	5.53	1.85	6.05	.89	35.32
Median.....		19.51	5.05	1.98	5.89	.38	30.48

NOTE:—Averages based on both classes of plants.

CLASS A. WATER UTILITIES.

MISCELLANEOUS COST UNITS.

Italic figures denote deficits.

LOCATION.	NAME OF COMPANY.	Gallons pumped in millions.	Revenue per million gallons.	Ex-penses per million gallons.	Net revenue per million gallons.	Interest on debt per million gallons.	Dividends per million gallons.	Surplus or deficit per million gallons.	MAINTENANCE.			
									Pump-ing per million gallons.	Distrib-ution per million gallons.	Gen-eral per million gallons.	
<i>Private.</i>												
Ashland	Ashland Water Co.....	432	\$125.84	\$84.07	\$41.76	\$31.46	\$17.36	\$5.92	\$12.07	\$4.04	\$0.01	
Beloit.....	Beloit W. Gas & Electric Co.....	717	46.91	33.50	31.41	26.11	5.91	.44	38	1.88		
Chippewa Falls...	Chippewa Falls Ry., Lt. & Pr.Co....											
Green Bay.....	Green Bay W.Co.....	531	134.95	74.28	60.68	50.31	11.45	1.14	2.84	8.18	19	
Janesville.....	Janesville Water Co.....	448	103.07	54.96	48.63	19.45	31.25	1.96	1.06	83		
Marinette.....	City Water Co.....	553	85.42	44.99	40.42	34.80		53.25	4.72	1.54	01	
Merrill.....	City Water Works Co.....	323	74.83	51.75	23.09	34.21		11.96	1.63	1.48	02	
Oshkosh.....	Oshkosh Water Works Co.....	951	82.44	40.22	42.23	22.48	4.98	15.49	1.36			
Racine.....	Racine Water Co.....	1,215	102.07	47.54	54.56	43.33	32.92	25.88	55	3.63		
Superior.....	Superior Water, Lt. & Pr.Co.....	736	153.10	74.11	78.98	53.59	14.05	2.27	1.99	5.95		
	Total.....	5,906										
	Weighted average (private).....		\$102.53	\$53.59	\$48.93	\$35.82	\$8.62	\$1.35	\$2.37	\$3.04	\$0.02	
<i>Municipal.</i>												
Appleton.....	Municipal Water Works Plant....	513	\$30.42	\$22.15	\$8.27	\$9.01		\$0.74	\$4.09	\$1.76		
Eau Claire.....	" " " " " "	730	36.96	16.96	19.99			19.99	78	3.13	17	
Fond du Lac.....	" " " " " "											
Kenosha.....	" " " " " "	1,161	37.74	18.01	19.73			19.63	34	3.00		
La Crosse.....	" " " " " "	1,025	40.82	22.53	18.29	10.86		85	2.37	3.21		
Madison.....	" " " " " "	688	79.11	62.08	17.02			18.74	1.57	4.61		
Manitowoc.....	" " " " " "	532	58.01	31.69	26.31	9.24		21.80	3.84	1.10	18	
Milwaukee.....	" " " " " "	17,024	58.26	18.15	40.10	16			36	1.08	08	
Sheboygan.....	" " " " " "	1,121	78.66	31.38	47.29	12.73		36.97	1.08	2.12		
Watertown.....	" " " " " "	304	70.59	37.45	33.13			15.27	27	4.03		
Waukesha.....	" " " " " "	264	89.58	91.68	2.08	6.20		12.60	5.37	25.88		
Wausau.....	" " " " " "	841	36.27	16.60	19.67			19.04	56	1.97		
	Total.....	24,003										
	Weighted average (municipal).....		\$56.56	\$21.45	\$35.11	\$1.58		\$47.94	\$0.80	\$1.82	01	
	Minimum for utilities reporting this item.....		\$30.42	\$16.60	\$2.08	\$0.16	\$4.98	\$25.88	\$0.27	\$0.10	01	
	Maximum.....		153.10	91.68	60.68	53.59	32.92	53.25	12.07	25.88	19	
	Arithmetic average all utilities.....		69.32	39.73	30.43	16.54	11.79	7.32	2.15	3.35	03	
	Arithmetic average utilities reporting this item.....		76.25	43.71	33.47	24.36	16.85	8.41	2.36	3.88	09	
	Median.....		78.66	47.54	40.10	22.48	14.05	2.27	1.57	3.00	08	

NOTE:—Averages based on both classes of plants, except those indicated. ¹ Based on private plants only.

CLASS B. WATER UTILITIES.
OPERATING EXPENSES.
Year Ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Million gallons pumped.	Pumping expenses per million gallons pumped.	Distribution expenses per million gallons pumped.	Commercial expenses per million gallons pumped.	General expenses per million gallons pumped.	Undistributed expenses per million gallons pumped.	Total operating expenses per million gallons pumped.
<i>Private.</i>								
Antigo.....	Antigo Water Co.....	244.0	\$13.07	\$0.65	.....	\$16.33	\$0.07	\$30.12
Beaver Dam.....	Beaver Dam Water Co.....	362.7	14.11	.84	.....	12.32	.....	27.27
Mellen.....	Peoples Water & Light Co.....	31.4	.....	2.20	.....	9.95	.....	12.15
Menomonie.....	Menomonie Water Works Co.....	93.6	45.42	1.91	\$2.40	2.57	.74	52.04
Oconto.....	Oconto City Water Supply Co.....	172.7	24.99	5.49	1.59	9.95	.36	42.38
Ripon.....	Ripon Light & Water Co.....	220.9	19.93	.94	2.03	10.25	1.51	34.66
Stevens Point.....	Stevens Point Water Co.....	360.8	21.53	2.66	.89	2.41	.43	27.92
Washburn.....	Washburn Water Works Co.....	139.5	27.39	.....	.35	14.75	.22	42.71
Whitewater.....	Whitewater Water Works Co.....	56.7	32.75	1.03	.....	44.85	1.25	79.88
	Total.....	1,682.3	.....	.....	.....	.....	.....	.....
Weighted average.....			\$20.64	\$1.70	\$0.79	\$10.87	\$0.44	\$34.44
Minimum.....			13.07	.65	.35	2.41	.07	12.15
Maximum.....			45.42	5.49	2.40	44.85	1.51	79.88
Arithmetic average all utilities.....			22.13	1.74	.81	13.71	.51	38.90
Arithmetic average all utilities reporting.....			24.89	1.96	1.45	13.71	.65	38.90
Median.....			23.26	1.47	1.59	10.25	.43	34.66
<i>Municipal.</i>								
Baraboo.....	Municipal Water Works Plant.....	342.4	\$12.66	\$2.39	\$0.17	\$1.90	\$0.01	\$17.13
Berlin.....	" " " ".....	66.5	45.64	2.48	.....	.....	.78	48.90
Burlington.....	" " " ".....	81.6	51.23	6.54	.....	.65	1.47	59.94
Columbus.....	" " " ".....	9.3	214.80	23.84	.....	90.55	1.38	330.57
De Pere.....	" " " ".....	75.9	27.34	14.48	.33	10.92	.....	53.07
Edgerton.....	" " " ".....	51.6	57.42	.....	3.34	.....	.48	61.24
Ft. Atkinson.....	" " " ".....	54.7	46.63	12.17	1.32	11.89	.55	72.56
Grand Rapids.....	" " " ".....	114.8	40.79	.68	.....	19.87	.92	62.26
Kaukauna.....	" " " ".....	97.6	34.63	.95	.....	1.54	.77	37.89
Lake Geneva.....	" " " ".....	100.0	42.27	.54	.04	12.09	.65	55.59

Lancaster.....	"	"	"	"	38.0	110.95	1.36	.10	1.70	.26	114.37
Marshfield.....	"	"	"	"	80.0	74.56	6.79	1.43	12.08	1.53	96.39
Monroe.....	"	"	"	"	84.0	60.26	11.03	.35	4.64	1.41	77.69
Neenah.....	"	"	"	"	182.9	27.45	2.81	1.36	5.14	.12	36.88
New London.....	"	"	"	"	20.9	72.38	43.68	7.72			123.78
New Richmond.....	"	"	"	"	45.4	33.83	31.52		.62		65.97
Oconomowoc.....	"	"	"	"	45.0	38.55	35.20	2.56	9.69	3.90	89.90
Platteville.....	"	"	"	"	42.8	96.72	8.69		33.35		138.76
Portage.....	"	"	"	"	195.0	27.56	2.72		7.75	.86	38.89
Pt. Washington.....	"	"	"	"	67.7	19.26	29.30				48.56
Rhineland.....	"	"	"	"	255.5	16.54	2.25		1.56	.10	20.45
Richland Center.....	"	"	"	"	61.3	56.19	8.97		8.81		73.97
River Falls.....	"	"	"	"	72.7	9.85	.74	.66	2.05	.18	13.48
So. Milwaukee.....	"	"	"	"	275.0	45.77	1.33	.05	2.00	.13	49.28
Sparta.....	"	"	"	"	150.4	28.92	2.46	.51	1.79	1.11	34.79
Stoughton.....	"	"	"	"	86.7	57.38	7.22	.61	10.79	.71	76.71
Sturgeon Bay.....	"	"	"	"	54.7	70.56	4.63	.18	8.14	.20	83.71
Tomahawk.....	"	"	"	"	21.9	142.60	3.42	4.57	4.57		155.16
Two Rivers.....	"	"	"	"	52.4	32.87	5.82	1.20	3.25		43.14
Waupaca.....	"	"	"	"	110.0	11.07	3.25		5.79	.22	20.33
West Allis.....	"	"	"	"	91.2	95.91	24.58	4.92	.56	3.29	129.26
Total.....					3,027.9						
Weighted average.....						\$39.06	\$6.06	\$0.60	\$5.51	\$0.57	\$51.79
Minimum.....						9.85	.54	.04	.56	.10	13.48
Maximum.....						214.80	43.68	7.72	90.55	3.90	330.57
Arithmetic average all utilities.....						54.92	9.74	1.01	8.81	.70	75.18
Arithmetic average utilities reporting.....						54.92	10.06	1.65	15.00	.90	75.18
Median.....						45.64	5.22	.66	5.46	.68	59.94

CLASS B. WATER UTILITIES.
EXPENSES AND REVENUES PER CONSUMER.
Year ending June 30, 1912.

LOCATION.	NAME OF COMPANY.	Total of commercial consumers.	Operating expense per commercial consumer.	Commercial and industrial earnings per commercial consumer.
<i>Private.</i>				
Antigo.....	Antigo Water Co.....	698	\$14.02	20.70
Beaver Dam.....	Beaver Dam Water Co.....	1,242	11.90	9.82
Mellen.....	People's Water & Light Co.....	142	1.34	12.69
Menomonie.....	Menomonie Water Works Co.....	481	14.70	18.22
Oconto.....	Oconto City Water Supply Co.....	713	15.89	13.07
Ripon.....	Ripon Light & Water Co.....	724	14.29	10.56
Stevens Point.....	Stevens Point Water Co.....	699	16.96	21.60
Washburn.....	Washburn Water Works Co.....	475	17.38	17.85
Whitewater.....	Whitewater Water Works Co.....	329	16.64	18.82
Total.....		5,503		
Weighted average.....			\$14.38	\$15.26
Minimum.....			1.34	9.82
Maximum.....			17.38	21.60
Average utility reporting.....			13.68	15.92
Average all utilities.....			13.68	15.92
Median.....			14.70	17.85
<i>Municipal.</i>				
Baraboo.....	Municipal Water Works Plant.....	1,050	\$5.58	13.10
Berlin.....	" " " ".....	531	8.01	10.54
Burlington.....	" " " ".....	623	7.85	7.21
Columbus.....	" " " ".....	329	9.35	12.70
De Pere.....	" " " ".....	609	6.61	9.04
Edgerton.....	" " " ".....			
Ft. Atkinson.....	" " " ".....			
Grand Rapids.....	" " " ".....	756	18.56	13.49
Hudson.....	" " " ".....			
Kaukauna.....	" " " ".....	487	7.59	8.50
Lake Geneva.....	" " " ".....	388	23.02	20.13
Lancaster.....	" " " ".....	522	8.33	9.54
Marshfield.....	" " " ".....			
Monroe.....	" " " ".....	541	15.48	17.67
Neenah.....	" " " ".....	621	20.33	11.75
New London.....	" " " ".....	170	15.22	9.72
New Richmond.....	" " " ".....	185	20.88	18.25
Oconomowoc.....	" " " ".....	428	14.60	7.85
Platteville.....	" " " ".....	949	6.25	8.46
Portage.....	" " " ".....	1,000	7.58	10.75
Rhinelanders.....	" " " ".....	825	6.33	9.56
Richland Center.....	" " " ".....	486	9.33	8.31
River Falls.....	" " " ".....	420	6.77	7.83
Shawano.....	" " " ".....	115	17.18	17.14
Sparta.....	" " " ".....	399	19.65	17.07
Stoughton.....	" " " ".....	715	12.10	8.66
Tomahawk.....	" " " ".....	581	7.29	6.63
Two Rivers.....	" " " ".....	608	3.72	8.56
Waupaca.....	" " " ".....	482	4.64	7.66
West Allis.....	" " " ".....	993	11.87	11.02
Total.....		14,813		
Weighted average.....			\$10.25	\$10.66
Minimum.....			3.72	6.63
Maximum.....			23.02	20.13
Average utilities reporting.....			11.51	11.19
Average all utilities.....			8.40	8.32
Median.....			8.83	9.64

CLASS B. WATER UTILITIES.
MISCELLANEOUS UNIT COSTS.
Year Ending June 30, 1912.

LOCATION.	Service maintenance exp. per commercial service.	Meter maintenance expense per meter.	Distribution expense per mile of main.	Total commercial consumers.	Collection expense per commercial consumer.	Commercial exp. per commercial consumer.
<i>Municipal Plants.</i>						
Baraboo		\$0.21	\$78.67	1,050	\$0.06	\$0.06
Berlin			17.49			
Burlington			46.35			
Columbus	\$0.28	.19	34.27			
De Pere .....	.55	.09	51.32	600	.04	.04
Edgerton				434	.31	.31
Ft. Atkinson .....		.26	77.41	535	.13	.13
Grand Rapids .....		.17	4.89	756		
Hudson						
Kaukauna						
Lake Geneva .....	.23	.07	7.22	388	.01	.01
Lancaster						
Marshfield .....		.68				
Monroe .....	.23	.67	106.70	510	.05	.05
Neenah .....	.24	.10	38.57	581	.43	.43
New London	1.83	1.39	15.58	164	.98	.98
New Richmond						
Oconomowoc		1.71	188.35	336		.34
Platteville .....		.08	31.83			
Portage				1,000		
Pt. Washington			305.11			
Reedsburg .....		.07	76.92	482	.27	.27
Rhineland			38.84			
Rice Lake						
Richland Center			75.32			
River Falls .....	.04		11.49	403	.12	.12
Shawano				108	.11	.11
So. Milwaukee			52.76	631	.02	.02
Sparta			28.73	399	.19	.19
Stoughton .....	.32	.26	49.38	691	.07	.07
Sturgeon Bay		1.73	165.56	70	.14	.14
Tomahawk			14.47	567	.18	.18
Two Rivers			38.00	586	.11	.11
Waupaca .....	.30		37.23	482		
West Allis .....	.48	.31	89.50	993	.39	.45
Total				11,766		
Weighted average	\$0.22	\$0.34	\$58.34		\$0.14	\$0.16
Minimum .....	.04	.07	4.89		.01	.01
Maximum	1.83	1.73	305.11		.98	.98
Ave. util. reporting .....	.45	.50	64.69		.25	.21
Ave. all utilities .....	.43	.23	48.05		.13	.11
Median .....	.29	.23	42.59		.13	.13

CLASS C. WATER UTILITIES.
UNIT COSTS OF OPERATION AND UNIT REVENUES.

LOCATION.	NAME OF COMPANY.	HYDRANT RENTALS.		COMMERCIAL AND INDUSTRIAL OPERATING EXPENSES.			OPERATING EXPENSES (EXCLUSIVE OF TAXES, DEPRECIATION AND INTEREST).			TAXES.		
		Per hydrant.	Per capita.	Per capita.	Per consumer (except hydrants).	Per million gallons pumped.	Per capita.	Per consumer (except hydrants.)	Per million gallons pumped.	Per capita.	Per consumer (except hydrants.)	Per million gallons pumped.
	<i>Private Plants.</i>		\$0 14									
Bangor.....	Hussa Brothers.....		25	\$0 53	\$5 07							
Hillsboro.....	Hillsboro City W. Wks.	\$14 28		1 47		\$394 40						
Iron River.....	Iron River W. L. & P. Co.	81 57	1 83	58	4 32		\$2 78	\$18 89		\$0 26		
Phillips.....	Phillips L. W. H. & P. Co.	160 00	1 25	1 30	26 00	1,390 00	2 06	41 35	\$2,198 00		\$1 92	
Union Grove.....	Union Grove W. Wks.		55	1 34	6 25	89 85	83	3 90	55 90	08	39	\$5 48

CLASS C. WATER UTILITIES—Continued.
UNIT COSTS OF OPERATION AND UNIT REVENUES.

LOCATION.	NAME OF COMPANY.	HYDRANT RENTALS.		COMMERCIAL AND INDUSTRIAL OPERATING REVENUES.			OPERATING EXPENSES (EXCLUSIVE OF TAXES, DEPRECIATION AND INTEREST).		
		Per hydrant.	Per capita.	Per capita.	Per consumer (except hydrants.)	Per million gallons pumped.	Per capita.	Per consumer (except hydrants.)	Per million gallons pumped.
	<i>Municipal Plants.</i>								
Algoma.....	Municipal Water Works.....	\$20 00	\$0 37	\$0 91	\$9 63	\$82 11	\$1 35	\$14 30	\$122 00
Alma Center.....	" " " ".....	20 00	46	51	6 80	87 90	1 38	12 75	133 00
Arcadia.....	" " " ".....			91	8 40				
Baldwin.....	" " " ".....			1 20	4 07				
Barron.....	" " " ".....	48 00	96	1 29	8 65	50 72	13	4 01	
Bayfield.....	" " " ".....	30 48	74	2 41	11 73	72 72	1 99	9 65	59 97
Belmont.....	" " " ".....	20 00	60	79	5 86		1 80	13 28	
Benton.....	" " " ".....			90	9 80				
Blair.....	" " " ".....	9 37	31	1 54	7 64	57 02	93	4 60	34 34
Blanchardville...	" " " ".....		1 25	28	8 05		1 15	33 78	
Bloomer.....	" " " ".....	5 00	09	61	9 63	105 30	60	9 48	103 65
Brodhead.....	" " " ".....		48	24	1 71		1 00	7 09	
Bruce.....	" " " ".....		71	21	20 00				
Cashton.....	" " " ".....		29	2 37	9 85	226 51			
Cassville.....	" " " ".....			41	5 75				
Clinton.....	" " " ".....	30 00	1 06	1 07	6 31	104 59	1 48	8 62	144 00
Cumberland.....	" " " ".....	54 30	79	89	5 04		1 10	6 19	
Darlington.....	" " " ".....			2 35	10 00	96 00	4 50	19 10	183 53
Deerfield.....	" " " ".....			39	5 57	107 10			
Dodgeville.....	" " " ".....	35 56	71	65	12 29	63 70			
Elkhart Lake....	" " " ".....	50 00	1 10	1 59	13 19	65 95	1 82	15 17	75 85
Elkhorn.....	" " " ".....	55 20	1 69	2 71	18 55	79 55	3 79	25 87	110 90
Ellsworth.....	" " " ".....			1 04	10 47	331 00			
Elroy.....	" " " ".....			1 81	38 75				
Evansville.....	" " " ".....	37 00	97	98	7 12	99 40	1 22	8 86	123 53

¹ Pumpages reported evidently in error.

CLASS C. WATER UTILITIES—Concluded.
UNIT COSTS OF OPERATION AND UNIT REVENUES.

LOCATION.	NAME OF COMPANY.	HYDRANT RENTALS.		COMMERCIAL AND INDUSTRIAL OPERATING REVENUES.			OPERATING EXPENSES (EXCLUSIVE OF TAXES, DEPRECIATION AND INTEREST).		
		Per hydrant.	Per capita.	Per capita.	Per consumer. (except hydrants.)	Per million gallons pumped.	Per capita.	Per consumer. (except hydrants.)	Per million gallons pumped.
Fennimore.....	Municipal Water Works.....			1 23	8 88	194 10			
Glenwood.....	" " " ".....			1 04	11 80	45 85			
Glidden.....	" " " ".....			96	12 00	125 02			
Jefferson.....	" " " ".....	46 20	1 00	1 35	8 88	168 30	1 14	7 53	142 55
Kiel.....	" " " ".....			2 91	26 83	426 50	90	8 45	133 00
Kilbourn.....	" " " ".....	40 00	1 33	2 56	10 23	106 50	3 04	11 75	122 50
Lake Mills.....	" " " ".....	39 40	80	1 05	11 41	82 85	1 68	18 13	132 40
Lodi.....	" " " ".....	35 00	94	1 32	7 27	87 00	1 66	9 15	109 50
Loyal.....	" " " ".....			23	8 38	36 70			
Mauston.....	" " " ".....			86	7 72		93	8 35	
Mayville.....	" " " ".....			48	13 88	150 00	1 85	20 60	222 03
Mazomanie.....	" " " ".....	28 33	37	16	6 33				
Medford.....	" " " ".....	55 80	87	47	12 88	106 50	56	15 37	127 01
Menasha.....	" " " ".....		64	75			22		
Merrillan.....	" " " ".....	10 00	29	92	9 70	136 02	57	6 01	84 45
Mondovi.....	" " " ".....			70			44		
Neillsville.....	" " " ".....			1 11	6 02	212 00			
North Freedom.....	" " " ".....	22 00	20	73	4 68	175 00	1 26	8 11	302 50
North Milwaukee.....	" " " ".....	81 50	2 58	1 67	11 87	91 45	1 68	11 93	95 25
Onalaska.....	" " " ".....			1 01	7 58	90 48	1 45	10 85	130 00
Park Falls.....	" " " ".....			29	19 75	138 50	44	30 00	210 54
Plymouth.....	" " " ".....			3 43	20 56		3 46	20 74	
Prairie du Chien.....	" " " ".....			32	15 17		84	39 40	
Shell Lake.....	" " " ".....	15 85	53	2 27	7 85				
Shullsburg.....	" " " ".....			1 20	6 38	111 50	1 24	6 57	114 58

Spring Valley.....	"	"	"	27	5 33	93 20	1 40	22 72			
Stanley.....	"	"	"	44	7 20		1 67	20 75			
St. Croix Falls ¹	"	"	"	41 80	72		2 12	13 27			
Sun Prairie.....	"	"	"	31 70	1 27		1 35	11 57			
Thorp.....	"	"	"		72						
Viroqua.....	"	"	"	6 92	09	1 79	6 98	1 47	5 72	83 45	
Waterloo.....	"	"	"	28 00	83	47	174 80	1 56		578 00	
Waupun.....	"	"	"	40 09	58	1 18	7 49	1 10	6 98		
Wauwatosa.....	"	"	"			1 45	9 20	1 03	6 55	57 70	
West Bend.....	"	"	"	18 30	36	66	8 14	1 32	16 30	65 30	
Westby.....	"	"	"			1 65	9 14	201 90	95	5 23	115 70
Whitehall.....	"	"	"			81			37		
Weighted average.....				\$24 88	\$0 44	\$1 41	\$9 81	\$109 30	\$1 12	\$9 58	\$110 02
Minimum.....				5 00	09	16	1 71	32 60	13	4 01	34 34
Maximum.....				81 50	2 58	3 43	38 75	426 50	4 50	39 40	578 00
Average, all utilities.....				20 00	42	1 11	9 47	77 26	99	8 62	63 10
Average, utilities reporting this item.....				32 95	76	1 11	10 13	122 83	1 41	13 37	139 72
Median.....				30 00	71	94	8 64	101 90	1 29	11 22	122 25

¹ Pumpages reported evidently in error.

Financial and Operating Statistics of Public Utilities.—G. Unit Costs.—4. Telephone Utilities.

WISCONSIN TELEPHONE COMPANY.

PERCENTAGE ANALYSIS OF OPERATING EXPENSES.

Year Ending, June 30, 1912.

LOCATION.	Central office traffic.	Wire plant trans- mission	Sub- station terminal	Com- mer- cial.	General.	Undis- tributed.	Total.
Algoma	34.63	8.47	29.75	18.56	4.38	4.21	100.00
Appleton	32.87	13.03	32.37	13.81	4.18	3.74	100.00
Ashland	26.94	10.97	31.12	23.30	4.36	3.31	100.00
Baraboo	35.22	9.55	33.21	13.63	4.57	3.82	100.00
Bayfield	36.52	5.04	32.18	19.36	4.30	2.60	100.00
Beaver Dam	29.40	17.02	33.44	12.02	4.33	3.79	100.00
Beloit	32.35	15.50	28.38	16.94	4.25	2.58	100.00
Berlin	37.48	8.76	30.91	15.21	4.55	3.00	100.00
Burlington	34.92	12.45	30.50	13.71	4.23	4.19	100.00
Burnett Jct.	50.47	14.55	25.17	4.39	4.20	1.22	100.00
Cedarburg	43.01	6.60	27.46	15.04	4.48	3.41	100.00
Chippewa Falls ..	34.31	17.36	28.46	12.46	4.18	3.23	100.00
Columbus	24.79	31.02	22.55	14.09	4.49	3.06	100.00
Corliss	53.43	9.63	23.16	7.45	5.05	1.28	100.00
Darlington	34.71	15.76	24.32	18.26	4.72	2.23	100.00
Delavan	33.21	20.87	25.01	12.55	4.62	3.74	100.00
DePere	38.83	15.62	22.55	15.84	4.62	2.54	100.00
Eau Claire	31.71	11.87	32.30	16.28	4.13	3.71	100.00
Elkhorn	25.58	4.88	48.83	9.45	8.31	2.95	100.00
Evansville	40.89	15.46	29.23	9.12	2.99	2.31	100.00
Fond du Lac.....	36.37	16.04	29.65	10.37	4.01	3.56	100.00
Ft. Atkinson	33.65	8.73	39.46	11.91	4.36	1.89	100.00
Genoa Junction ..	31.71	10.95	39.74	9.68	4.30	3.62	100.00
Green Bay	30.19	17.29	29.64	16.47	4.18	2.23	100.00
Green Lake	23.42	6.34	32.05	31.21	3.95	3.03	100.00
Hartford	35.98	13.91	25.31	15.81	4.29	4.70	100.00
Hartland	34.77	21.86	21.32	14.93	4.06	3.06	100.00
Horicon	32.66	11.55	29.32	19.40	4.44	2.63	100.00
Hortonville	30.36	17.33	27.66	15.29	4.68	4.68	100.00
Hudson	30.75	19.99	25.61	15.48	4.47	3.70	100.00
Hurley	28.89	17.97	31.93	15.33	4.46	1.42	100.00
Janesville	28.48	15.56	26.45	23.50	4.36	1.56	100.00
Jefferson	31.59	9.72	29.18	21.83	4.64	3.04	100.00
Juneau	35.68	13.67	23.08	20.15	4.42	3.00	100.00
Kaukauna	37.46	13.23	25.69	14.84	4.15	4.63	100.00
Kewaunee	43.96	7.58	21.99	19.89	4.00	2.58	100.00
La Crosse	24.20	13.04	35.61	19.68	4.37	3.10	100.00
Lake Geneva	32.11	29.71	18.17	10.80	5.46	3.75	100.00
Lancaster	28.95	18.83	25.87	17.93	4.85	3.57	100.00
Lima Center	49.35	13.86	21.65	7.09	3.88	4.17	100.00
Madison	39.07	15.61	25.79	12.13	4.25	3.15	100.00
Manitowoc	33.93	9.56	34.58	13.10	4.00	4.83	100.00
Marinette	40.08	9.74	26.42	15.21	4.13	4.42	100.00
Mayville	27.76	14.31	32.67	18.00	4.32	2.94	100.00
Menomonie	25.66	15.63	32.39	18.21	4.05	4.06	100.00
Merrill	40.82	8.26	30.47	13.33	4.38	2.74	100.00
Milwaukee	41.46	5.40	28.92	16.08	5.43	2.71	100.00
Neanah	41.76	8.05	28.31	15.02	4.10	2.76	100.00
New London	34.09	8.95	30.01	20.20	4.44	2.31	100.00
North Freedom ..	40.83	12.53	35.36	5.30	4.05	1.93	100.00

WISCONSIN TELEPHONE COMPANY.
 PERCENTAGE ANALYSIS OF OPERATING EXPENSES.—Concluded.

Year Ending June 30, 1912.

LOCATION.	Central office traffic.	Wire plant transmission.	Sub-station terminal	Commercial.	General.	Undis-tributed.	Total.
Oconomowoc	30.24	18.42	28.62	14.75	4.36	3.61	100.00
Oconto	30.68	18.48	24.12	17.90	4.95	3.87	100.00
Oconto Falls	35.36	11.68	17.85	26.01	6.08	3.01	100.00
Omro	24.38	17.61	35.43	14.19	4.33	4.06	100.00
Oshkosh	36.05	18.24	25.27	12.28	4.94	3.22	100.00
Peshtigo	36.01	20.57	28.80	6.29	4.04	4.29	100.00
Pt. Washington	42.25	7.97	21.72	18.67	4.53	4.86	100.00
Princeton	34.98	5.89	30.32	19.84	4.54	4.43	100.00
Racine	25.66	12.76	42.17	12.11	4.82	2.48	100.00
Red Granite	38.94	6.32	27.58	18.50	5.81	2.86	100.00
St. Martins	50.65	14.11	20.69	8.63	4.89	1.03	100.00
Shawano	32.18	9.11	30.96	20.17	4.57	3.01	100.00
Shullsburg	38.62	16.46	22.00	14.36	5.42	3.14	100.00
South Milwaukee	36.41	10.98	29.66	15.13	4.07	3.75	100.00
Stanley	25.04	14.86	37.22	15.91	4.92	2.05	100.00
Stevens Point	29.14	19.50	27.59	15.35	4.15	4.27	100.00
Stoughton	32.58	16.53	30.72	11.03	4.26	4.88	100.00
Sturgeon Bay	38.43	18.63	20.15	14.87	4.75	3.17	100.00
Superior	36.57	7.69	31.71	15.39	6.08	2.56	100.00
Washburn	33.58	11.78	27.24	20.61	4.31	2.48	100.00
Watertown	42.07	11.32	27.48	11.36	4.13	3.64	100.00
Waukesha	28.64	15.36	32.47	13.78	4.20	4.55	100.00
Waupun	30.34	12.29	32.68	16.06	4.17	4.46	100.00
West Bend	33.63	6.58	37.90	14.01	4.40	3.48	100.00
Whitewater	44.69	18.68	18.52	9.66	4.28	4.17	100.00
Winneconne	8.81	21.68	14.62	44.81	5.57	4.51	100.00
Weighted average	37.04	10.15	29.61	15.31	4.94	2.95	100.00
Minimum for utilities re- porting this item.....	8.81	4.88	14.62	4.39	2.99	1.03	.....
Maximum	53.43	31.02	48.83	44.81	8.31	4.88	.....
Arithmetic average for all utilities	34.38	13.59	28.68	15.54	4.53	3.27	.....
Arithmetic average for util- ities reporting this item..	34.38	13.59	28.68	15.54	4.53	3.27	.....
Median	34.20	13.76	28.86	15.17	4.36	3.20	.....

WISCONSIN TELE
OPERATING EXPENSES
Year Ending

Italic figures denote credits.

LOCATION.	Central Office (Traffic). ¹				Wire
	Operating labor per line equipped.	Total operation per line equipped.	Total maintenance per line equipped	Total central office expenses per line equipped.	Maintenance pole lines per pole-mile.
Algoma	\$4.21	\$5.43	\$0.50	\$5.93	\$5.67
Appleton	6.50	8.03	.82	8.85	2.94
Ashland	2.15	3.13	.59	3.72	2.31
Baraboo	3.25	3.60	.62	4.22	10.74
Bayfield	6.20	7.53	.36	7.89	.18
Beaver Dam	2.87	3.71	.59	4.30	1.97
Beloit	2.16	2.73	.38	3.11	4.83
Berlin	5.55	6.50	1.89	8.39	11.24
Burlington	5.49	5.33	.33	6.16	2.08
Burnett Junction	12.64	16.86	.92	17.78	.06
Cedarburg	3.58	4.69	.68	5.37	2.69
Chippewa Falls	3.08	3.74	.81	4.55	2.58
Columbus	3.43	4.84	.64	5.48	12.26
Corliss	4.06	5.29	.40	5.69	.07
Darlington					1.91
Delavan	6.39	7.90	.69	8.59	.96
De Pere	5.24	7.05	.39	7.44	2.00
Eau Claire	4.09	4.67	.77	5.44	5.11
Ekhorn .....					.27
Evansville ²					
Fond du Lac	2.12	2.60	.64	3.24	7.07
Ft. Atkinson	3.35	3.96	.35	4.31	3.43
Genoa Junction	7.99	9.95	.78	10.73	.18
Green Bay	3.03	3.48	.95	4.43	7.49
Green Lake	1.55	1.67	.34	2.01	3.44
Hartford	3.50	4.18	.38	4.56	2.55
Hartland	6.50	7.78	.69	8.47	17.08
Horicon	3.12	3.70	.37	4.07	1.24
Hortonville	3.19	4.11	.47	4.68	1.42
Hudson	2.41	3.12	.50	3.62	11.07
Hurley					10.17
Janesville	3.55	4.47	.92	5.39	7.83
Jefferson	2.05	2.49	.61	3.10	1.21
Juneau	4.85	5.87	.40	6.27	2.01
Kaukauna	2.18	3.12	.41	3.53	4.52
Kewaunee	1.87	2.44	.06	2.50	.71
La Crosse	2.74	3.39	.72	4.11	1.86
Lake Geneva	3.47	4.59	.42	5.01	2.04
Lancaster	1.92	2.86	.60	3.46	2.62
Lima Center ³ .....	.28	8.64	2.36	11.00	.02
Madison	3.71	4.26	.77	5.03	10.37
Manitowoc	2.54	3.15	.27	3.42	2.65
Marinette	3.55	4.41	1.27	5.68	2.48
Mayville	3.87	4.91	.73	3.64	4.26
Menomonie	2.81	3.80	.49	4.29	1.27
Merrill	3.86	4.68	.22	4.90	4.18
Milwaukee	6.30	7.73	1.00	8.73	3.97
Neeah	1.80	2.29	.41	2.70	1.13
New London	3.74	4.60	.52	5.12	1.81
North Freedom	3.00	3.98	.34	4.32	.50

PHONE COMPANY.

PER UNIT.

June 30, 1912.

Plant Expenses.		Substation Expenses.			Total commercial expense per phone.	General law expense per phone.	Total general expense per phone.	Taxes per phone.
Maintenance of aerial wire per wire-mile.	Maintenance of aerial cable per cable-mile.	Operation per phone.	Maintenance per phone.	Total per phone.				
\$0.87	\$0.78	\$2.02	\$1.17	\$3.19	\$1.99	\$0.05	\$0.47	\$1.06
1.53	.77	3.35	1.88	5.23	2.23	.08	.67	1.14
.88	.18	3.05	1.02	4.07	3.04	.06	.57	.86
3.30	.05	2.39	.94	3.33	1.37	.08	.46	.94
.50	.71	2.15	.63	2.78	1.67	.04	.37	.89
1.69	.47	1.91	1.00	2.91	1.05	.04	.38	.84
.77	1.35	2.77	.93	3.70	2.21	.06	.55	1.22
4.44	.45	2.06	2.69	4.75	2.34	.07	.70	1.05
.92	1.26	1.62	.69	2.31	1.03	.04	.32	.88
.98	.....	1.81	.88	2.69	.47	.05	.45	.80
1.08	.19	1.97	.47	2.44	1.33	.04	.40	.94
2.01	.32	2.26	.79	3.05	1.33	.05	.45	1.24
3.81	1.53	1.07	.88	1.95	1.22	.05	.39	.82
.97	.96	2.06	1.23	3.29	1.06	.08	.72	1.10
3.85	1.64	1.20	1.81	3.01	2.26	.07	.58	.72
1.24	1.20	1.43	.83	2.26	1.13	.08	.42	.83
1.10	.45	1.50	.59	2.09	1.47	.06	.43	.88
1.48	.23	2.78	.78	3.56	1.79	.05	.45	1.24
.13	.62	2.13	2.59	4.72	.91	.11	.80	.34
2.50	.37	2.64	.74	3.38	1.18	.05	.46	1.18
1.95	.07	1.92	1.39	3.31	1.00	.05	.37	1.00
1.50	.30	1.64	2.08	3.72	.91	.04	.40	1.10
2.25	.73	3.03	1.20	4.23	2.35	.07	.60	1.16
.37	3.86	1.82	1.53	3.35	3.26	.05	.41	1.16
1.05	.57	1.23	.66	1.89	1.18	.04	.32	.89
.94	.81	1.79	.93	2.72	1.90	.06	.52	1.46
1.53	1.67	1.44	1.14	2.58	1.71	.04	.39	.83
1.27	24.06	1.18	1.21	2.39	1.33	.04	.41	.80
4.18	.77	1.86	.54	2.40	1.45	.04	.42	.83
.58	.32	1.94	1.13	3.07	1.47	.04	.43	1.24
1.37	1.88	2.72	.78	3.50	3.12	.07	.58	.80
1.09	.07	1.46	.67	2.13	1.60	.03	.34	.85
9.55	1.03	1.52	.82	2.34	2.04	.05	.45	.91
.81	.12	1.87	.63	2.50	1.45	.05	.40	1.16
.65	.25	1.32	.57	1.89	1.72	.04	.35	1.06
1.84	.10	4.38	1.23	5.61	3.10	.08	.69	.99
1.87	1.85	1.57	.72	2.29	1.36	.15	.69	1.28
3.33	.40	1.47	1.09	2.56	1.78	.04	.48	.80
.59	.03	1.06	.72	1.78	.59	.04	.32	.81
6.43	.70	2.50	.86	3.36	1.58	.07	.55	1.20
1.61	.24	2.26	.62	2.88	1.09	.04	.33	1.29
1.14	.28	1.91	.66	2.57	1.48	.04	.40	1.18
2.96	.74	1.77	1.36	3.13	1.72	.04	.41	.92
.85	.46	1.85	1.04	2.89	1.63	.04	.36	1.04
.38	.34	2.09	1.24	3.33	1.46	.05	.48	.96
2.54	.46	3.77	1.51	5.28	2.94	.11	.99	2.18
1.33	.58	1.89	.64	2.53	1.34	.04	.37	1.18
2.13	.06	1.53	1.00	2.53	1.42	.04	.38	.74
1.13	2.99	2.11	.84	2.95	.44	.04	.34	1.04

WISCONSIN TELE
OPERATING EXPENSES
Year Ending

Italic figures denote credits.

LOCATION.	Central Office (Traffic), ¹				Wire
	Operating labor per line equipped.	Total operation per line equipped.	Total maintenance per line equipped.	Total central office expenses per line equipped.	Maintenance pole lines per pole-mile.
Oconomowoc	2.17	2.69	.56	3.25	3.00
Oconto	2.48	3.35	.43	3.78	5.05
Oconto Falls	3.52	4.94	1.04	5.98	1.92
Omro	2.94	3.99	.72	4.71	.67
Oshkosh	2.38	2.83	.68	3.51	3.93
Peshtigo	2.27	2.97	.22	3.19	122.94
Port Washington	4.00	5.14	.80	5.94	3.06
Princeton	1.81	2.34	.24	2.58	4.53
Racine	3.08	3.59	.68	4.27	2.91
Red Granite	3.39	3.94	.34	4.28	.93
St. Martins	18.82	22.39	.90	23.29	.02
Shawano	3.70	4.62	.90	5.52	.97
Shullsburg .....					.14
So. Milwaukee	2.34	3.55	.51	4.06	.75
Stanley	4.89	5.99	1.61	7.60	5.66
Stevens Point	4.10	5.17	1.09	6.26	3.77
Stoughton	3.23	3.93	.30	4.23	1.16
Sturgeon Bay	2.87	3.61	.57	4.18	1.34
Superior	5.70	7.11	.70	7.81	3.20
Washburn	3.14	4.04	.25	4.29	15.93
Watertown	3.77	4.82	.58	5.40	1.15
Waukesha	2.77	3.45	.36	3.81	.94
Waupun	3.45	4.27	.97	5.24	.50
West Bend	3.65	4.24	.13	4.37	.59
Whitewater	3.79	5.50	1.11	6.61	.33
Winneconne .....	.15	.39	.12	.51	2.23
Weighted average	\$4.33	\$5.31	\$0.78	\$6.10	\$3.22
Minimum for utilities reporting this item ³ .....	.23	.59	.06	.51	.02
Maximum	18.82	22.39	2.36	23.29	122.94
Arith. average for all utilities	3.60	4.63	.60	5.22	5.04
Arith. average for utilities reporting this item	3.81	4.89	.64	5.52	5.04
Median	3.39	4.18	.59	4.58	2.31

¹ In all of the unit "Central office (traffic)" expenses and also for "Maintenance of cable per cable mile," the utilities showing blanks have reported these items but not data on lines equipped. Attention is called to this in considering arithmetic average of all utilities (i. e. assuming blanks as 0).

PHONE COMPANY.

PER UNIT.—Concluded.

June 30, 1912.

Plant Expenses.		Substation Expenses.			Total commercial expense per phone.	General law expense per phone.	Total general expense per phone.	Taxes per phone.
Maintenance of aerial wire per wire-mile.	Maintenance of aerial cable per cable-mile.	Operation per phone.	Maintenance per phone.	Total per phone.				
.98	.45	2.12	1.12	3.24	1.67	.06	.49	1.39
3.27	.53	1.92	.92	2.84	2.10	.09	.58	1.01
2.10	2.83	1.38	.69	2.07	3.00	.06	.70	.91
1.08	1.18	1.85	1.44	3.29	1.32	.04	.40	.75
1.46	.96	2.01	.89	2.90	1.41	.14	.57	1.15
1.89	3.04	2.98	.42	3.40	.74	.05	.48	.94
.98	.22	1.42	.47	1.89	1.63	.04	.39	.95
.86	10.40	1.85	2.41	4.26	2.79	.07	.64	1.08
5.39	.63	5.08	1.17	6.25	1.79	.11	.71	.94
1.11	.....	2.83	1.12	3.95	2.65	.06	.83	1.11
1.47	.....	1.23	.87	2.10	.87	.05	.49	.78
1.37	.14	1.99	.83	2.82	1.83	.04	.42	.76
2.65	.....	1.26	1.29	2.55	1.67	.06	.63	.85
1.19	.02	1.59	.81	2.40	1.22	.04	.33	.83
1.90	.75	2.32	1.73	4.05	1.73	.05	.54	.87
2.62	.90	2.63	.59	3.22	1.79	.06	.48	1.20
1.44	.31	1.57	.63	2.20	.79	.05	.31	.75
1.32	.87	1.40	.50	1.90	1.40	.04	.45	.82
1.30	.42	3.70	1.12	4.82	2.34	.04	.92	1.21
.75	.18	2.09	1.09	3.18	2.40	.05	.50	.62
1.62	.31	2.08	.57	2.65	1.09	.04	.40	1.23
1.67	.61	2.08	1.31	3.39	1.40	.05	.43	1.04
1.83	.52	1.32	.93	2.25	1.11	.08	.29	.76
.79	.20	1.83	.80	2.63	.97	.03	.31	1.01
1.64	1.51	1.13	.31	1.44	.75	.04	.33	.79
.47	.16	.37	.36	.73	2.23	.02	.28	.27
\$1.83	\$0.53	\$2.95	\$1.15	\$4.10	\$2.12	\$0.09	\$0.68	\$1.45
.13	10.40	.37	.31	1.78	.44	.02	.28	.34
9.55	24.06	5.08	2.69	6.25	3.26	.15	.99	2.18
1.79	.87	2.01	1.01	3.02	1.63	.055	.48	.98
1.79	.92	2.01	1.01	3.02	1.63	.055	.48	.98
1.38	.47	1.91	.89	2.89	1.47	.05	.45	.94

² Report cover 2 months' operation only.

³ Automatic central office equipment.

CLASSES A AND B INDEPENDENT
PERCENTAGE ANALYSES OF
Year Ending

LOCATION.	NAME OF COMPANY.
Albany.....	United Tel. Company.....
Antigo.....	Antigo Tel. Co.....
Appleton.....	Fox River T. & T. Co.....
Ashland.....	Ashland Home Tel. Co.....
Blanchardville.....	United Tel. Co.....
Bruce.....	Chippewa Val. Tel. Co.....
Cameron.....	Chippewa Val. Tel. Co.....
Chippewa Falls.....	Chippewa Co. Tel. Co.....
Green Bay.....	Fox River Tel. & Teleg. Co.....
Ingram.....	Chippewa Val. Tel. Co.....
Janesville.....	Rock Co. Tel. Co.....
Kenosha.....	Kenosha Home Tel. Co.....
La Crosse.....	La Crosse Tel. Co.....
Ladysmith.....	Chippewa Val. Tel. Co.....
Marshfield.....	Marshfield Tel. Exch.....
Monroe.....	United Tel. Co.....
Monticello.....	United Tel. Co.....
Portage.....	Portage Tel. Co.....
Prentice.....	Chippewa Val. Tel. Co.....
Rhinelanders.....	Rhinelanders Mut. Tel Co.....
Sheboygan.....	Citizen's Tel. Exch.....
Sheboygan Falls.....	Citizen's Tel. Exch.....
Sparta.....	Monroe Co. Tel. Co.....
Superior.....	Peoples Tel. Co.....
Wausau.....	Wausau Tel. Co.....
Weighted average.....	.....
Minimum for utilities reporting this item.....	.....
Maximum.....	.....
Arithmetic average for all utilities.....	.....
Arithmetic average for utilities reporting this item.....	.....
Median.....	.....

TELEPHONE UTILITIES.

OPERATING EXPENSES.

June 30, 1912.

Central office.	Wire plant.	Sub-station.	Commer-cial.	General.	Undis-tributed.	Total.
50.23	9.86	12.83	1.06	23.00	3.02	100.00
32.53	7.41	2.30	3.53	49.67	4.56	100.00
46.21	38.49	.....	6.07	7.57	1.66	100.00
34.23	24.99	18.08	5.46	10.80	6.44	100.00
60.55	4.43	10.73	2.58	19.01	2.70	100.00
76.42	6.53	13.34	2.78	.....	.93	100.00
86.76	2.85	7.85	2.31	.....	.23	100.00
43.53	12.86	15.79	12.11	9.52	6.19	100.00
43.27	37.87	.....	7.40	9.17	2.29	100.00
87.47	2.33	7.22	2.78	.....	.20	100.00
60.70	11.83	7.50	8.32	4.57	7.08	100.00
35.50	18.67	22.10	13.60	6.56	3.57	100.00
34.54	11.47	14.23	10.13	21.21	8.42	100.00
35.31	9.09	18.03	28.33	5.35	3.89	100.00
46.37	16.64	1.89	4.13	24.86	6.11	100.00
42.74	8.97	9.92	6.05	27.94	4.38	100.00
56.37	7.96	13.61	1.65	17.95	2.46	100.00
38.65	14.23	13.47	4.26	24.49	4.85	100.00
69.61	11.66	13.95	3.14	.....	1.64	100.00
34.30	6.41	11.46	8.91	34.88	4.04	100.00
36.92	14.99	20.77	15.63	3.70	7.99	100.00
56.35	9.29	22.37	4.07	4.57	3.35	100.00
41.32	14.34	25.71	6.66	9.52	2.45	100.00
45.63	15.27	11.92	11.32	12.25	3.61	100.00
43.77	9.10	12.82	9.19	21.34	3.78	100.00
42.07	16.96	11.76	8.93	15.23	5.05	100.00
32.53	2.33	2.30	1.06	3.70	.20	.....
87.47	38.49	25.71	28.33	49.67	8.42	.....
49.57	13.10	12.32	7.26	13.92	3.83	.....
49.57	13.10	13.39	7.26	16.57	3.83	.....
43.77	11.47	13.34	6.05	12.25	3.61	.....

CLASSES A. AND B. TELEPHONE UTILITIES.
OPERATING EXP
Year Ending

LOCATION.	NAME OF COMPANY.	Unit Central Office (Traffic) ³ Expenses.				
		No. of lines equipped.	Operating labor per line.	Total operation per line.	Total maint. per line.	Total central office exp. per line.
Albany.....	United Telephone Co. ¹	177	\$4.34	\$4.63	\$0.19	\$4.82
Antigo.....	Antigo Telephone Co. ¹	800	3.72	4.91	.58	5.49
Appleton.....	Fox River T. & T. Co.....	1,100	5.31	7.03	.....	7.03
Ashland.....	Ashland Home Tel. Co. ¹	1,050	3.21	4.37	.38	4.75
Blanchardville.....	United Tel. Co. ¹	176	6.10	6.71	.38	7.09
Bruce.....	Chip. Valley Tel. Co.....	100	2.91	3.67	.14	3.81
Cameron.....	Chip. Valley Tel. Co.....	50	4.63	6.05	.29	6.34
Chippewa Falls...	Chippewa Co. Tel. Co. ¹	279	7.61	9.26	.82	10.08
Green Bay.....	Fox River T. & T. Co.....	1,500	3.91	4.91	.....	4.91
Ingram.....	Chip. Valley Tel. Co.....	50	1.48	1.90	.26	3.16
Janesville.....	Rock County Tel. Co.....	1,200	8.77	9.74	1.04	10.78
Kenosha.....	Kenosha Home Tel. Co.....	2,800	1.80	2.17	.56	2.73
La Crosse.....	La Crosse Tel. Co.....	1,700	4.64	6.45	.65	7.10
Ladysmith.....	Chip. Valley Tel. Co.....	300	1.19	1.69	.73	2.42
Marshfield.....	Marshfield Tel. Exch.....	501	5.36	6.74	.10	6.84
Monroe.....	United Tel. Co. ¹	620	4.72	5.27	.53	5.80
Monticello.....	United Tel. Co. ¹	130	3.85	4.94	.60	5.54
Portage.....	Portage Tel. Co. ¹	650	3.25	3.89	.39	4.28
Prentice.....	Chip. Val. Tel. Co.....	50	3.56	5.30	.46	5.76
Rhineland.....	Rhineland Mut. Tel. Co. ¹	300	2.11	2.37	.08	2.45
Sheboygan.....	Citizens Tel. Exchange.....	1,260	3.18	4.05	.51	4.56
Sheboygan Falls...	Citizens Tel. Exchange.....	200	2.85	4.07	.65	4.72
Sparta.....	Monroe County Tel. Co. ¹	581	2.60	3.13	.61	3.74
Superior.....	Peoples Telephone Co.....	1,080	7.75	9.17	1.00	10.17
Wausau.....	Wausau Tel. Co. ²	1,344	2.35	3.84	1.10	4.94
	Total	18,058				
Weighted average.....			\$4.05	\$5.09	\$0.55	\$5.64
Minimum for utilities reporting this item.....			1.19	1.69	.08	2.16
Maximum.....			8.77	9.74	1.10	10.78
Arithmetic average for all utilities.....			4.05	5.05	.48	5.53
Arithmetic average for utilities reporting this item.....			4.05	5.05	.52	5.53
Median.....			3.72	4.91	.53	4.94

¹ Class B utilities² Includes both manual and automatic.

EXCHANGE SYSTEMS.

PENSES PER UNIT.

June 30, 1912.

Unit Wire Plant Expenses.		Total No. of phones installed.	Substation Expenses.			Total com'l exps. per phone.	General law exps. per phone.	Total general exps. per phone.	Taxes per phone.
No of pole miles.	Maint. of overhead lines per pole line.		Operation per phone.	Maintenance per phone.	Total per phone.				
23.75	\$4.23	310	\$0.54	\$0.17	\$0.71	\$0.06	\$1.26	\$0.28	
76.00	12.38	954	.12	.20	.33	.50	\$0.06	.51	
120.00	50.35	1,752	.....	.....	.....	.58	.03	.72
53.50	31.83	1,410	1.75	.12	1.87	.56	.07	1.12	
4.00	10.64	160	1.12	.26	1.38	.33	.....	2.45
2.87	7.53	70	.53	.42	.95	.20	.....	.42
1.00	5.30	18	.44	1.15	1.59	.47	.....	.39
197.00	4.22	543	.00	1.88	1.88	1.44	.04	1.13	
96.00	\$63.97	2,198	.....	.....	.....	.57	.03	.71
1.50	.63	12	.56	.19	.75	.29	.....	.38
21.50	113.45	2,025	.00	.79	.79	.88	.05	.48	
81.00	46.85	2,411	.85	1.13	1.98	1.22	.18	.59	
85.00	5.27	3,918	1.04	.22	1.26	.90	.03	1.89	
6.87	26.36	315	.45	.73	1.18	1.85	.....	.35
14.00	5.34	579	.20	.04	.24	.53	.20	3.17	
47.80	9.33	870	.64	.32	.96	.59	.00	2.70	
5.50	14.12	209	.64	.19	.83	.10	.....	1.10
106.00	9.11	933	.27	.77	1.04	.33	.....	1.89
1.50	30.26	36	.50	1.11	1.61	.36	.....	.40
26.00	5.05	684	.31	.12	.43	.33	.....	1.31
13.80	140.53	1,818	.83	.95	1.78	1.34	.....	.32
4.10	34.86	115	1.11	2.14	3.25	.59	.....	.67
239.75	.76	933	.45	1.00	1.45	.38	.....	.54
72.50	33.17	2,064	.74	.65	1.39	1.32	.01	1.43	
84.00	12.53	1,245	1.56	.....	1.56	1.12	.....	2.60
1,384.94	.....	25,582	.....	.....	.....	.....	.....	.....
.....	\$21.91	.....	\$0.63	\$0.48	\$1.11	\$0.84	\$0.046	\$1.44
.....	.63	.....	.00	.04	.24	.06	.00	.32
.....	140.53	.....	1.75	2.14	3.25	1.85	.20	7.02
.....	27.20	.....	.59	.58	1.17	.67	.035	1.34
.....	27.20	.....	.64	.66	1.27	.67	.064	1.59
.....	12.38	.....	.53	.54	1.26	.56	.04	1.13

³ All manual except Wausau.

⁴ Includes underground conduit and cable.

CLASS C. TELEPHONE UTILITIES. UNIT

Year Ending

LOCATION.	NAME OF COMPANY.	Revenue and Expense per Phone Installed.		
		Total operating revenues.	Total operating expense (ex. tax. depr. and int.)	Taxes.
Arcadia.....	Western Wis. Tel. Co.....	\$14.64	\$4.70	\$0.41
Augusta.....	J. L. Ball Estate Tel. Co.....	13.25	8.32	.30
Baldwin.....	Baldwin Tel. Co.....	12.24	4.56	.29
Bangor.....	Bangor Tel. Co.....	12.69	5.46	.29
Barron.....	Barron Co. Tel. Co.....	10.40	7.47	.21
Birchwood.....	Barron Co. Tel. Co.....	10.92	9.00	.34
Black River Falls.....	Central Wis. Tel. Co.....	13.41	5.48	.35
Blair.....	Western Wis. Tel. Co.....	18.90	31.96	.97
Bloomer.....	Bloomer Tel. Co.....	14.44	6.17	.33
Brodhead.....	Brodhead Tel. Co.....	13.08	6.76	.30
Brooklyn.....	Brooklyn Tel. Co.....	13.33	9.50	.35
Burlington.....	Central Wis. Tel. Co. & Wheatl. Tel. Co.....	13.47	6.51	.33
Cashton.....	New Cashton Tel. Co.....	12.07	4.47	.30
Centerville.....	Western Wis. Tel. Co.....	14.46	7.55	.36
Chilton.....	Eastern Wis. Tel. Co.....	13.92	5.53	.28
Clinton.....	Clinton Tel. Co.....	15.95	9.96	.34
Clintonville.....	Marion & Northern Tel. Co.....	17.00	8.01	.31
Cross Plains.....	Farmers' Union Tel. Co.....	9.78	7.47	.21
De Pere.....	Fox River Valley Tel. & Teleg. Co.....	14.63	14.42	.34
Dodgeville.....	New Union Tel. Co.....	25.57	20.49	.66
Edgerton.....	Edgerton Tel. Co.....	19.20	9.18	.48
Elkhorn.....	State Long Distance Tel. Co.....	16.02	8.85	.33
Ellsworth.....	Pierce Co. Tel. Co.....	18.09	9.77	.44
Elroy.....	Elroy Tel. Co.....	13.40	10.75	.34
Ettrick.....	Western Wis. Tel. Co.....	14.06	8.55	.35
Fountain City.....	Fountain City Tel. Co.....	16.42	15.61	.46
Galesville.....	Western Wis. Tel. Co.....	13.57	5.65	.35
Glenwood.....	Western Wis. Tel. Co.....	13.57	8.40	.30
Grand Rapids.....	Wood Co. Tel. Co.....	24.19	20.98	.54
Granton.....	Badger State Tel. & Teleg. Co.....	16.59	13.52	.41
Hillsboro.....	Hillsboro Tel. Co.....	12.90	7.18	.31
Independence.....	Western Wis. Tel. Co.....	14.13	11.21	.35
La Crosse Rural 1.....	La Crosse Inter. Tel. Co.....	14.90	3.87	.37
Lake Mills.....	Interurban Tel. Co.....	16.38	8.59	.41
Lodi.....	Lodi Tel. Exch.....	13.40	8.89	.31
Mapleton.....	Badger Tel. Co.....	17.23	8.78	.39
Marion.....	Marion & Northern Tel. Co.....	17.33	8.84	.27
Mauston.....	Mauston Electric Service Co.....	13.20	13.22	.29
Menomonie Falls.....	Menomonie Falls Tel. Co.....	13.57	7.29	.33
Milton.....	Milton & Milton Jet. Tel. Co.....	14.09	7.76	.32
Mineral Point.....	Mineral Point Tel. Co.....	10.15	6.15	.25
Mt. Hope.....	Peoples' Tel. Co.....	12.38	9.70	.03
Mt. Horeb.....	Mt. Horeb Ind. Tel. Co.....	13.00	5.40	.29
Mt. Vernon.....	Mt. Vernon Tel. Co.....	11.45	6.08	.30
Neillsville.....	Badger State Tel. & Teleg. Co.....	15.41	10.45	.39
New Richmond.....	St. Croix Tel. Co.....	10.07	6.72	.25
Oakfield.....	Oakfield Tel. Co.....	14.63	7.21	.35
Oostburg.....	Oostburg Tel. Co.....	11.56	8.70	.27
Oregon.....	Oregon Tel. Co.....	8.75	3.16	.....
Osseo.....	Osseo Tel. Co.....	13.06	10.75	.26
Park Falls.....	Glidden Tel. Co.....	16.08	14.26	.04
Plymouth.....	Plymouth Tel. Co.....	17.94	14.24	.65
Poynette.....	Poynette Tel. Co.....	12.87	8.80	.32
Prairie du Sac.....	Troy and Honey Creek Tel. Co.....	13.30	9.15	.34
Prairie Farm.....	Pr. Farm, Ridgeland & Dallas Tel. Co.....	11.59	6.50	.08

STATISTICS—TELEPHONE UTILITIES.

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REVENUE AND EXPENSE.

June 30, 1912.

Expense Per Phone.						Wire Plant Expense.	
Central office.	Wire plant.	Sub-station.	Com-mercial.	General.	Undis-tributed.	Per line.	Per pole-mile.
\$1.69	\$0.07	\$1.90	\$0.13	\$0.89	\$0.02	\$0.19	\$0.09
2.39	1.21	1.76	.22	2.29	.65	2.17	7.23
2.43	.57	.81	.....	1.04	.21	1.92	1.84
2.43	1.12	.86	.....	.99	.06	4.59	8.84
2.96	.....	2.44	.....	1.89	.19	.....	.....
.....	.....	.10	.....	.....	.....	.....	.....
4.02	.....	.....	.....	.74	.72	.....	.....
23.70	.45	3.98	.63	2.19	.97	.35	.....
2.51	.82	1.28	.....	.85	.71	2.10	2.47
3.42	1.15	1.07	.52	.44	.16	.....	6.35
6.05	.82	1.67	.38	.58	.....	1.95	3.57
2.18	2.35	.87	.05	.99	.09	20.96	7.64
1.75	.35	1.39	.....	.89	.09	1.35	1.36
3.57	.07	2.10	.94	.87	.01	.25	.....
4.01	.49	1.04	.....	.....	.....	.89	3.33
3.25	1.46	2.38	.48	2.22	.06	3.00	6.94
4.00	.17	.13	.....	3.71	.....	.20	2.31
2.88	3.99	.14	.....	.40	.06	.....	13.63
5.95	7.11	.....	.....	.78	.58	.....	41.41
6.93	5.39	3.66	.38	1.38	1.98	.....	19.89
4.05	1.63	.83	1.29	1.35	.12	1.89	.....
3.57	2.17	1.19	.14	1.60	.15	5.93	16.06
3.57	.....	3.82	.14	1.96	.28	.....	.....
3.22	3.59	1.57	.18	1.10	1.10	7.67	15.70
5.15	.08	1.54	.15	1.64	.01	.10	.30
4.88	.....	.....	.....	.....	.05	32.20	14.50
2.86	.05	2.01	.10	.64	.....	.11	.....
4.73	.04	.05	1.18	1.60	.81	.10	.13
8.35	5.84	3.02	.79	2.75	2.77	6.06	25.21
5.27	2.83	.98	.70	3.04	.70	3.45	10.61
1.92	1.81	1.02	.....	2.00	.44	4.85	10.30
6.63	.....	2.89	.07	1.64	.01	.01	.....
2.34	.51	.02	.....	.97	.....	.05	.05
3.02	1.27	.72	.23	1.20	2.24	2.34	6.72
2.03	1.36	1.29	.32	3.15	.76	.....	4.16
2.87	1.48	1.38	1.29	.51	1.26	21.53	3.99
4.47	.30	.20	.....	3.91	.....	.72	.85
4.71	5.74	.....	.....	2.38	.39	8.55	29.83
1.91	.....	1.48	.51	1.81	.01	6.74	6.42
3.09	2.52	.97	.92	.....	.26	8.15	17.08
2.87	.63	.52	.....	1.69	.43	.63	78.80
2.19	6.16	.....	.....	1.34	.....	.....	11.00
1.80	2.19	.66	.15	.34	.29	5.28	13.19
2.47	1.16	1.77	.36	.33	.....	.....	4.84
3.81	2.28	1.81	.54	1.59	.44	4.64	14.65
3.51	1.25	.87	.....	.95	.15	2.79	24.50
2.38	4.03	.....	.....	.51	.28	18.60	18.70
3.75	1.12	.59	.....	3.09	.14	.....	5.89
1.84	.47	.75	.....	.....	.10	.....	2.00
3.84	.....	.....	1.03	5.81	.06	.....	.....
4.45	1.15	1.80	.39	6.21	.14	.....	20.59
4.63	2.88	1.44	.....	2.77	2.55	2.82	3.93
4.20	1.97	1.45	.14	.06	.98	32.80	9.09
2.69	3.73	.35	.16	1.53	.75	12.40	14.41
2.72	.55	.91	.....	1.30	.04	2.86	1.18

CLASS C. TELEPHONE UTILITIES, UNIT

LOCATION.	NAME OF COMPANY.	Revenue and Expense per Phone Installed.		
		Total operating revenues.	Total operating expense (ex. tax, depr. and int.)	Taxes.
Reedsburg.....	Reedsburg Tel. Co.....	13.89	5.52	.37
Retreat.....	La Crosse Inter. Tel. Co.....	1.26	10.21	.03
Rice Lake.....	Barron Co. Tel. Co.....	12.67	6.13	.25
Richland Center.....	Badger Tel. Co.....	7.80	2.86	.19
Richland Center...	Farmers' Tel. Co.....	11.60	7.77	.27
Ripon.....	Ripon Tel. Co.....	30.56	19.87	.76
River Falls.....	Pierce Co. Tel. Co.....	15.53	7.26	.37
Roberts.....	Pierce Co. Tel. Co.....	22.36	15.75	.50
Rochester.....	Burlington-Roch. & Kansasville Tel. Co.....	14.41	7.64	.34
Spring Valley.....	Pierce Co. Tel. Co.....	19.67	11.62	.49
St. Croix Falls....	St. Croix Valley Tel. Exch.....	13.08	6.91	.33
Sun Prairie.....	Interurban Tel. Co.....	18.34	16.90	.44
Tomah.....	Tomah Elec. & Tel. Co.....	13.50	7.41	.24
Tomahawk.....	Tomahawk Lt. Tel. & Imp. Co.....	16.23	9.33	.49
Trempealeau.....	Western Wis. Tel. Co.....	12.77	7.78	.32
Two Rivers.....	Two Rivers Tel. Co.....	11.00	6.49	.24
Viola.....	La Crosse Int. Tel. Co.....	8.65	8.34	.22
Viroqua.....	Viroqua Tel. Co.....	17.25	8.52	.44
Walworth.....	Walworth Tel. Exch. Co.....	17.36	8.75	.44
Washburn.....	Bayfield Co. Tel. Co.....	14.88	13.30	.38
Waterloo.....	Inter. Tel. Co.....	16.00	16.90	.38
Watertown.....	Watertown Tel. Co.....	14.50	7.08	.36
Waupaca.....	Fox River Val. Tel. & Teleg. Co.....	17.48	13.45	.57
Westby.....	Westby Tel. Co.....	13.51	5.53	.35
Westfield.....	Westfield Farmers' Tel. Co.....	10.20	9.46	.20
West Salem.....	La Crosse Int. Tel. Co.....	14.21	8.07	.36
Whitehall.....	Western Wis. Tel. Co.....	20.18	15.91	.50
Weighted average.....		\$13.86	\$8.38	\$0.32
Minimum—utilities reporting this item.....		1.26	2.86	.03
Maximum.....		30.56	31.96	.97
Arithmetic average all utilities.....		14.29	9.31	.34
Arithmetic average utilities reporting this item.....		14.46	9.42	.35
Median.....		13.90	8.52	.34

REVENUE AND EXPENSE, 1912—Concluded.

Central office.	Expense Per Phone.					Wire Plant Expense.	
	Wire plant.	Sub-station.	Commercial.	General.	Undis-tributed.	Per line.	Per pole-mile.
\$2.63	\$0.45	\$1.05	\$0.17	\$0.37	\$0.87	\$0.83	\$2.59
10.20			.02				
2.93		1.96		1.15	.10		
.76	.90	.72			.48		2.70
5.07	1.53	.93		.24			12.00
12.74	.97	1.53	.35	.89	.39	.59	14.91
2.00	.03	2.53	.35	.25	.10	.06	.13
8.77	.55	2.89	.28	3.22	.07	.85	.90
2.53	2.04	1.98	.03	1.01	.04	6.66	8.33
7.19		.90	.53	2.80	.22		
2.42	1.05	1.23	.06	1.18	.96	5.14	3.39
5.00	2.16	1.27	.03	1.87	6.31	4.75	11.10
1.94	2.70		.14	2.47	.18	5.99	14.79
5.39	1.72		.21	1.26	.76	1.78	36.35
4.23	.05	1.69	.50	1.26	.60	9.32	
3.31				2.85	.35		
3.31	1.42	1.10	.78	.77	.89	3.33	6.69
3.32	2.42	.40	.78	1.08	.52	3.32	19.10
3.47	1.32	1.78	.86	.93	.39	2.51	9.20
5.49	3.67	2.38	.81	.88	.09	4.03	57.91
3.25	2.22	.93	.13	1.23	9.12	4.57	11.41
2.93	3.47	.29		.40			9.72
8.76	3.98			.74	.16		97.20
2.38	.36	1.33	.60	.86	.03	.96	1.44
3.05	4.17	1.38	.01	.62	.23		6.63
4.23	1.39	.95	.12	1.27	.09	2.34	15.95
7.87	.06	4.89	.39	2.65	.01	.05	
\$3.56	\$1.77	\$1.08	\$0.25	\$1.36	\$0.53	\$2.91	\$7.56
.76	.03	.02	.01	.06	.01	.01	.05
23.70	7.11	4.89	1.29	6.21	9.12	32.80	97.20
4.12	1.55	1.21	.26	1.48	.58	3.66	10.45
4.17	1.81	1.42	.42	1.62	.69	5.18	12.94
3.42	1.34	1.27	.35	1.26	.27	2.81	8.58

PART IV.

Financial and Operating Statistics of Railroad
Companies.

- A. Steam Railroads
- B. Electric Railways
- C. Express Companies

Financial and Operating Statistics of Railroads.—A. Steam Railroads.

INCOME ACCOUNT FOR YEAR ENDING DECEMBER 31, 1911.
OPERATING INCOME.

NAME OF ROAD.	Rail Operations.				Outside Operations.				Total net revenue.	Total net deficit.
	Operating revenues.	Operating expenses.	Net operating revenue.	Net operating deficit.	Revenues.	Expenses.	Net revenues.	Net deficit.		
A. WISCONSIN.										
<i>a. Interstate Roads.</i>										
Chicago & North Western ¹	\$20,929,005 33	\$13,278,847 78	\$7,650,157 55	.....	\$218,881 08	\$189,524 53	\$29,356 55	.....	\$7,679,514 10	.....
Chi., Burlington & Quincy ²	3,765,200 37	2,530,458 66	1,234,741 71	.....	53,864 00	66,237 84	\$12,373 84	.....	1,222,367 87	.....
Chi., Milwaukee & St. Paul.....	18,308,371 84	12,272,450 53	6,035,921 31	.....	463,745 56	437,611 12	26,134 44	.....	6,062,055 75	.....
Chi., St. P., Minn. & Omaha ¹	6,934,752 88	5,117,550 29	1,817,203 59	.....	81,814 74	82,441 08	.....	626 34	1,816,577 25	.....
Chi., Harv'rd & Geneva Lake.....	15,020 97	14,758 12	262 85	.....	.....	.....	.....	.....	262 85	.....
Duluth, S. Shore & Atlantic.....	398,835 28	406,800 03	.....	\$7,964 75	15,659 53	11,440 80	4,218 73	.....	.....	\$3,746 02
Elgin, Joliet & Eastern.....	49,244 71	54,427 84	.....	5,183 13	.....	.....	.....	.....	643,286 51	5,183 13
Great Northern.....	1,794,787 48	1,155,733 27	639,054 21	.....	8,944 02	4,711 72	4,232 30	.....	.....	42,341 38
Illinois Central.....	176,254 84	218,596 22	42,341 38	.....	74,538 00	73,975 50	562 50	.....	2,386,594 44	.....
Minneapolis, St. P. & S. S. M.....	9,366,475 76	6,980,443 82	2,386,031 94	.....	.....	.....	.....	.....	.....	13,217 60
Northern Pacific.....	519,042 26	532,259 86	.....	13,217 60	.....	.....	.....	.....	13,123 75	.....
Wisconsin & Michigan.....	117,694 00	103,967 88	13,726 12	.....	.....	602 37	.....	602 37	.....	.....
Total	\$62,374,686 72	\$42,666,294 30	\$19,777,099 28	\$68,706 86	\$917,446 93	\$866,544 96	\$64,504 52	\$13,602 55	\$19,823,782 52	\$64,488 13
<i>b. Intrastate Roads.</i>										
Ahnapee & Western.....	\$97,171 34	\$71,377 02	\$25,794 32	.....	.....	.....	.....	.....	\$25,794 32	.....
Ashland, Odanah & Marengo.....	68,733 77	62,087 38	6,646 39	.....	.....	.....	.....	.....	6,646 39	.....
Bayfield Transfer.....	42,012 31	30,505 13	11,507 18	.....	.....	.....	.....	.....	11,507 18	.....
Big Falls Ry. Co.....	7,333 53	8,302 55	.....	\$969 02	.....	.....	.....	.....	.....	\$969 02
Cazenovia & Sauk City.....	8,476 77	7,667 10	809 67	.....	.....	.....	.....	.....	809 67	.....
Chicago & Lake Superior.....	5,938 47	6,461 76	.....	523 29	.....	.....	.....	.....	.....	523 29
Chippewa Valley & North'n.....	19,274 80	16,500 36	2,774 44	.....	.....	.....	.....	.....	2,774 44	.....
Drummond & Southwestern.....	35,505 39	31,802 80	3,702 59	.....	.....	.....	.....	.....	3,702 59	.....
Dunbar & Wausaukee.....	19,725 94	13,345 46	6,380 48	.....	.....	.....	.....	.....	6,380 48	.....
Green Bay & Western ³	660,483 83	453,279 81	207,204 07	.....	.....	.....	.....	.....	207,204 07	.....

Hazelhurst & Southeastern.....	40,327 92	15,970 76	24,357 16					24,357 16	
Hillsboro & Northeastern ..	17,108 11	10,578 58	6,529 53					6,529 53	
Iola & Northern.....	8,750 89	7,427 91	1,322 98					1,322 98	
Kewaunee, G. B. & Western..	170,663 42	88,425 64	82,237 78					82,237 78	
La Crosse & Southeastern...	71,325 32	48,618 77	22,706 55					22,706 55	
Lake Superior Term. & Tr..	193,038 93	193,038 93							
Marquette, Tom'k & Western	51,085 39	36,937 69	14,147 70					14,147 70	
Mattoon Ry. Co.....	24,893 69	24,398 62	495 07					495 07	
Mineral Point & Northern ..	89,654 20	80,980 58	8,673 62					8,673 62	
Northwestern Coal Ry. Co..	34,188 00	24,834 98	9,353 02					9,353 02	
Stanley, Merrill & Phillips..	99,637 92	112,920 47		13,282 55					13,282 55
Tomahawk & Eastern.....	14,360 53	10,857 74	3,502 79					3,502 79	
Whitcomb & Morris.....	2,824 01	2,726 31	97 70					97 70	
Wisconsin & Northern	77,694 88	44,547 88	33,147 00					33,147 00	
Wisconsin & Northwestern..	31,300 51	25,254 75	6,045 76					6,045 76	
Total	\$1,891,509 92	\$1,428,848 98	\$477,435 80	\$14,774 86				\$477,435 80	\$14,774 86
B. ENTIRE SYSTEM.									
<i>Interstate Roads</i>									
Chicago & North Western...	\$73,598,436 18	\$51,850,245 13	\$21,748,191 05	\$755,989 77	\$807,633 80	\$51,644 03	\$21,696,547 02		
Chi., Burlington & Quincy...	85,981,647 77	57,615,222 16	28,366,425 61	782,329 48	902,532 63	120,203 15	28,246,222 46		
Chi., Milwaukee & St. Paul..	62,798,159 85	45,548,645 01	17,249,514 84	1,665,154 64	1,571,314 63	\$93,840 01	17,343,354 85		
Chi., St. P. Minn. & Omaha.	15,264,346 64	10,441,608 85	4,822,737 79	152,896 17	154,066 68		4,821,567 28		
Chi., Harv'rd & Geneva Lake	30,041 94	29,516 24	525 70			1,170 51	525 70		
Duluth, S. Shore & Atlantic	3,072,836 69	2,280,269 27	792,567 42				803,272 28		
Elgin, Joliet & Eastern.....	8,730,592 44	5,286,548 45	3,444,043 99	71,091 70	60,386 84	10,704 86	3,444,043 99		
Great Northern.....	63,011,888 91	36,533,812 01	26,478,076 90	1,168,591 19	989,812 08	178,779 11	26,656,856 01		
Illinois Central.....	59,836,754 73	45,971,960 46	13,864,794 27	495,482 95	573,944 15		13,786,333 07		
Minneapolis, St. P. & S. S. M.	23,689,366 63	15,155,871 67	8,533,494 96	402,555 73	307,472 04	95,083 69	8,628,578 65		
Northern Pacific.....	62,914,050 40	37,928,943 29	24,985,107 11	1,866,580 45	1,503,909 80	362,670 65	25,347,777 76		
Wisconsin & Michigan.....	172,387 64	159,557 84	12,829 80		602 37		12,227 43		
Total.....	\$459,100,509 82	\$308,802,200 38	\$150,298,309 44	\$7,360,672 08	\$6,871,675 02	\$741,078 32	\$252,081 26	\$150,787,306 50	

¹Wisconsin proportional. ²Wisconsin estimated. ³Includes entire system.

INCOME ACCOUNT FOR THE YEAR ENDING DECEMBER 31, 1911—Continued.

NAME OF ROAD.	OPERATING INCOME—Concluded.			OTHER INCOME.					
	Taxes accrued.	Operating income.	Operating loss.	Rents accrued from lease of road.	Other rents—credits.			Separately operated properties—profits.	Dividends declared on stocks owned or controlled.
					Hire of equipment—balance.	Joint facilities.	Miscellaneous rents.		
A. WISCONSIN.									
<i>a. Interstate Roads.</i>									
Chicago & North Western ¹	\$1,158,122 92	\$6,521,391 18				\$7,007 57	\$3,615 31		\$410,797 87
Chicago, Burlington & Quincy ²	196,588 03	1,025,779 84				1,200 00	1,268 50		18,884 55
Chicago, Milwaukee & St. Paul	1,084,321 71	4,977,734 04					296,351 29		21,234,321 42
Chicago, St. P., M. & Omaha ¹ ..	359,809 52	1,456,767 73				10,038 06	5,066 95		
Chicago, Harv. & Geneva Lake	353 53		\$90 68						
Duluth, S. Shore & Atlantic....	16,045 06		19,791 08	\$904 96	100 00				
Elgin, Joliet & Eastern.....	5,478 05		10,661 18	4,650 00					
Great Northern.....	98,464 06	544,822 45					88,743 25		
Illinois Central.....	11,331 44		53,672 82		638.95				
Minn., St. Paul & S. Ste. Marie	121,186 07	2,265,408 37							
Northern Pacific.....	41,000 00		54,217 60			52,923 52	8,695 39		
Wisconsin & Michigan.....	4,471 87	8,651 88							
Total.....	\$3,097,172 26	\$16,800,555 49	\$138,433 36						
<i>b. Intrastate Roads.</i>									
Ahnapee & Western.....	\$3,223 16	\$22,571 16							
Ashland, Odanah & Marengo..	1,341 56	5,304 83							
Bayfield Transfer.....	331 69	11,175 49							
Big Falls Ry. Co.....	313 03		1,282 05						
Cazenovia & Sauk City.....	134 64	675 03							
Chicago & Lake Superior.....	55 92		579 21						
Chippewa Valley & Northern..	387 26	2,387 18							
Drummond & Southwestern...	782 58	2,920 91							
Dunbar & Wausaukee.....	869 18	5,511 30					\$500 00		
Green Bay & Western.....	27,458 98	179,745 09		\$15,698 86					

Hazelhurst & Southeastern.....	443 95	23,913 21						
Hillsboro & Northeastern.....		6,529 53						
Iola & Northern.....	145 34	1,177 64			7 65			
Kewaunee, Green Bay & W.....	6,261 62	75,976 16			5,192 18		\$200 43	
La Crosse & Southeastern.....	3,821 09	18,885 46						
Lake Superior Term. & T'fr.....	4,998 91		4,998 91			7,623 98		
Marinette, Tomahawk & W.....	1,594 83	12,552 87		\$1,000 00	837 06			
Mattoon Ry. Co.....	838 48		343 41					
Mineral Point & Northern.....	3,705 70	4,967 92						
Northwestern Coal Ry. Co.....	360 50	8,992 52					30,707 48	
Stanley, Merrill & Phillips.....	2,627 23		15,909 78		1,055 54			
Tomahawk & Eastern.....	(⁴)	3,502 79						
Whitcomb & Morris.....	59 20	38 50						
Wisconsin & Northern.....	5,922 07	27,224 93						
Wisconsin Northwestern.....	858 36	5,187 40					\$144 25	
Total.....	\$66,535 28	\$419,239 02	\$23,113 36	\$1,000 00	\$22,791 29	\$8,123 98	\$31,052 16	
B. ENTIRE SYSTEM.								
<i>Interstate Roads.</i>								
Chicago & North Western.....	\$3,146,033 84	\$18,550,513 18				\$85,803 87	\$60,678 41	\$1,641,222 00
Chicago, Burlington & Quincy	3,132,874 11	25,113,348 35		\$4,129 39		530,282 97	117,795 60	767,664 50
Chicago, Milwaukee & St Paul	2,951,080 55	14,392,274 30					394,236 03	5,050,415 00
Chicago, St. P., Minn. & O.....	777,539 52	4,044,027 76				63,399 22	17,640 43	41,976 00
Chicago, Harv. & Geneva L.....	896 00		\$370 30					
Duluth, S. Shore & Atlantic.....	214,974 75	588,297 53			\$4,907 37	16,718 97		
Elgin, Joliet & Eastern.....	234,903 70	3,209,140 29				23,859 55	1,468 90	
Great Northern.....	3,293,587 68	23,363,268 33			217,353 99		724,162 01	4,483,182 00
Illinois Central.....	2,809,868 99	10,976,464 08		1,664 19	216,292 49	1,167,197 76	2,573 88	234,932 00
Minn., St. P. & S. Ste. Marie.....	1,021,751 92	7,606,826 73			196,261 47		70,077 14	449,991 99
Northern Pacific.....	3,230,756 47	22,117,021 29		220,000 00	576,197 13	1,454,226 59	340,726 03	4,947,726 00
Wisconsin & Michigan.....	14,245 56		2,018 13			9,914 89		
Total.....	\$20,828,513 09	\$129,961,181 84	\$2,388 43	\$225,793 58	\$1,211,012 45	\$3,351,403 82	\$1,724,210 67	\$17,617,109 40

¹ Wisconsin proportional. ² Wisconsin estimated. ³ Includes entire system. ⁴ Paid by M. T. & W. Ry. Co. ⁵ Salvage.

INCOME ACCOUNT FOR YEAR ENDING DECEMBER 31, 1911.—Continued.

NAME OF ROAD.	OTHER INCOME.—Concluded.				GROSS CORPORATE INCOME.	GROSS CORPORATE LOSS.	DEDUCTIONS FROM GROSS CORPORATE INCOME.			
	Interest accrued on funded debt owned or controlled.	Interest on other securities—loans and accounts.	Miscellaneous income.	Total other income.			Rents accrued for lease of other roads.	Other Rents—Debits.	Joint facilities.	
							Hire of equipment—balance.			
A. WISCONSIN.										
<i>a. Interstate Roads.</i>										
Chicago & North Western ¹ ..	982 43	\$364,561 71		\$786,964 89	\$7,308,356 07			\$79,466 22	\$104,358 38	\$21,122 13
Chic., Burlington & Quincy ² ..	12,080 67	4,106 68		37,540 40	1,063,320 24				12,077 72	9,180 62
Chic., Milwaukee & St. Paul ² ..	1,182,682 78	428,330 02	\$56,655 94	2,998,341 45	7,976 075 49				482,366 65	
Chic., St. P., Minn. & Omaha ¹ ..		401 70	639 76	16,146 47	1,472,914 20				28,616 45	17,817 98
Chic., Harvard & Geneva Lake						\$90 68				
Duluth, S. Shore & Atlantic..	1,829 84	918 64		3,753 44		16,037 64				9,096 92
Elgin, Joliet & Eastern.....				4,650 00		6,011 18	11,500 00			
Great Northern.....				88,743 25	633,565 70					22,475 18
Illinois Central.....			1,349 63	1,988 58		51,684 24				
Minneapolis, St. P. & S. S. M..					2,265,408 37					
Northern Pacific.....				61,618 91	7,401 31					4,327 38
Wisconsin & Michigan.....					8,651 88				148 75	5,821 94
<i>b. Intrastate Roads.</i>										
Ahnapee & Western.....		1,789 94		1,789 94	24,361 10				4,158 09	
Ashland, Odanah & Marengo.			40 35	40 35	5,345 18					
Bayfield Transfer.....					11,175 49				5,491 03	
Big Falls Ry. Co.....						1,282 05	3,360 00			
Cazenovia & Sauk City.....					675 03					
Chicago & Lake Superior.....						579 21				
Chippewa Valley & Northern.					2,387 18					
Drummond & Southwestern..					2,920 01					
Dunbar & Wausaukee.....				500 00	6,011 30					
Green Bay & Western. ³	8,750 00	9,532 84		33,981 70	213,726 79					

Hazelhurst & Southeastern.....					23,913 21				
Hillsboro & Northeastern.....					6,529 53				
Iola & Northern.....	460 24			467 89	1,645 53				
Kewaunee, Green Bay & W.....	5,622 29			11,014 90	86,991 06				
La Crosse & Southeastern.....					18,885 46				1,200 00
L. Superior Terminal & Trans.....				7,623 98	2,625 07			1,688 71	936 36
Marinette, Tomahawk & W.....	786 45			2,623 51	15,176 38				
Mattoon Ry. Co.....						343 41			
Mineral Point & Northern.....					4,967 92			1,445 91	2,480 82
Northwestern Coal Ry. Co.....	545 09			31,252 57	40,245 09				
Stanley, Merrill & Phillips.....				1,055 54		14,854 24	600 00		
Tomahawk & Eastern.....					3,502 79		1,000 00	1,042 40	
Whitcomb & Morris.....					38 50				
Wisconsin & Northern.....					27,224 93				
Wisconsin Northwestern.....				144 25	5,331 65				
Total	\$8,750 00	\$18,736 85	\$40 35	\$90,494 63	\$503,679 20	\$17,058 91	\$4,960 00	\$13,826 14	\$4,567 18
B. ENTIRE SYSTEM.									
<i>Interstate Roads.</i>									
Chicago & North Western.....	\$3,925 00	\$1,456,499 02		\$3,248,128 30	\$21,798,641 48		\$162,201 21	\$366,565 80	\$297,195 91
Chic., Burlington & Quincy...	491,084 11	166,938 01		2,077,894 58	27,191,242 93		11,225 14	490,964 43	975,801 18
Chic., Milwaukee & St. Paul..	4,839,127 57	1,752,577 83	\$231,816 45	12,268,172 88	26,660,447 18			1,777,327 36	
Chic., St. P., Mpls. & Omaha..	11,841 02	870 99	1,402 69	137,130 35	4,181,158 11			64,626 14	291,793 21
Chic., Harvard & Geneva Lake						\$370 30			
Duluth S. Shore & Atlantic...	9,772 44	4,906 05	431 97	36,736 80	625,034 33				45,687 58
Elgin, Joliet & Eastern.....		45,787 19		71,115 64	3,280,255 93		1,179,799 83	265,379 54	310,157 26
Great Northern.....	1,063,164 09	2,435,248 07	3,348 30	8,926,658 46	32,289,926 79				
Illinois Central.....	2,790,730 15	963,852 47	192,606 48	5,564,701 66	16,541,165 74		3,414,007 76		552,560 94
Minneapolis, St. P. & S. S. M..	3,975 00	143,172 85	6,632 82	870,111 27	8,476,938 00		2,295,017 35		114,728 27
Northern Pacific.....	1,286,580 93	1,284,276 95	13,056 09	10,122,789 72	32,239,811 01		125,451 83		428,213 52
Wisconsin & Michigan.....				9,914 89	7,896 76			228 28	7,412 55
Total	\$10,500,200 31	\$8,254,129 43	\$449,494 80	\$43,333,354 55	\$173,292,518 26	\$370 30	\$7,187,703 12	\$2,965,091 55	\$3,023,550 42

¹ Wisconsin proportional. ² Wisconsin estimated. ³ Includes entire system.

INCOME ACCOUNT FOR YEAR ENDING DECEMBER 31, 1911—Continued.

NAME OF ROAD.	DEDUCTIONS FROM GROSS CORPORATE INCOME—Concluded.						NET CORPORATE INCOME.	NET CORPORATE LOSS.
	Other rents—debits—concluded.	Separately operated properties—loss.	Interest accrued on funded debt.	Other interest.	Sinking fund chargeable to income.	Other deductions.			Total deductions from gross corporate income.
	Miscellaneous rents.							
<i>A. WISCONSIN.</i>								
<i>a. Interstate Roads.</i>								
Chicago & North Western ¹			\$1,983,415 92	\$859 81	\$9,511 40	\$14,762 02	\$2,213,495 88	\$5,094,860 19
Chi., Burlington & Quincy ²	\$5 06		210,501 06		16,292 84	48 88	248,106 12	815,214 12
Chi., Milwaukee & St. Paul ²	111,142 98		2,045,361 74		27,634 00	84,825 27	2,751,330 64	5,224,744 85
Chi., St. Paul, Mpls. & Omaha ¹	270 00		770,794 41	8,825 17			826,324 01	646,590 19
Chi., Harvard & Geneva Lake.....			3,125 00	638 44			3,763 44	\$3,854 12
Duluth, So. Shore & Atlantic.....			156,733 69	94 02			165,924 63	181,962 27
Elgin, Joliet & Eastern.....							11,500 00	17,511 18
Great Northern.....	26 00						22,501 18	611,064 52
Illinois Central.....			86,256 95				86,256 95	137,941 19
Minneapolis, St. P. & S. S. M.....								2,265,408 37
Northern Pacific.....							4,327 28	3,073 93
Wisconsin & Michigan.....			58,717 46	2,307 14			66,995 29	58,343 41
<i>b. Intrastate Roads.</i>								
Ahnapee & Western.....	125 83		21,250 00				25,533 92	1,172 82
Ashland, Odanah & Marengo.....	50 00						50 00	5,295 18
Bayfield Transfer.....							5,491 03	5,684 46
Big Falls Railway Co.....			188 00				3,548 00	4,830 05
Cazenovia & Sauk City.....	600 00		2,812 50				3,412 50	2,737 47
Chicago & Lake Superior.....								579 21
Chippewa Valley & Northern.....			11,872 60	1,959 81			13,832 41	11,445 23
Drummond & Southwestern.....			3,000 00				3,000 00	79 99
Dunbar & Wausaukee.....								6,011 30
Green Bay & Western ³	15,906 36						15,906 36	197,820 43

Hazelhurst & Southeastern.....								23,913 21	
Hillsboro & Northeastern.....								6,529 53	
Iola & Northern.....								1,645 53	
Kewaunee, Gr. B. & Western.....		20,400 00					20,400 00	66,591 06	
La Crosse & Southeastern.....		37,500 00					38,700 00		19,814 54
L. Superior Term. & Transfer							2,625 07		
Marinette, Tomahawk & W'n.			3,000 00		\$32,011 63		32,011 63		16,835 25
Mattoon Railway Co.....			2,821 25				3,000 00		3,343 41
Mineral Point & Northern.....		22,500 00					29,197 98		24,230 06
Northwestern Coal Ry. Co.....		39,700 00			8,853 28		48,553 28		8,308 19
		25,000 00	2,768 76				28,368 76		43,223 00
Stanley, Merrill & Phillips..							2,042 40	1,460 39	
Tomahawk & Eastern.....								88 50	
Whitcomb & Morris.....							3,701 99	23,522 94	
Wisconsin & Northern.....	3,701 99						23,793 27		18,461 62
Wisconsin Northwestern.....									
Total.....	\$20,384 18	\$184,223 10	\$10,549 82		\$64,658 18	\$303,168 60	\$338,512 53		\$155,060 84
B. ENTIRE SYSTEM.									
<i>Interstate Roads.</i>									
Chicago & North Western...	\$162,288 87	\$7,924,154 70	\$3,435 11	\$38,000 00	\$14,762 02	\$8,968,603 62	\$12,830,037 86		
Chi., Burlington & Quincy...	18,296 14	8,556,953 86		662,310 50	1,986 80	10,717,538 05	16,473,704 88		
Chi., Milwaukee & St. Paul.	454,758 50	8,368,910 56		113,068 75	347,075 58	11,061,140 75	15,599,306 43		
Chi., St. P., Mpls. & Omaha	1,603 62	1,671,280 16	19,130 90			2,048,434 03	2,132,724 08		
Chi., Harvard & Geneva Lake		6,250 00	1,276 88			7,526 88			\$7,897 18
Duluth, So. Shore & Atlantic..		\$25,659 76	873,996 84	500 38		945,844 56			320,810 23
Elgin, Joliet & Eastern.....	110 17	500,000 00	73 45			2,255,520 25	1,024,735 68		
Great Northern.....	6715,129 53	57,961 93	10,101,586 08	1,101,144 72		11,975,822 26	20,314,104 53		
Illinois Central.....	5,098 49		4,611,547 79	5,229 15		8,593,755 32	7,947,410 42		
Minneapolis, St. P. & S. S. M.			3,007,100 99		5,311 19	5,416,846 61	3,060,091 39		
Northern Pacific.....	4,180 86		10,971,180 84			11,529,027 05	20,710,783 96		
Wisconsin & Michigan.....			105,550 00	3,540 73		116,731 56			108,834 80
Wisconsin Central.....									
Total.....	\$1,361,466 18	\$83,621 69	\$56,698,511 82	\$1,134,331 32	\$813,379 25	\$369,135 59	\$73,636,790 94	\$100,092,899 23	\$437,542 21

¹ Wisconsin proportional.
⁶ Includes joint facilities.

² Wisconsin estimated.

³ Includes entire system. ⁴ Payment on claims in receivership.

⁵ Depreciation.

INCOME ACCOUNT FOR YEAR ENDING DECEMBER 31, 1911.—Concluded.

NAME OF COMPANY.	DISPOSITION OF NET CORPORATE INCOME.						SURPLUS FOR THE YEAR.	DEFICIT FOR THE YEAR.	
	Dividends declared.			Additions and betterments charged to income.	Appropriations to reserves.	Miscellaneous.			Total.
	On preferred stock.	On common stock.	On other securities.						
A. WISCONSIN:									
<i>a. Interstate Roads.</i>									
Chicago & North Western ¹	\$448,437 48	\$2,279,736 16				\$2,728,173 64	\$2,366,686 35		
Chicago, Burlington & Quincy ²		218,131 35		\$170,875 04		389,006 39	426,207 73		
Chicago, Milwaukee & St. Paul. ²	391,681 47	991,802 08				1,983,483 55	3,241,261 30		
Chicago, St. P. Mpls. & Omaha. ¹	362,468 96	597,509 64				959,978 60		\$313,388 41	
Chi., Harvard & Geneva Lake.....								3,854 12	
Duluth, South Shore & Atlantic.....								181,962 27	
Elgin, Joliet & Eastern.....								17,511 18	
Great Northern.....							611,064 52		
Illinois Central.....								137,941 19	
Minneapolis, St. P. & S. S. M.....							2,265,408 37		
Northern Pacific.....							3,073 93		
Wisconsin & Michigan.....								58,343 41	
<i>b. Intrastate Roads.</i>									
Ahnapee & Western.....								1,172 82	
Ashland, Odanah & Marengo.....							5,295 18		
Bayfield Transfer.....							5,684 46		
Big Falls Railway Co.....								4,830 05	
Cazenovia & Sauk City.....								2,737 47	
Chicago & Lake Superior.....								579 21	
Chippewa Valley & Northern.....								11,445 23	
Drummond & Southwestern.....								79 99	
Dunbar & Wausaukee.....									
Green Bay & Western ²		125,000 00	65,000 00			190,000 00	6,011 30		
							7,820 43		

Hazelhurst & Southeastern.....		16,000 00				16,000 00	7,913 21	
Hillsboro & Northeastern.....		3,948 00				3,948 00	2,581 53	
Iola & Northern.....							1,645 53	
Kewaunee, Gr. Bay & Western.....							66,591 06	
La Crosse & Southwestern.....								19,814 54
Lake Sup. Terminal & Transfer.....								16,835 25
Marinette, Tomahawk & West'n.....								3,343 41
Mattoon R'y Co.....								24,230 06
Mineral Point & Northern.....								8,308 19
Northwestern Coal R'y Co.....								43,223 00
Stanley, Merrill & Phillips.....							1,460 39	
Tomahawk & Eastern.....							38 50	
Whitcomb & Morris.....							23,522 94	
Wisconsin & Northern.....								18,461 62
Wisconsin Northwestern.....								
Total.....		\$144,948 00	\$65,000 00			\$209,948 00	\$128,564 53	\$155,060 84
B. ENTIRE SYSTEM.								
<i>Interstate Roads.</i>								
Chicago & North Western.....	\$1,791,600 00	\$9,108,015 00				\$10,899,615 00	\$1,930,422 86	
Chicago, Burlington & Quincy.....		8,867,128 00		\$4,826,755 01		13,693,883 01	2,779,821 87	
Chicago, Milwaukee & St. Paul.....	4,057,616 50	4,058,110 00				8,115,726 50	7,483,579 93	
Chicago, St. P. Minn. & Omaha.....	787,976 00	1,298,934 00				2,086,910 00	45,814 08	
Chicago, Harvard & Gen. Lake.....								\$7,897 18
Duluth, South Shore & Atlantic.....								320,810 23
Elgin, Joliet & Eastern.....		400,000 00			472,016 39	472,016 39	552,719 29	
Great Northern.....		14,698,591 25		2,818,337 79		17,516,929 04	2,797,175 49	
Illinois Central.....		7,650,275 50		164,847 23		7,815,122 73	132,287 69	
Minneapolis, St. P. & S. S. Marie.....	729,120 00	1,458,240 00			65,497 53	2,252,857 53	807,233 86	
Northern Pacific.....		17,360,000 00				17,360,000 00	3,350,783 96	
Wisconsin & Michigan.....								108,834 80
Total.....	\$7,366,312 50	\$64,899,293 75		\$7,809,940 03	\$137,513 92	\$80,213,060 20	\$19,879,839 03	\$437,542 21

¹Wisconsin proportional. ²Wisconsin estimated. ³Includes entire system. ⁴Includes special contingent fund, \$60,000.00, property abandoned and not replaced, \$30,045.98, and a miscellaneous credit of \$18,029.59.

OPERATING REVENUES FOR YEAR ENDING DECEMBER 31, 1911.

Italic figures denote deficits.

NAME OF ROAD.	REVENUE FROM TRANSPORTATION.				Revenue from operations other than transportation.	Joint facilities revenue—Dr.	Joint facilities revenue—Cr.	Total operating revenue.
	Freight revenue.	Passenger revenue.	Miscellaneous passenger train-service revenue.	Miscellaneous revenue from transportation.				
A. WISCONSIN.								
<i>a. Interstate Roads.</i>								
Chicago & North Western ¹	\$14,193,383 57	\$5,236,373 64	\$1,166,281 48	\$174,222 31	\$158,756 83	\$15 00	\$2 50	\$20,929,005 33
Chicago, Burlington & Quincy ²	2,580,074 49	862,580 15	281,056 81	16,040 02	15,466 74	81 90	10,064 06	3,765,200 37
Chicago, Milwaukee & St. P...	12,200,368 50	4,222,178 04	1,301,259 42	427,024 31	155,930 22		1,611 35	18,308,371 84
Chicago, St. P., Minn. & O. ¹ ..	4,545,502 93	1,911,114 72	379,378 91	65,904 97	26,592 84	2,556 88	8,816 39	6,934,753 88
Chicago, Harvard & G. Lake..	7,482 96	6,733 17	72 50	706 79	25 56			15,020 98
Duluth, South S. & Atlantic ...	232,536 77	146,340 12	15,022 44	2,082 94	747 30		1,205 71	398,835 28
Elgin, Joliet & Eastern.....	46,748 71		15,058 77		2,496 00			49,244 71
Great Northern.....	1,613,830 93	104,767 43		32,801 99	7,972 57		20,355 79	1,794,787 48
Illinois Central.....	84,834 88	68,195 70	20,732 91	1,515 56	975 79			176,254 84
Minneapolis, St. P. & S. S. M.	6,989,156 23	1,885,497 76	392,893 08	53,821 47	45,107 22			9,366,475 76
Northern Pacific.....	235,672 72	196,280 65	23,958 97	38,001 76	5,618 20	4,011 03	23,520 99	519,042 26
Wisconsin & Michigan.....	97,338 35	17,438 81	2,457 01	202 92	256 91	5,821 94		111,872 06
Total.....	\$42,826,931 04	\$14,657,500 19	\$3,598,172 30	\$813,225 04	\$419,946 18	\$12,486 75	\$65,576 79	\$62,368,864 79
b. Intrastate Roads.								
Ahnapee & Western.....	\$44,265 36	\$43,210 58	\$7,881 90	\$492 50	\$1,321 00			\$97,171 34
Ashland, Odanah & Marengo	68,118 77			615 00				68,733 77
Bayfield Transfer.....	39,328 31	2,684 00						42,012 31
Big Falls Ry. Co.....	6,596 10	436 90	300 53					7,333 53
Cazenovia & Sauk City.....	4,940 57	3,098 08	438 12					8,476 77
Chicago & Lake Superior.....	3,069 91	1,962 30	740 53	165 73				5,938 47
Chippewa Valley & Northern...	18,258 00	1,016 77						19,274 77
Drummond & Southwestern...	35,505 39							35,505 39
Dunbar & Wausaukee.....	18,642 89	11 55			1,071 50			19,725 94
Green Bay & Western ³	436,949 27	165,331 27	33,460 20	18,793 35	5,949 79			660,483 88

Hazelhurst & Southeastern	40,085 07		242 85					40,327 92
Hillsboro & Northeastern	11,387 73	4,539 56	1,176 82			4 00		17,108 11
Iola & Northern	6,598 85	1,606 97	417 07			128 00		8,750 89
Kewaunee, Green Bay & W.	116,654 76	41,354 70	6,984 39		5,225 00	444 57		170,663 42
La Crosse & Southeastern	29,188 67	39,081 16			2,984 43	71 06		71,325 32
Laque Superior Ter. & Trans.⁴				141,226 32			\$51,812 61	193,038 93
Marquette, Tomahawk & W.	46,977 91	3,732 45	365 03			10 00		51,085 39
Mattoon Ry. Co.	21,046 48	2,882 70	941 50			23 01		24,893 69
Mineral Point & Northern	77,149 64	8,084 51			3,327 32	1,092 73		89,654 20
Northwestern Coal Ry. Co.					34,188 00			34,188 00
Stanley, Merrill & Phillips	87,521 78	8,018 18	1,501 43	2,416 73		179 80		99,637 92
Tomahawk & Eastern	13,354 74	766 76	239 03					14,360 53
Whitcomb & Morris	2,824 01							2,824 01
Wisconsin & Northern	53,491 45	13,059 18	1,222 01	493 80		4,428 44		77,694 88
Wisconsin Northwestern	30,472 92	827 59				144 25		31,444 76
Total	\$1,212,428 58	\$346,705 21	\$55,911 41	\$209,928 18	\$14,868 15		\$51,812 61	\$1,891,654 14
B. ENTIRE SYSTEM.								
<i>Interstate Roads.</i>								
Chicago & North Western	\$47,075,152 81	\$19,429,481 06	\$5,171,801 68	\$1,361,805 27	\$545,833 02	\$1,786 81	\$16,149 15	\$73,598,436 18
Chicago, Burlington & Quincy	56,426,010 20	21,653,034 34	5,765,205 92	1,224,807 14	798,116 13	13,017 15	127,491 19	85,981,647 77
Chicago, Milwaukee & St. P.	42,501,540 35	14,012,157 33	4,124,499 43	1,516,029 01	517,372 81	2,544 98	129,105 90	62,798,159 85
Chicago, St. Paul, Minn. & O.	9,730,643 82	4,463,110 81	800,682 64	170,471 81	72,887 35	11,167 34	37,717 55	15,264,346 64
Chicago, Harvard & G. Lake	14,965 90	13,466 33	145 00	1,413 58	51 13			30,041 94
Duluth, South S. & Atlantic	1,955,988 68	951,617 67	116,714 82	20,190 34	19,969 69	24 00	8,379 49	3,072,836 69
Elgin, Joliet & Eastern	8,674,266 07	67 11		1,893 81	54,365 45			8,730,592 44
Great Northern	44,970,051 99	13,555,300 76	3,752,658 28	453,971 76	253,508 38	20,366 08	46,763 82	63,011,888 91
Illinois Central	39,003,815 99	13,233,620 71	3,196,576 66	3,981,725 99	428,946 15	26,841 40	18,910 63	59,836,754 73
Minneapolis, St. P. & S. S. M.	16,885,425 72	5,352,094 17	1,101,937 44	115,612 05	217,885 35		16,411 90	23,689,366 63
Northern Pacific	42,732,623 08	16,023,315 34	2,520,590 20	816,894 18	622,785 58	5,401 46	203,243 48	62,914,050 40
Wisconsin & Michigan	136,638 07	30,762 32	4,341 78	284 84	360 63	7,412 55	9,914 89	174,889 98
Total	\$310,107,122 68	\$108,718,027 95	\$26,555,153 85	\$9,665,099 78	\$3,532,081 67	\$88,561 77	\$614,088 00	\$459,103,012 16

¹Revenue train mileage basis.

²Wisconsin estimated.

³Includes entire system.

⁴Operated as joint facility at cost for joint benefit.

OPERATING EXPENSES, YEAR ENDING DECEMBER 31, 1911.

NAME OF ROAD.	Maintenance of way and structures.	Maintenance of equipment.	Traffic expenses.	Transportation expenses.	General expenses.	Total operating expenses.
A. WISCONSIN.						
<i>a. Interstate Roads.</i>						
Chicago & North Western ¹	\$2,368,412 96	\$2,467,920 68	\$332,739 38	\$7,713,072 79	\$396,701 97	\$13,278,847 78
Chicago, Burlington & Quincy ²	458,075 82	727,404 87	71,940 45	1,170,766 17	102,271 35	2,530,458 66
Chicago, Milwaukee & St. Paul ²	1,972,052 07	2,377,746 88	339,538 77	7,260,686 88	322,425 93	12,272,450 53
Chicago, St. Paul, Minn'polis & Omaha	943,172 03	861,947 57	148,375 53	2,971,362 96	192,692 20	5,117,550 29
Chicago, Harvard & Geneva Lake.....	3,354 69	2,207 51	242 72	8,214 05	739 15	14,758 12
Duluth, South Shore & Atlantic.....	96,020 85	62,732 76	21,341 83	210,408 99	16,295 60	406,800 03
Elgin, Joliet & Eastern.....	12,024 54	10,394 09	507 53	29,477 31	2,024 37	54,427 84
Great Northern.....	187,150 49	218,793 65	14,746 28	708,929 50	26,113 35	1,155,733 27
Illinois Central.....	75,042 19	35,959 65	7,208 41	92,696 36	7,689 61	218,596 22
Minneapolis, St. Paul & Sault Ste. Marie	1,141,836 40	1,461,475 93	262,592 95	3,899,123 05	215,393 49	6,980,443 82
Northern Pacific.....	121,912 43	84,898 62	13,774 38	295,751 40	15,923 03	532,259 86
Wisconsin & Michigan.....	21,816 45	20,908 62	3,247 98	48,779 76	9,215 07	103,967 88
Total.....	\$7,400,890 92	\$8,332,390 83	\$1,216,256 21	\$24,409,269 22	\$1,307,487 12	\$42,666,294 30
<i>b. Intrastate Roads.</i>						
Ahnapee & Western.....	\$30,113 83	\$9,218 26	\$986 99	\$27,038 68	\$4,019 26	\$71,377 02
Ashland, Odanah & Marengo.....	20,967 76	15,459 77	.....	21,456 22	4,203 63	62,087 38
Bayfield Transfer.....	8,997 33	5,264 57	44 07	12,365 55	3,833 61	30,505 13
Big Falls Ry. Co.....	2,652 75	771 84	.....	3,828 86	1,049 10	8,302 55
Cazenovia & Sauk City ³	929 71	69 32	176 69	1,952 93	1,825 69	4,954 34
Chicago & Lake Superior.....	1,151 43	1,235 59	.....	4,074 74	.....	6,461 76
Chippewa Valley & Northern.....	4,461 32	2,798 44	87 42	7,344 84	1,808 34	16,500 36
Drummond & Southwestern.....	12,996 72	7,611 15	.....	9,717 83	1,477 10	31,802 80
Dunbar & Wausaukee ⁴	3,377 26	288 43	.....	3,620 06	492 87	7,778 62
Green Bay & Western ⁵	148,828 51	72,768 46	5,220 74	203,921 34	22,540 76	453,279 81

Hazelhurst & Southeastern	1,257 82	2,407 41	108 64	12,125 36	71 53	15,970 76
Hillsboro & Northeastern	3,174 00	932 96	29 99	6,115 40	326 23	10,578 58
Iola & Northern	714 32	609 61	86	5,694 17	408 95	7,427 91
Kewaunee, Green Bay & Western	15,578 72	22,277 65	1,052 40	41,361 73	8,155 14	88,425 64
La Crosse & Southeastern	10,429 82	5,977 41	1,680 18	26,473 55	4,057 81	48,618 77
Lake Superior Terminal & Transfer	24,450 81	33,117 29	.....	128,488 14	6,982 69	193,038 93
Marquette, Tomahawk & Western	9,375 58	6,928 51	985 67	3,895 63	3,895 63	36,937 69
Mattoon R'y Co.	6,201 57	2,579 38	.....	12,418 06	3,199 61	24,398 62
Mineral Point & Northern	17,777 34	14,577 63	1,775 69	36,928 51	9,921 41	80,980 58
Northwestern Coal R'y Co.	6,020 61	1,967 78	.....	13,714 22	3,132 37	24,834 98
Stanley, Merrill & Phillips	44,335 13	31,417 61	2,154 99	29,386 65	5,626 09	112,920 47
Tomahawk & Eastern	2,814 76	2,079 24	325 26	4,817 04	821 44	10,857 74
Whitcomb & Morris	830 00	91 31	.....	1,605 00	200 00	2,726 31
Wisconsin and Northern	8,148 32	6,235 87	199 60	24,368 44	5,595 65	44,547 88
Wisconsin Northwestern	4,820 45	5,149 80	.....	11,066 69	4,217 81	25,254 75
Total.....	\$390,405 87	\$251,835 29	\$14,829 19	\$665,636 31	\$97,862 72	\$1,420,569 38
B. ENTIRE SYSTEM.						
<i>Interstate Roads.</i>						
Chicago & North Western	\$9,248,000 63	\$9,636,550 89	\$1,299,255 66	\$30,117,425 97	\$1,549,011 98	\$51,850,245 13
Chicago, Burlington & Quincy	11,339,651 20	14,818,653 23	1,551,393 84	27,630,709 64	2,274,809 25	57,615,222 16
Chicago, Milwaukee & St. Paul	7,970,115 36	8,760,565 91	1,254,310 99	26,391,182 41	1,172,470 34	45,548,645 01
Chicago, St. Paul, Minn'polis & Omaha	1,940,408 33	1,756,819 25	302,802 64	6,048,320 27	393,258 36	10,441,608 85
Chicago, Harvard & Geneva Lake	6,709 38	4,415 01	485 45	16,428 10	1,478 30	29,516 24
Duluth, South Shore & Atlantic	538,233 45	351,641 03	119,629 13	1,179,422 60	91,343 06	2,280,269 27
Elgin, Joliet & Eastern	793,090 58	1,599,894 46	48,997 80	2,661,991 44	182,574 17	5,286,548 45
Great Northern	8,839,166 57	7,527,034 83	1,046,799 06	17,887,641 30	1,233,170 25	36,533,312 01
Illinois Central	7,907,824 23	12,823,787 48	1,370,519 33	22,366,646 66	1,503,182 76	45,971,960 46
Minneapolis, St. Paul & Sault Ste. Marie	2,514,615 48	3,259,468 41	555,192 40	8,302,580 62	524,014 76	15,155,871 67
Northern Pacific	7,652,060 74	7,371,230 07	1,192,046 76	20,694,230 09	1,019,375 63	37,928,943 29
Wisconsin & Michigan	33,481 36	32,088 12	4,984 61	74,861 52	14,142 23	159,557 84
Total.....	\$58,783,357 31	\$67,942,153 69	\$8,746,417 67	\$163,371,440 62	\$9,958,831 09	\$308,802,200 38

¹ Apportioned to Wisconsin on revenue train mileage basis. ² Wisconsin estimated. ³ Detailed expenses from July to December \$3,447.40 not included. ⁴ Detailed expenses from July to December \$5,566.84 not included. ⁵ Includes entire system.

GENERAL BALANCE SHEET, DECEMBER 31, 1911.

ASSETS.

NAME OF ROAD.	Cost of road and equipment and general expenditures.	Stocks owned.	Funded debt owned.	Other permanent investments.	Lands owned.	Cash and current assets.	Other assets.	Profit and loss.	Total assets.
<i>a. Interstate Roads.</i>									
Chi. & North Western..	\$309,030,158 48	\$18,328,968 08	\$37,863,500 00	\$27,467,789 40		\$14,543,937 95	\$10,630,951 73		\$417,865,305 64
Chi., Burlington & Quincy..	380,173,637 16	27,639,990 16	11,031,853 00	3,106,268 92	\$1,186,299 07	21,223,002 04	24,230,127 05		468,591,177 40
Chi., Milw. & St. Paul..	290,911,198 96	15,109,797 00	158,941,561 55	\$39,749,192 75		14,923,656 98	8,298,702 58		527,934,109 82
Chi., St. P., Minn. & O...	66,739,683 76	4,427,128 30	310,701 22	194,726 78		1,709,521 09	1,139,526 62		74,521,287 77
Chi. Har. & Geneva L...	338,208 99			802 75				\$41,649 90	380,661 64
Dal., S. Shore & Atlantic	46,772,417 88	1,100,916 70		115,035 77		830,903 52	445,350 96	3,740,996 75	53,005,621 58
Elgin, Joliet & Eastern..	18,140,078 88					4,019,598 25	4,584,102 85		26,743,779 98
Great Northern.....	313,712,211 08	172,900,342 61	\$37,617,471 55	\$4,703,978 67		32,392,323 94	21,593,178 46		582,419,506 31
Illinois Central.....	123,725,653 69	\$46,139,268 81		\$113,825,418 25		\$16,354,788 34	40,873,363 48		340,918,492 57
Minn., St. P. & S. Ste. M..	103,168,764 20	4,437,811 44	98,900 00			7,350,786 53	5,483,070 15		120,529,332 32
Northern Pacific.....	399,348,952 11	30,911,739 50	51,164,638 63	31,098,964 39	4,203,500 77	15,272,724 28	121,894,985 80		653,895,505 48
Wisconsin & Michigan...	5,015,336 91	151,980 00	350,000 00		16,297 67	592,368 55	13,342 09	269,218 91	6,408,544 13
Total.....	\$2,057,076,302 10	\$320,647,942 60	\$297,378,625 95	\$220,262,177 68	\$5,406,097 51	\$129,213,611 47	\$239,186,701 77	\$4,051,865 56	\$3,273,223,324 64
<i>b. Intrastate Roads.</i>									
Ahnapee & Western.....	\$864,250 00			\$10,162 00		\$86,545 70	\$18,282 32		\$979,240 02
Ashl., Odanah & Mar'go..	98,438 56					7,741 32	15,017 96		121,197 84
Bayfield Transfer.....	3,423,032 76	\$1,324,600 00				8,764 70		\$1,088,807 23	5,845,204 69
Big Falls Ry. Co.....	7,390 00					409 14		5,617 23	13,416 37
Cazenovia & Sauk City...	68,020 00					75 03	7,000 00	2,737 47	77,832 50
Chicago & Lake Superior									
Chip. Valley & Northern	201,405 54					243 13	1,617 75	17,524 57	220,790 99
Drummond & S'western	186,714 95					465 17	2,000 00	33,818 48	222,998 60
Dunbar & Wausaukee..	120,000 00								120,000 00
Green Bay & Western...	9,892,037 50	9,777 63	\$87,800 00	73,483 42		501,114 71	60,589 73		10,624,852 99

Hazelhurst & S'eastern...	97,315 28					20,070 63			117,385 91
Hillsboro & N'eastern..	86,000 00								86,000 00
Iola & Northern.....	101,000 00					17,446 56	212 75		118,959 31
K. G. B. & Western....	1,121,725 00		31,691 40			250,294 76	7,477 72		1,411,188 88
La Crosse & So'eastern.	1,259,137 18					13,718 47	3,518 89	80,354 86	1,356,729 43
L. S. Term. & Transfer...	461,570 59					50,590 32	18,586 70		530,747 61
Marinette T. & Western.	534,879 81			\$294 20		20,499 08	12,176 38		567,849 47
Mattoon R'y Co.....	56,264 42					847 33	3,846 80		60,958 55
Min'ral Pt. & Northern..	973,544 37	17,430 00				19,348 20	900 22	121,697 65	1,132,920 44
No'western Coal R'y Co..	245,182 93		1,309,398 94			58,376 43	350 13	302,568 70	1,915,877 13
Stanley Me'll & Phillips..	623,257 42					4,234 70	5,158 55	75,649 05	708,299 72
Tomahawk & Eastern....						1,810 82		77 23	1,888 05
Whitcomb & Morris....	13,529 00								13,529 00
Wisconsin & Northern..	1,646,240 36					15,171 07	38,884 04		1,700,295 47
Wisconsin Northwestern.	276,998 98			2,208 41	10,000 00	44,697 04	793 12	18,461 62	353,159 17
Total.....	\$22,357,984 65	\$1,351,807 63	\$87,800 00	\$1,426,944 17	\$10,294 20	\$1,122,464 31	\$196,413 06	\$1,747,314 12	\$28,301,022 14

¹ Advance to proprietary, affiliated or controlled companies. ² Advances to other companies. ³ Bonds and miscellaneous securities.
⁴ Includes \$1,086,544.83 advances to proprietary companies. ⁵ Securities owned. ⁶ Includes miscellaneous and other investments.
⁷ Includes working assets and marketable securities. ⁸ Treasury stock.

GENERAL BALANCE SHEET, DECEMBER 31, 1911—Concluded.

LIABILITIES.

NAME OF ROAD.	Capital Stock.	Funded debt.	Current liabilities.	Accrued liabilities.	Reserve, sinking and special fund liabilities.	Profit and loss.	Total liabilities.
<i>A. Interstate Roads.</i>							
Chicago & North Western.....	\$154,884,143 28	\$206,963,000 00	\$9,021,700 32	\$2,087,656 37	\$7,836,080 39	\$37,072,725 28	\$417,865,305 64
Chicago, Burlington & Quincy..	110,839,100 00	209,613,000 00	10,938,134 00	² 64,902,036 03	30,169,284 20	42,129,623 17	468,591,177 40
Chicago, Milwaukee & St. Paul	232,623,100 00	233,473,654 66	7,630,328 48	4,490,852 53	4,060,708 64	45,655,465 51	527,934,109 82
Chi., St. Paul, Minneapolis & O..	34,050,126 62	30,098,046 02	2,980,539 99	³ 1,319,280 60	1,015,267 85	5,058,026 69	74,521,287 77
Chi., Harvard & Geneva Lake..	150,000 00	125,000 00	105,661 64				380,661 64
Duluth, South Shore & Atlantic	22,000,000 00	23,457,413 19	7,046,383 43	⁴ 501,824 96			53,005,621 58
Elgin, Joliet & Eastern.....	10,000,000 00	10,000,000 00	2,276,473 50	83,333 34	2,656,082 76	1,727,890 38	26,743,779 98
Great Northern.....	209,990,625 00	275,521,409 09	16,560,323 20	⁵ 5,766,931 81	⁶ 16,137,086 88	58,443,130 33	582,419,506 31
Illinois Central.....	119,285,700 00	187,361,000 00	⁷ 10,252,984 49	12,705,377 58	2,253,427 12	9,060,003 38	340,918,492 57
Minneapolis, St. P. & S. S. M....	37,810,200 00	65,943,000 00	3,847,462 49	1,358,846 81		11,579,823 02	120,539,332 32
Northern Pacific.....	248,000,000 00	⁸ 299,439,000 00	12,944,649 70	5,965,692 42	6,049,605 89	81,496,557 47	653,895,505 48
Wisconsin & Michigan.....	1,500,000 00	3,868,245 17	1,011,298 94	29,035 02			6,408,544 13
Total	\$1,181,132,994 90	\$1,545,862,768 13	\$84,615,940 18	\$99,210,832 47	\$70,177,543 73	\$292,223 245 23	\$3,273,223,324 64
<i>b. Intrastate Roads.</i>							
Ahnapee & Western.....	\$439,500 00	\$425,000 00	\$32,214 36			\$82,525 66	\$979,240 02
Ashland, Odanah & Marengo	100,000 00		15,902 66			5,295 18	121,197 84
Bayfield Transfer.....	3,000,000 00	1,500,000 00	221,672 28	\$1,122,692 92		839 49	5,845,204 69
Big Falls Ry. Co.....	1,000 00	7,428 00	4,888 37				13,416 37
Cazenovia & Sauk City.....	24,000 00	45,000 00	6,000 00	2,832 50			77,832 50
Chicago & Lake Superior.....							
Chippewa Valley & Northern..	58,000 00	149,000 00	13,790 99				220,790 99
Drummond & Southwestern....	10,000 00	50,000 00	162,998 60				222,998 60
Dunbar & Wausaukee.....	120,000 00						120,000 00
Green Bay & Western.....	2,500,000 00	7,600,000 00	211,153 54	190,000 00		123,699 45	10,624,852 99

Hazelhurst & Southeastern.....	100,000 00		203 83			17,182 08	117,385 91
Hillsboro & Northeastern ⁹	68,500 00		5,000 00			12,500 00	86,000 00
Iola & Northern	71,400 00	430,000 00		1,898 72		15,360 59	118,659 31
Kewaunee, Green B. & West'rn	664,950 00	408,000 00	59,185 36	1,125 00		277,928 52	1,411,188 88
La Crosse & Southeastern.....	505,000 00	750,000 00	92,354 43	9,375 00			1,356,729 43
Lake Superior Terminal & Tr..	460,200 00		70,547 61				530,747 61
Marinette, Tomahawk & West'n	161,500 00		391,071 04	10,368 88	\$1,433 21	3,476 34	567,849 47
Mattoon Ry. Co.....	4,000 00		54,753 02			2,205 53	60,958 55
Mineral Point & Northern	550,000 00	450,000 00	129,170 44	3,750 00			1,132,920 44
Northwestern Coal Ry. Co.....	1,000,000 00	794,000 00	115,260 46	6,616 67			1,915,877 13
Stanley, Merrill & Phillips.....	100,000 00	500,000 00	81,615 71	4,166 67	22,517 34		708,299 72
Tomahawk & Eastern.....	1,000 00		888 05				1,888 05
Whitcomb & Morris	10,000 00					3,529 00	13,529 00
Wisconsin & Northern.....	1,339,900 00		258,468 00		21,779 09	80,148 38	1,700,295 47
Wisconsin Northwestern.....	300,000 00		6,417 33		¹⁰ 46,741 84		353,159 17
Total	\$11,588,950 00	\$12,708,428 00	\$1,933,656 08	\$1,352,826 36	\$92,471 48	\$624,690 22	\$28,301,022 14

¹Includes \$29,657.75 premium realized on capital stock sold. ²Includes sundry accounts balance \$12,215,432.37 and income account \$51,491,575.32.
³Includes deferred payments on equipment \$293,261.66, and miscellaneous \$265,189.27. ⁴Includes unused mileage \$18,774.97. ⁵Includes other working liabilities \$256,931.32, and other deferred credit items \$2,954,770.72. ⁶Includes additions to property \$10,684,057.41. ⁷Working liabilities.
⁸Included N. P. and G. N. joint trust bonds \$107,613,500.00. ⁹Estimated. ¹⁰Surplus.

MILEAGE OF ROAD OPERATED (ALL TRACKS)—YEAR ENDING DECEMBER 31, 1911.

NAME OF ROAD.	Miles of single track.	Miles of second track.	Miles of third track.	Miles of fourth track.	Miles of yard track and sidings.	Total mileage operated (all tracks).	Total miles of line operated (single tracks.)	Total miles of line owned (single track.)
A. WISCONSIN.								
<i>a. Interstate Roads.</i>								
Chicago & North Western.....	2,109.15	192.01	39.58	35.54	1,068.25	3,444.53	2,109.15	1,891.69
Chicago, Burlington & Quincy	223.02	25.74	.....	.....	70.97	319.73	223.02	222.49
Chicago, Milwaukee & St. Paul	1,783.05	234.41	4.74	114.49	899.70	2,936.39	1,783.05	1,774.07
Chi., St. Paul, Mpls. & Omaha.	772.15	99.58	.....	.....	225.68	1,097.41	772.15	770.87
Chi., Harvard & Geneva Lake.	5.50	.....	.....	.....	.50	6.00	5.50	5.50
Duluth, So. Shore & Atlantic..	115.38	.....	.....	.....	18.93	134.31	115.38	110.09
Elgin, Joliet & Eastern.....	18.98	.....	.....	.....	.45	19.43	18.98	.....
Great Northern.....	43.35	21.92	.....	.....	98.69	163.96	43.35	37.47
Illinois Central.....	91.31	.....	.....	.....	12.90	104.21	91.31	91.31
Mpls., St. Paul & S. S. Marie...	1,339.58	14.86	.....	.....	655.35	2,009.79	1,339.58	371.73
Northern Pacific.....	145.89	10.35	.....	.....	73.79	230.03	145.89	144.95
Wisconsin & Michigan.....	77.36	.....	.....	.....	17.00	94.36	77.36	70.68
Total.....	6,724.72	598.87	44.32	50.03	3,142.21	10,560.15	6,724.72	5,490.85
<i>b. Intrastate Roads.</i>								
Ahnapee & Western.....	34.00	.....	.....	.....	3.55	37.55	34.00	34.00
Ashland, Odanah & Marengo..	32.00	.....	.....	.....	1.00	33.00	32.00	32.00
Bayfield Transfer.....	15.86	.....	.....	.....	.....	15.86	15.86	15.86
Big Falls Ry. Co.....	15.00	.....	.....	.....	.....	15.00	15.00	15.00
Cazenovia & Sauk City.....	6.00	.....	.....	.....	1.00	7.00	6.00	6.00
Chicago & Lake Superior.....	3.24	.....	.....	.....	.....	3.24	3.24	3.24
Chippewa Valley & Northern..	18.79	.....	.....	.....	.53	19.32	18.79	18.79
Drummond & Southwestern...	21.10	.....	.....	.....	.....	21.10	21.10	21.10
Dunbar & Wausaukee.....	13.50	.....	.....	.....	.....	13.50	13.50	13.50
Green Bay & Western.....	248.00	.....	.....	.....	29.43	277.43	248.00	254.43

Hazelhurst & Southeastern.....	23.90				1.00	24.90	23.90	11.00
Hillsboro & Northeastern.....	5.00					5.00	5.00	5.00
Iola & Northern.....	4.70				.70	5.40	4.70	4.70
Kewaunee, G. Bay. & Western.....	36.70				7.49	44.19	36.70	36.70
La Crosse & Southeastern.....	42.61				3.18	45.79	42.61	40.81
L. Supr. Terminal & Transfer.....	22.55					22.55	22.55	22.11
Mar. Tomahawk & Western.....	23.00				7.25	30.25	23.00	43.77
Mattoon R'y Co.....	29.36					29.36	29.36	29.36
Mineral Point & Northern.....	30.60				3.16	33.76	30.60	26.40
Northwestern Coal R'y. Co.....	8.00					8.00	8.00	8.00
Stanley, Merrill & Phillips.....	55.46				3.38	58.84	55.46	45.66
Tomahawk & Eastern.....	20.77				1.05	21.82	20.77	.....
Waupaca-Green Bay.....	9.85				.60	10.45	9.85	9.85
Whitcomb & Morris.....	7.90					67.90	7.90	7.90
Wisconsin & Northern.....	55.86				11.61	7.47	55.86	55.86
Wisconsin Northwestern.....	36.80				10.00	46.80	36.80	36.80
Total.....	820.55				84.93	905.48	820.55	797.84
B. ENTIRE SYSTEM.								
<i>Interstate Roads.</i>								
Chicago & Northwestern.....	7,905.03	856.69	104.49	95.36	3,239.67	12,201.24	7,905.03	7,556.76
Chi., Burlington & Quincy.....	9,074.14	750.36	23.55		2,735.89	12,583.94	9,074.14	8,807.04
Chi., Milwaukee & St Paul... ¹	7,511.44	640.49	14.91	249.73	2,342.72	10,559.29	7,511.44	7,281.05
Chi., St. P. Mpls. & Omaha.... ²	1,743.82	125.52	3.18	2.50	571.92	2,446.94	1,743.82	1,671.44
Chi., Harvard & Geneva Lake.....	11.35				1.68	13.03	11.35	11.35
Duluth, So. Shore & Atlantic... ³	624.08	6.55			172.09	802.72	624.08	598.09
Elgin, Joliet & Eastern.....	841.18	59.74			288.15	1,189.07	841.18	229.79
Great Northern.....	7,294.91	178.84	9.28	213.05	1,852.41	9,348.49	7,294.91	6,505.24
Illinois Central.....	4,755.25	686.99	13.67	484.06	1,891.57	7,431.54	4,755.25	2,276.05
Mpls., St. Paul & S. S. Marie... ⁴	3,765.97	58.82			1,062.50	4,887.29	3,765.97	2,711.54
Northern Pacific.....	6,411.83	606.73	2.96		2,042.67	9,064.24	6,411.83	6,467.97
Wisconsin & Michigan.....	135.95				31.08	167.03	135.95	127.05
Total.....	50,074.95	3,970.78	172.04	244.70	16,232.35	70,694.82	50,074.95	44,243.37

¹ Connecting tracks.² Includes 45.25 connecting tracks.³ Fifth and sixth tracks.⁴ Includes additional main track.

COMPANIES USING
INCOME ACCOUNT FOR YEAR

NAME OF ROAD.	Total revenue from transportation.	Revenue from other than transportation.
Fairchild & Northeastern.....	\$23,817.16	\$310.75
Laona & Northern.....	17,065.31	
Marathon County.....	14,707.00	
Robbins Ry. Co.....	14,409.02	
Roddis Lumber & Veneer Co.....	2,993.07	
Superior & Southeastern.....	27,109.95	
Waupaca & Green Bay.....	23,504.28	25.00
Total.....	\$123,605.79	\$335.75

CONDENSED FORM OF REPORT.
ENDING DECEMBER 31, 1911.

Total operating revenue.	Total operating expenses.	Net operating revenue.	Net operating loss.	Miles of road owned.	Miles of road operated.
\$24,127.91	\$26,196.62	.....	\$2,068.71	40.00	40.00
17,065.31	24,104.47	.....	7,039.16	22.00	22.00
14,707.00	15,054.13	.....	347.13	21.50	21.50
14,409.02	18,313.39	.....	3,904.37	22.25	22.25
2,993.07	10,592.31	.....	7,599.24	15.00	15.00
27,109.95	33,717.87	.....	6,607.92	39.00	39.00
23,529.28	22,540.50	.....	\$988.78	10.45	10.45
\$123,941.54	\$150,519.29	\$988.78	27,566.53	170.20	170.20

LESSOR COMPANIES—ENTIRE SYSTEM—INCOME

Italic figures denote credits.

NAME OF ROAD.	INCOME FROM LEASE OF ROAD.	OTHER	
		Joint faciliti- ties credit.	Miscellane- ous rents.
Milwaukee, Bay View & Chicago.....	\$11,500 00	.....	.....
Oshkosh Transportation Co.....	.....	.....	.....
Winona Bridge Ry. Co. ¹	26,824 39	.....	.....
Wisconsin Central ²	2,295,017 35	\$35,301 92	\$6,648 62
Total	\$2,333,341 74	\$35,301 92	\$6,648 62

NAME OF ROAD.	DEDUCTIONS FROM		
	Joint faciliti- ties, debit.	Interest accrued on funded debt.	Miscellane- ous rents.
Milwaukee, Bay View & Chicago.....	.....	.....	.....
Oshkosh Transportation Co.....	.....	.....	.....
Winona Bridge Ry. Co.....	.....	\$19,200 00	.....
Wisconsin Central.....	\$433,796 52	1,517,449 70	\$825 00
Total	\$433,796 52	\$1,536,649 70	\$825 00

GENERAL BALANCE SHEET

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NAME OF ROAD.	Cost of road.	Cost of equipment.	New con- struction, additions and betterments.
Milwaukee, Bay View & Chicago.....	\$100,000 00	.....	.....
Oshkosh Transportation Co.....	70,000 00	.....	.....
Winona Bridge Ry. Co.....	790,997 42	.....	.....
Wisconsin Central.....	60,435,551 97	\$6,763,612 91	.....
Total	\$61,396,549 39	\$6,763,612 91	.....

Lia

NAME OF ROAD.	Capital stock.	Funded debt.	Current liabilities.
Milwaukee, Bay View & Chicago.....	\$100,000 00	.....	.....
Oshkosh Transportation Co.....	70,000 00	.....	.....
Winona Bridge Ry. Co.....	400,000 00	\$384,000 00	\$300 18
Wisconsin Central.....	30,000,000 00	38,875,447 90	\$1,824,255 09
Total	\$30,570,000 00	\$39,259,447 90	\$1,824,555 27

¹Includes entire system.²Deficit from outside operations.

ACCOUNT, YEAR ENDING DECEMBER 31, 1911.

INCOME.					GROSS CORPORATE INCOME.
Dividends declared on stocks owned or controlled.	Interest accrued on funded debt owned or controlled.	Interest on other securities, loans and accounts.	Miscellaneous income.	Total other income.	
					\$11,500 00
			\$12,131 25	\$12,131 25	12,131 25
			2,050 42	2,050 42	24,773 97
		\$8,427 44		50,377 98	2,345,395 33
		\$8,427 44	\$10,080 83	\$60,458 81	\$2,393,800 55

GROSS CORPORATE INCOME.			DIVIDENDS DECLARED.	BALANCE CARRIED FORWARD TO PROFIT AND LOSS.
Taxes accrued.	Other deductions.	Total deductions from gross corporate income.		
			\$11,500 00	
\$8949 49	\$4,413 49	\$5,362 98	7,850 00	\$1,081 73
		19,200 00		5,372 97
411,423 85	31,275 83	2,394,770 90	450,688 00	500,063 57
\$412,373 34	\$35,689 32	\$2,419,333 88	\$470,038 00	\$495,571 33

DECEMBER 31, 1911.

8c

Stocks owned.	Funded debt owned.	Other permanent improvements.	Land department.	Cash and current assets.	Other assets.	Grand total.
						\$100,000 00
				\$1,136 61		71,136 61
\$2,737,600 00	\$1,671,302 80	\$505,311 77	\$652,312 77	58,092 43	\$12,416 75	849,089 85
				650,290 31		73,428,399 28
\$2,737,600 00	\$1,671,302 80	\$505,311 77	\$652,312 77	\$709,519 35	\$12,416 75	\$74,448,625 74

bilities.

Accrued interest on funded debt.	Land department.	Reserves.	Profit and loss.	Grand total.
				\$100,000 00
			\$1,136 61	71,136 61
\$113,575 46	\$813,913 76	\$3,032 83	\$1,798,174 24	73,428,399 28
			64,789 67	849,089 85
\$113,575 46	\$813,913 76	\$3,032 83	\$1,864,100 52	\$74,448,625 74

³Includes entire system.

⁴Taxes accrued and paid.

CAPITAL STOCK
Capital Stock

NAME OF ROAD.	NUMBER OF SHARES		
	Common.	Preferred.	Debenture.
<i>a. Interstate Roads.</i>			
Chicago & North Western.....	12,000,000		
Chicago, Burlington & Quincy.....	1,108,391		
Chicago, Milwaukee & St. Paul.....	1,668,554	1,163,049	
Chicago, St. Paul, Minneapolis & Omaha.....	300,000	200,000	
Chicago, Harvard & Geneva Lake.....	1,500		
Duluth, South Shore & Atlantic.....	120,000	100,000	
Elgin, Joliet & Eastern.....	100,000		
Great Northern.....	12,100,000		
Illinois Central.....	1,235,520		100,000
Minneapolis, St. Paul & Sault Ste. Marie.....	280,000	140,000	
Northern Pacific.....	2,500,000		
Wisconsin & Michigan.....	15,000		
Total.....	11,428,965	1,603,049	100,000
<i>b. Intrastate Roads.</i>			
Ahnapee & Western.....	5,000		
Ashland, Odanah & Marengo.....	1,000		
Bayfield Transfer.....	30,000		
Big Falls Ry. Co.....	10		
Cazenovia & Sauk City.....	1,200		
Chippewa Valley & Northern.....	150		
Drummond & Southwestern.....	100		
Dunbar & Wausaukee.....	1,200		
Fairchild & Northeastern.....	5,000		
Green Bay & Western.....	25,000		
Hazelhurst & Southeastern.....	4,000		
Iola & Northern.....	17,000		
Kewaunee, Green Bay & Western.....	4,800	2,000	
La Crosse & Southeastern.....	10,000		
Lake Superior Terminal & Transfer.....	12,000		
Marinette, Tomahawk & Western.....	10,000		
Mattoon R'y Co.....	100		
Mineral Point & Northern.....	5,500		
Northwestern Coal R'y Co.....	10,000		
Stanley, Merrill & Phillips.....	1,000		
Tomahawk & Eastern.....	250		
Whitcomb & Morris.....	100		
Wisconsin & Northern.....	15,000		
Wisconsin Northwestern.....	3,000		
Total.....	161,410	2,000	

¹ Includes preferred and debenture.

AND DIVIDENDS, 1912.
on June 30, 1912.

AUTHORIZED.		TOTAL PAR VALUE AUTHORIZED.			
Total.	Par value of each share.	Common.	Preferred.	Debenture.	Total.
2,000,000	\$100 00	\$200,000,000 00			\$200,000,000 00
1,108,391	100 00	110,839,100 00			110,839,100 00
2,831,603	100 00	166,855,400 00	\$116,304,900 00		283,160,300 00
500,000	100 00	30,000,000 00	20,000,000 00		50,000,000 00
1,500	100 00	150,000 00			150,000 00
220,000	100 00	12,000,000 00	10,000,000 00		22,000,000 00
100,000	100 00	10,000,000 00			10,000,000 00
2,100,000	100 00	210,000,000 00			210,000,000 00
1,335,520	100 00	123,552,000 00		\$10,000,000 00	133,552,000 00
420,000	100 00	28,000,000 00	14,000,000 00		42,000,000 00
2,500,000	100 00	250,000,000 00			250,000,000 00
15,000	100 00	1,500,000 00			1,500,000 00
13,132,014		\$1,142,896,500 00	\$160,304,900 00	\$10,000,000 00	\$1,313,201,400 00
5,000	\$100 00	\$500,000 00			\$500,000 00
1,000	100 00	100,000 00			100,000 00
30,000	100 00	3,000,000 00			3,000,000 00
10	100 00	1,000 00			1,000 00
1,200	25 00	30,000 00			30,000 00
150	1,000 00	150,000 00			150,000 00
100	100 00	10,000 00			10,000 00
1,200	100 00	120,000 00			120,000 00
5,000	100 00	500,000 00			500,000 00
25,000	100 00	2,500,000 00			2,500,000 00
4,000	25 00	100,000 00			100,000 00
17,000	100 00	1,700,000 00			1,700,000 00
6,800	100 00	480,000 00	\$200,000 00		680,000 00
10,000	100 00	1,000,000 00			1,000,000 00
12,000	100 00	1,200,000 00			1,200,000 00
10,000	100 00	1,000,000 00			1,000,000 00
100	100 00	10,000 00			10,000 00
5,500	100 00	550,000 00			550,000 00
10,000	100 00	1,000,000 00			1,000,000 00
1,000	100 00	100,000 00			100,000 00
250	100 00	25,000 00			25,000 00
100	100 00	10,000 00			10,000 00
15,000	100 00	1,500,000 00			1,500,000 00
3,000	100 00	300,000 00			300,000 00
163,410		\$15,886,000 00	\$200,000 00		\$16,086,000 00

CAPITAL STOCK AND

NAME OF ROAD.	TOTAL PAR VALUE OUTSTANDING.			Total.
	Common.	Preferred.	Debenture.	
<i>Capital Stock on June</i>				
<i>a. Interstate Roads.</i>				
Chicago & North Western	¹ \$132,455,530 97	² \$22,398,954 56		\$154,854,485 53
Chicago, Burlington & Quincy	110,839,100 00			110,839,100 00
Chicago, Milwaukee & St. P. ..	116,348,200 00	116,274 900 00		232,623,100 00
Chicago, St. P. Minn. & O.	21,400,473 33	12,643,721 66		34,044,194 99
Chicago, Harvard & Lake G.	150,000 00			150,000 00
Duluth, S. Shore & Atlantic. . .	12,000,000 00	10,000,000 00		22,000,000 00
Elgin, Joliet & Eastern	10,000,000 00			10,000,000 00
Great Northern	⁵ 209,990,750 00			209,990,750 00
Illinois Central	⁶ 109,294,500 00		⁷ \$9,991,200 00	119,285,700 00
Minneapolis, St. P. & S. S. M. . .	25,206,800 00	12,603,400 00		37,810,200 00
Northern Pacific	247,998,400 00		⁹ 1,600 00	248,000,000 00
Wisconsin & Michigan	1,500,000 00			1,500,000 00
Total	\$997,183,754 30	\$173,920,976 22	\$9,992,800 00	\$1,181,097,530 52
<i>b. Intrastate Roads.</i>				
Ahnapee & Western	\$439,500 00			\$439,500 00
Ashland, Odanah & Marengo. . .	100,000 00			100,000 00
Bayfield Transfer	1,675,400 00			1,675,400 00
Big Falls Ry. Co.	1,000 00			1,000 00
Cazenovia & Sauk City	24,000 00			24,000 00
Chippewa Valley & Northern	58,000 00			58,000 00
Drummond & Southwestern ..	10,000 00			10,000 00
Dunbar & Wausaukee	120,000 00			120,000 00
Fairchild & Northeastern	500 00			500 00
Green Bay & Western	2,500,000 00			2,500,000 00
Hazelhurst & Southeastern ..	100,000 00			100,000 00
Iola & Northern	71,400 00			71,400 00
Kewaunee, Green B. & W.	465,750 00	\$199,200 00		664,950 00
La Crosse & Southeastern	1,000,000 00			1,000,000 00
Lake Superior Ter. & Trans. . .	410,400 00			410,400 00
Marinette, Tomahawk & W. . .	161,500 00			161,500 00
Mattoon R'y Co.	4,000 00			4,000 00
Mineral Point & Northern	550,000 00			550,000 00
Northwestern Coal R'y Co.	1,000,000 00			1,000,000 00
Stanley, Merrill & Phillips	100,000 00			100,000 00
Tomahawk & Eastern	1,000 00			1,000 00
Whitcomb & Morris	10,000 00			10,000 00
Wisconsin & Northern	1,339,900 00			1,339,900 00
Wisconsin Northwestern	300,000 00			300,000 00
Total	\$10,442,350 00	\$199,200 00		\$10,641,550 00

¹Includes scrip \$2,930 97²Includes scrip \$254.56.³Includes scrip \$327.15.⁴Includes scrip \$134.56.⁶Includes preferred and debentures.

DIVIDENDS, 1912—Concluded.

TOTAL PAR VALUE HELD BY RESPONDENT CORPORATION.			Dividends Declared During Year.					
Common.	Preferred.	Deben- ture.	Common.		Preferred.		Debentures.	
			Rate per cent	Amount.	Rate per cent.	Amount.	Rate per cent.	Amount.
\$2,338,427 15	\$3,834 56		7	\$9,108,015 00	8	\$1,791,600 00		
407,500 00	429,100 00		8	8,867,128 00	7	8,115,233 00		
2,844,206 64	1,386,921 66		6	6,956,760 00	7	787,976 00		
			7	1,298,934 00				
			4	400,000 00				
	9,250 00		7	14,698,650 75				
\$8,080 00			7	7,650,566 00				
			7	1,611,358 00	7	805,679 00		
54,000 00								
			7	17,357,900 00				
\$5,652,213 79	\$1,829,106 22			\$67,949,311 75		\$11,500,488 00		
\$1,324,600 00								
			5	\$125,000 00				
			18	18,000 00				
495,000 00								
			73.9	2,956 01				
\$1,819,600 00				\$145,956 01				

⁶Includes scrip \$900.00.

⁷Includes receipts outstanding for installments paid \$1,500.00.

⁸Includes scrip \$380.00.

⁹Receipts outstanding for installments paid.

¹⁰Includes \$112.00 dividends on receipts outstanding.

CAPITAL STOCK ISSUED DURING YEAR ENDING

NAME OF ROAD.	NUMBER OF SHARES ISSUED.		
	Common.	Preferred.	Debenture.
<i>Interstate Roads.</i>			
Great Northern.....	88½		
Northern Pacific.....	1		
Total.....	89½		
<i>Intrastate Roads.</i>			
Cazenovia & Sauk City Ry. Co.....	960		
Total.....	960		

JUNE 30, 1912, AND PURPOSE OF THE ISSUE.

CASH REALIZED ON AMOUNT ISSUED.				PURPOSE OF THE ISSUE.
Common.	Preferred.	Debenture	Total.	
\$100 00			\$100 00	For 71 shares of S. P. M. & M. Ry. stock. For construction, acquisition, and operation of railway of company.
\$100 00			\$100 00	
\$24,000 00			\$24,000 00	Issued for cash.
\$24,000 00			\$24,000 00	

FUNDED DEBT OF CHICAGO & NORTH

DESIGNATION OF BOND OR OBLIGATION.	TERM.		TOTAL PAR VALUE AUTHOR- IZED.	TOTAL PAR VALUE OUT- STANDING.
	Date of issue.	Date of ma- turity.		
MORTGAGE BONDS.				
C. & N. W. Ry. Gen. Consolidated Gold.....	1872	1902		
Madison Exten. 1st mtge. sinking fund.....	1871	1911		
Menomonee Exten. 1st mtge. sinking fund.....	1871	1911		
C. & N. W. Ry. Consol. skg. fund currency....	1865	1915	\$12,900,000	\$12,832,000
Cedar Rapids & Mo. Riv. R. R. 3d Div. 1st mtg.	1866	1916	2,500,000	2,332,000
W. & St. P. R. R. (ext. west div.) 1st mtge....	1871	1916	4,375,000	4,241,000
N. W. Union Ry. 1st mtge.....	1872	1917	3,500,000	3,500,000
M. L. S. & W. Ry. Consol. 1st mtge.....	1881	1921	5,000,000	5,000,000
M. L. S. & W. Ry. Marshfield ext. 1st mtge....	1892	1922	600,000	400,000
M. L. S. & W. Ry. 1st mtge. (Mich. Div.).....	1884	1924	3,000,000	1,281,000
M. L. S. & W. Ry. 1st mtge. (Ash. Div.).....	1885	1925	1,000,000	1,000,000
M. L. S. & W. Ry. Ext. & Imp. skg. fund mtg.	1889	1929	5,000,000	4,188,000
Wis. Northern Ry. 1st mtge.....	1896	1931	1,725,000	440,000
Poyer Valley Ry. 1st mtge.....	1898	1923	1,440,000	1,440,000
Minnesota & Ia. Ry. 1st mtge.....	1899	1924	1,904,000	1,904,000
Southern Ia. Ry. 1st mtge.....	1900	1925	1,120,000	431,000
Princeton & N. W. Ry. 1st mtge.....	1901	1926	2,100,000	2,100,000
Peoria & N. W. Ry. 1st mtge.....	1901	1926	2,125,000	2,125,000
Mankato & New Ulm Ry. 1st mtge.....	1899	1929	416,000	416,000
Minn. & So. Dakota Ry. 1st mtge.....	1900	1935	528,000	528,000
Ia. Minn. & N. W. Ry. 1st mtge.....	1900	1935	3,900,000	3,900,000
Sioux City & Pacific R. R. 1st mtge.....	1901	1936	4,000,000	4,000,000
Mil. & State Line Ry. 1st mtge.....	1906	1941	2,500,000	2,500,000
Man. Green Bay & N. W. Ry. 1st mtge.....	1906	1941	3,750,000	3,750,000
Mil. Sparta & N. W. Ry. 1st mtge.....	1912	1947	15,000,000	15,000,000
C. & N. W. Ry. Gen. mtge. gold of 1987—3½%..	1897	1987		31,316,000
C. & N. W. Ry. Gen. mtge. gold of 1987—4%....	1897	1987	165,000,000	22,500,000
C. & N. W. Ry. Gen. mtge. gold of 1987.....	1897	1987		5,910,000
Fremont, Elkhorn & Mo. Val. R. R. Consol....	1883	1933	18,400,000	18,400,000
Wyoming Central Ry. 1st mtge.....	1886	1926	1,540,000	1,540,000
Wyoming Central Ry. 1st mtge.....	1887	1926	1,020,000	1,020,000
Dakota Central Ry. 1st mtge.....	1886	1926	570,000	570,000
Dakota Central Ry. 1st mtge.....	1886	1926	1,125,000	1,125,000
Dakota Central Ry. 1st mtge.....	1886	1926	450,000	450,000
Dakota Central Ry. 1st mtge.....	1887	1926	120,000	120,000
Toledo & N. W. Ry. 1st mtge.....	1886	1926	270,000	270,000
Maple Valley Ry. 1st mtge.....	1886	1926	360,000	360,000
Sioux Valley Ry. 1st mtge.....	1887	1926	162,000	162,000
Linn County Ry. 1st mtge.....	1887	1926	100,000	100,000
Iron River Ry. 1st mtge.....	1887	1926	630,000	630,000
Iron Range Ry. 1st mtge.....	1887	1926	700,000	700,000
Paint River Ry. 1st mtge.....	1890	1926	300,000	300,000
Janesville & Evansville Ry. 1st mtge.....	1886	1926	320,000	320,000
Lake Geneva & State Line Ry. 1st mtge....	1888	1926	90,000	90,000
Junction Ry. 1st mtge.....	1889	1926	200,000	200,000

¹This amount of bonds is due from trustee and for which certificates have been issued to the company, the bonds having not yet been issued.

WESTERN RAILWAY COMPANY, JUNE 30, 1912.

TOTAL PAR VALUE HELD BY RESPONDENT.			TOTAL PAR VALUE NOT HELD BY RESPONDENT.	INTEREST.			
In treasury.	Pledged as collateral.	In sinking or other funds.		Rate.	When payable.	Amount accrued during year.	Amount paid during year.
				7	Jun. and Dec.		\$700 00
				7	Apr. and Oct.		1,400 00
				7	Jun. and Dec.		4,952 50
			\$12,832,000	7	Feb. and Mar.	\$898,240 00	886,822 50
			2,332,000	7	Aug. and No.		
					May and No.	163,240 00	163,695 00
		\$202,500	4,038,500	7	Jun. and Dec.	296,870 00	298,112 50
		135,000	3,365,000	7	Mar. and Sep.	245,000 00	244,755 00
			5,000,000	6	May and No.	300,000 00	314,910 00
			400,000	5	Apr. and Oct.	20,000 00	19,925 00
			1,281,000	6	Jan. and Jul.	76,860 00	76,590 00
			1,000,000	6	Mar. and Sep.	60,000 00	59,940 00
40,000			4,148,000	5	Feb. and Au.	207,400 00	206,075 00
		440,000		4	Jan. and Jul.	17,600 00	17,600 00
			1,440,000	3½	Jun. and Dec.	50,400 00	50,925 00
			1,904,000	3½	Jan. and Dec.	66,640 00	66,780 00
431,000				3½	Mar. and Sep.		
		160,000	1,940,000	3½	Jan. and Jul.	73,500 00	73,412 50
			2,125,000	3½	Mar. and Sep.	74,375 00	74,742 50
		416,000		3½	Apr. and Oc.	14,560 00	14,560 00
			528,000	3½	Jan. and Jul.	18,480 00	18,480 00
			3,900,000	3½	Jan. and Jul.	136,500 00	136,500 00
		74,000	3,926,000	3½	Feb. and Au.	140,000 00	139,965 00
			2,500,000	3½	Jan. and Jul.	87,500 00	87,500 00
			3,750,000	3½	Jan. and Jul.	131,250 00	131,775 00
			15,000,000	4	Mar. and Sep.	150,000 00	
		489,000	30,827,000	3½	Feb. and M'y	1,096,060 00	1,098,772 50
			22,500,000	4		900,000 01	894,730 00
5,910,000			7,725,000	6	Aug. and No.		
	\$10,675,000			5	Apr. and Oc.	463,500 00	462,960 00
	1,540,000			5	Feb. and Au.		
	1,020,000			5	Feb. and Au.		
	570,000			5	Feb. and Au.		
	1,125,000			5	Feb. and Au.		
	450,000			5	Feb. and Au.		
	120,000			5	Feb. and Au.		
	270,000	2		5	Feb. and Au.		
	360,000			5	Feb. and Au.		
	162,000			5	Feb. and Au.		
	100,000			5	Feb. and Au.		
	630,000			5	Feb. and Au.		
	700,000			5	Feb. and Au.		
	300,000			5	Feb. and Au.		
	320,000			5	Feb. and Au.		
	90,000			5	Feb. and Au.		
	200,000			5	Feb. and Au.		

² These bonds, amounting to \$18,632,000.00, were taken up by the C. & N. W. Co. and deposited with the Union Trust Company of New York, trustee, as security for an equal amount of this company's Extension Bonds of 1886, issued in lieu thereof, which latter bonds are outstanding and included in the funded debt of the company, as shown above.

FUNDED DEBT OF CHICAGO AND NORTH WESTERN

DESIGNATION OF BOND OR OBLIGATION.	TERM.		TOTAL PAR VALUE AUTHOR- IZED.	TOTAL PAR VALUE OUT- STANDING.
	Date of issue.	Date of ma- turity.		
MORTGAGE BONDS—Concluded.				
Stanwood & Tipton Ry. 1st mtge.....	1880	1929	120,000	105,000
Sheboygan & Western Ry. 1st mtge.....	1880	1929	800,000	710,000
Menominee Ry. 1st mtge.....	1880	1929	165,000	135,000
Chatfield R. R. 1st mtge.....	1880	1929	165,000	150,000
Chicago & Dakota Ry. 1st mtge.....	1879	1929	690,000	600,000
Rock River Ry. 1st mtge.....	1881	1929	90,000	75,000
Dakota Central Ry. 1st mtge. (A).....	1879	1929	1,320,000	1,020,000
Dakota Central Ry. 1st mtge. (B).....	1880	1929	1,800,000	1,620,000
Dakota Central Ry. 1st mtge. (C).....	1881	1929	1,965,000	1,770,000
Dakota Central Ry. 1st mtge. (D).....	1882	1929	90,000	75,000
Dakota Central Ry. 1st mtge. (E).....	1885	1929	385,000	330,000
Toledo & North Western Ry. 1st mtge. (A)....	1880	1929	1,005,000	735,000
Toledo & North Western Ry. 1st mtge. (B)....	1880	1923	2,355,000	2,085,000
Toledo & North Western Ry. 1st mtge. (C)....	1881	1929	1,125,000	1,020,000
Toledo & North Western Ry. 1st mtge. (D)....	1882	1929	930,000	840,000
Toledo & North Western Ry. 1st mtge. (E)....	1882	1929	120,000	105,000
Ia. South West. Ry. 1st mtge.....	1881	1929	780,000	675,000
Menominee River R. R. 1st mtge.....	1881	1929	330,000	285,000
Menominee River R. R. 1st mtge.....	1882	1929	600,000	525,000
Galesville & Miss. Riv. R. R. 1st mtge.....	1882	1929	90,000	.....
Sycamore & Sortland R. R. 1st mtge.....	1883	1929	75,000	.....
				\$172,251,000
COLLATERAL TRUST BONDS.				
C. & N. W. Ry. sink. fund of 1879. 6%.....	1879	1929 ³		\$5,246,000
C. & N. W. Ry. sink. fund of 1879. 5%.....	1879	1929 ³	15,000,000	6,128,000
C. & N. W. Ry. extension of 1886.....	1886	1926	20,000,000	18,632,000
				\$30,006,000
PLAIN BONDS DEBENTURES & NOTES.				
C. & N. W. Ry. 25-yr. Debenture of 1909.....	1884	1909		.....
C. & N. W. Ry. 30-yr. Debenture.....	1891	1921	10,000,000	\$10,000,000
C. & N. W. Ry. Sink. fund Debentures of 1933..	1883	1933	10,000,000	9,695,000
				\$19,695,000
INCOME BONDS.				
M. L. S. & W. Ry. Income.....	1881	1911		.....
MISCELLANEOUS FUNDED OBLIGATIONS.				
Real Estate Mortgage.....	1892	1912		.....
RECEIPTS OUTSTANDING FOR FUNDED DEBT.				
None.....				.....
Total.....				\$221,952,000

³ These bonds, amounting to \$12,860,000.00 were taken up by the C. & N. W. Ry. Co together with \$2,140,000.00 other bonds which have since been canceled, deposited with the Farmers' Loan and Trust Company, trustee, as security for an equal amount of this company's Sinking Fund Bonds of 1879 issued in lieu thereof, of which latter bonds \$11,374,000.00 are outstanding and included in the funded debt of the company, as shown above.

RAILWAY COMPANY, JUNE 30, 1912.—Concluded.

TOTAL PAR VALUE HELD BY RESPONDENT.			TOTAL PAR VALUE NOT HELD BY RESPONDENT.	INTEREST.			
In treasury.	Pledged as collateral.	In sinking or other funds.		Rate.	When payable.	Amount accrued during year.	Amount paid during year.
	105,000			6	Apr. and Oc.		
	710,000			6	Apr. and Oc.		
	135,000			6	Apr. and Oc.		
	150,000			6	Apr. and Oc.		
	600,000			6	Apr. and Oc.		
	75,000			6	Apr. and Oc.		
	1,020,000			6	Apr. and Oc.		
	1,620,000			6	Apr. and Oc.		
	1,770,000			6	Apr. and Oc.		
	75,000			6	Apr. and Oc.		
	330,000			6	Apr. and Oc.		
	735,000			6	Apr. and Oc.		
	2,085,000			6	Apr. and Oc.		
	1,020,000			6	Apr. and Oc.		
	840,000			6	Apr. and Oc.		
	105,000			6	Apr. and Oc.		
	675,000			6	Apr. and Oc.		
	285,000			6	Apr. and Oc.		
	525,000			6	Apr. and Oc.		
				6	Apr. and Oc.		
\$6,381,000	\$31,492,000	\$1,916,500	\$132,461,500			\$5,687,975 01	\$5,556,580 00
			\$5,246,000	6	Apr. and Oc.	\$317,085 00	\$318,570 00
			6,128,000	5	Apr. and Oc.	308,349 89	309,374 89
		\$962,000	17,670,000	4	Feb. and Au.	745,280 00	744,900 00
		\$962,000	\$29,044,000			\$1,370,714 89	\$1,372,844 89
				5	May and No.		\$1,591 68
		\$181,000	\$9,819,000	5	Apr. and Au.	\$500,000 00	499,975 00
			9,695,000	5	May and No.	484,750 00	485,500 00
		\$181,000	\$19,514,000			\$984,750 00	\$987,066 68
				6	May and No.		\$60 00
							\$60 00
				5	Apr. and Oc.	\$400 00	\$400 00
						\$400 00	\$400 00
\$5,381,000	\$31,492,000	\$3,059,500	\$181,019,500			\$8,043,839 80	\$7,916,951 57

FUNDED DEBT OF CHICAGO MILWAUKEE & ST.
Mortgage Bonds, Miscellaneous Obligations

DESIGNATION OF BOND OR OBLIGATION.	TERM.		TOTAL PAR VALUE AUTHORIZED.	TOTAL PAR VALUE OUTSTANDING.
	Date of issue.	Date of maturity.		
MORTGAGE BONDS:				
Teminal Mtge.....	1884	1914	\$5,000,000	\$4,748,000
La Crosse & Davenport Division.....	1879	1919	3,000,000	2,500,000
Dubuque Division.....	1880	1920	6,500,000	4,784,000
Wisconsin Valley Division.....	1880	1920	1,700,000	1,853,000
Chicago & Pacific Western Division.....	1881	1921	..... (2)	23,340,000
Wisconsin & Minnesota Division.....	1881	1921	..... (3)	4,755,000
Chicago & Lake Superior Division.....	1881	1921	..... (4)	1,360,000
Chicago & Missouri River Division.....	1886	1926	..... (5)	3,083,000
General Mtge.....	1889	1989	150,000,000	88,520,000
General Mtge.....	1889	1989	.....	8,950,000
Milwaukee & Northern R. R. 1st mtge....	1910	1913	2,155,000	2,155,000
Milwaukee & Northern Consol.....	1884	1913	8,000,000	5,092,000
Dakota & Great Southern Ry.....	1886	1916	..... (6)	2,856,000
Fargo & Southern Ry.....	1883	1924	1,250,000	1,250,000
Southwestern Division.....	1879	1910	.....	1,000
Consolidated mtge. 1875.....	1875	1905	.....	3,000
I & D Division Extension mtge.....	1878	1908	.....	5,000
Chicago & Pacific Division.....	1880	1910	.....	2,000
Hastings & Dakota Division extension.....	.....	.....	.....	.....
Southern Minnesota Division.....	.....	.....	.....	.....
Mineral Point Division.....	.....	.....	.....	.....
Wisconsin Valley R. R.....	.....	.....	.....	.....
DEBENTURES.				
Twenty-five year Gold Bonds.....	1909	1934	50,000,000	28,050,000
European loan of 1910.....	1910	1925	250,000,000	748,176,654
Convert. Gold.....	1912	1932	50,000,000	34,893,500
Total.....	.....	.....	.....	\$268,377,155

¹ In addition to the authorized issue of \$1,700,000.00 under the mortgage securing this issue, provision is made that like bonds may be issued at a rate of \$15,000.00 per mile for extensions. The excess outstanding for the latter purpose on June 30th, 1912, is \$158,000.00.

² Authorization under the mortgage securing this issue, provides that there may be issued \$20,000.00 in bonds per mile for each mile of completed railway on which said bonds are secured. Whether now built or thereafter to be built; for the construction of two bridges across the Missouri river and one across the Mississippi, a sum not to exceed \$500,000.00 for each bridge; and for additional rolling stock a sum not to exceed \$3,000,000.00.

³ Authorization under the mortgage securing this issue provides that \$20,000.00 in bonds per mile of completed railway may be issued, and in addition thereto there may be issued not exceeding \$250,000.00 for a bridge across the Mississippi river, and a sum not exceeding \$100,000.00 for a bridge across the Missouri river.

PAUL RAILWAY COMPANY, JUNE 30, 1912.
and Income Bonds.

TOTAL PAR VALUE HELD BY RE- SPONDENT.		TOTAL PAR VALUE NOT HELD BY RESPONDENT.	Rate per cent.	When payable.	INTEREST.	
In treasury.	In sinking or other funds.				Amount accrued during year.	Amount paid dur- ing year.
		\$4,748,000	5	Jan. and July	\$237,400 00	\$237,850 00
	\$4,000	2,496,000	5	" "	125,000 00	125,025 00
		4,784,000	6	" "	289,620 00	293,550 00
	266,000	1,587,000	6	" "	111,690 00	112,470 00
	6,000	25,334,000	5	" "	1,267,000 00	1,267,225 00
		4,755,000	5	" "	237,750 00	240,425 00
		1,360,000	5	" "	68,000 00	67,900 00
		3,083,090	5	" "	154,150 00	154,025 00
\$89,679,000	600,000	48,241,000	4	" "	1,953,640 00	1,957,630 00
		8,950,000	3½	" "	313,250 00	314,125 00
	38,000	2,117,000	4½	June and Dec.	96,975 00	97,020 00
1,089,000	20,000	3,983,000	6	" "	240,180 00	239,190 00
	6,000	2,850,000	5	Jan. and July	142,800 00	142,150 00
	2,000	1,248,000	6	" "	75,000 00	74,940 00
		1,000				660 00
		3,000				210 00
		5,000				720 00
		2,000				75 00
						2,610 00
						925 00
						105 00
	83,000	27,967,000	4	June and Dec.	1,122,000 00	1,120,840 00
		48,176,655	4	Jan. and July.	1,930,000 00	1,567,814 33
	13,700	34,879,800	4½	June and Dec.	130,073 74	
\$40,768,000	\$1,038,700	\$226,570,455			\$8,494,528 74	\$8,017,484 33

⁴ The mortgage securing this issue limits the issue to the extent of \$20,000.00 per mile of completed railway; otherwise the authorization is unlimited.

⁵ The mortgage securing this issue limits the issuance of bonds to the extent of \$20,000.00 per mile of completed railway and in addition thereto a sum not exceeding \$600,000.00 for a bridge and approaches across the Missouri river at or near Chamberlain, South Dakota. Additional bonds may be issued when properly certified for rolling stock in excess of mortgage requirements per mile of completed railway.

⁶ Francs.

⁷ The mortgage securing this issue provides for the insurance of bonds not exceed-
\$18,000.00 per mile for every mile of railway constructed, otherwise the issue is un-
limited.

FUNDED DEBT OF CHICAGO, ST. PAUL, MINNEAPOLIS
Mortgage Bonds, Miscellaneous

DESIGNATION OF BOND OR OBLIGATION.	TERM.		TOTAL PAR VALUE AUTHORIZED.	TOTAL PAR VALUE OUTSTANDING.
	Date of issue.	Date of maturity.		
MORTGAGE BONDS:				
First mortgage.....	1878	1918	\$3,000,000	\$1,080,000
First mortgage.....	1880	1930	800,000	616,000
First mortgage.....	1879	1919	6,070,000	6,070,000
Consol. mortgage.....	1880	1930	30,000,000	16,698,046 3,734,000
First mortgage.....	1890	1915	400,000	400,000
First mortgage.....	1895	1930	1,500,000	1,500,000
DEBENTURES:				
Debenture Gold Bonds.....	1912	1930	15,000,000	5,000,000
Total.....			\$56,770,000	\$35,098,046

FUNDED DEBT OF CHICAGO, BURLINGTON
Mortgage Bonds, Miscellaneous

DESIGNATION OF BOND OR OBLIGATION.	TERM.		TOTAL PAR VALUE AUTHORIZED.	TOTAL PAR VALUE OUTSTANDING.
	Date of issue.	Date of maturity.		
MORTGAGE BONDS:				
C., B. & Q., General Mortgage.....	1908	1958	\$61,651,000	\$61,651,000
C., B. & Q., Ill. Division.....	1899	1949	50,835,000	50,835,000
C., B. & Q., Ill. Division.....	1899	1949	34,165,000	34,165,000
C., B. & Q., Iowa Division.....	1879	1919	3,000,000	2,274,000
C., B. & Q., Iowa Division.....	1879	1919	12,502,000	5,639,000
C., B. & Q., Nebraska Extension.....	1887	1927	29,441,000	22,543,050
R. & M. Nebraska Consol. Mortgage.....	1878	1918	13,751,000	13,613,000
Rep. Valley.....	1879	1919	2,643,000	932,800
Tarkio Valley R. R.....	1880	1920	430,000	30,000
Nodaway Valley R. R.....	1880	1920	388,000	31,000
PLAIN BONDS:				
C., B. & Q., Sinking Fund.....	1881	1921	4,300,000	3,667,000
C., B. & Q., Plain Bonds.....	1883	1913	9,000,000	7,162,000
COLLATERAL TRUST BONDS:				
C., B. & Q., Denver Extension.....	1881	1922	7,968,000	7,310,200
MATURED BONDS:				
H. & St. Joe R. R. Mortgage Bonds....	1881	1911		
Total.....			\$230,074,000	\$209,853,000

& OMAHA RAILWAY CO., JUNE 30, 1912.
Obligations and Income Bonds.

TOTAL PAR VALUE HELD BY RESPONDENT.		TOTAL PAR VALUE NOT HELD BY RESPONDENT.	INTEREST.			
In treasury.	In sinking or other funds.		Rate per cent.	When payable.	Amount accrued during year.	Amount paid during year.
		\$1,080,000	6	May and Nov.	\$67,710.00	\$67,200.00
		616,000	6	Jan. and July.	37,060.00	37,110.00
		6,070,000	6	Apr. and Oct.	364,200.00	369,090.00
\$1,046		16,697,000	6	June and Dec.	998,810.00	990,840.00
		3,734,000	3½	June and Dec.	130,690.00	129,255.00
50,000		350,000	5	May and Nov.	17,500.00	17,500.00
		1,500,000	5	Mar. and Sept.	75,000.00	72,125.00
		5,000,000	5	Mar. and Sept.	83,333.34	.....
\$51,046		\$35,047,000	.....	.....	\$1,774,303.34	\$1,683,120.00

& QUINCY RAILROAD COMPANY, JUNE 30, 1912.
Obligations and Income Bonds.

TOTAL PAR VALUE HELD BY RESPONDENT.		TOTAL PAR VALUE NOT HELD BY RESPONDENT.	INTEREST.			
In treasury.	In sinking or other funds.		Rate per cent.	When payable.	Amount accrued during year.	Amount paid during year.
\$9,014,000		\$52,637,000	4	Mar. and Sept.	\$2,429,719.46	\$2,402,732.78
384,000		50,451,000	3½	Jan. and July.	1,779,225.00	1,781,815.00
189,000		33,976,000	4	Jan. and July.	1,366,600.00	1,333,780.00
		2,274,000	5	Aug. and Oct.	113,712.47	113,125.00
19,000		5,620,000	4	Aug. and Oct.	227,860.00	229,860.00
347,000		22,196,000	4	May and Nov.	911,586.68	915,020.00
109,600	\$10,103,800	3,399,600	6	Jan. and July.	816,780.00	816,480.00
6,200	727,800	198,800	6	Jan. and July.	55,968.00	55,938.00
		30,000	7	June and Dec.	2,292.50	2,310.00
		31,000	7	June and Dec.	2,555.01	2,590.00
237,000	2,719,000	711,000	4	Mar. and Sept.	146,680.00	146,880.00
		7,162,000	5	May and Nov.	401,921.92	410,705.26
351,000	4,876,100	2,083,100	4	Feb. and Aug.	292,408.00	292,394.00
						1,350.00
\$10,656,800	\$18,426,700	\$180,769,500	.....	.....	\$8,547,309.04	\$8,504,980.04

FUNDED DEBT OF DULUTH, SOUTH SHORE &

A. Mortgage Bonds, Miscellaneous

DESIGNATION OF BOND OR OBLIGATION.	TERM.		TOTAL PAR VALUE AUTHORIZED.	TOTAL PAR VALUE OUTSTANDING.
	Date of issue.	Date of maturity.		
MORTGAGE BONDS.				
First Mortgage.....	1887	1937	\$4,000,000	\$3,816,000
First Consol.....	1890	1990	20,000,000	15,107,000
M. H. & O. R. R. 6%	1885	1925	1,400,000	1,077,000
INCOME BONDS:				
Income certificates.....	1892	1912	3,000,000	3,000,000
Total.....			\$28,400,000	\$23,000,000

B. Equipment Trust

SERIES OR OTHER DESIGNATION.	CASH PAID ON DELIVERY OF EQUIPMENT.	DEFERRED	
		Principal.	
		Original amount.	Amount outstanding.
Car Trust notes, 5th Series.....		\$236,213.19	\$186,213.19
Car Trust notes, 8th Series.....	\$43,200.00	195,650.00	80,000.00
Equipment Trust bonds, 9th Series.....	23,400.00	207,000.00	132,000.00
Equipment Trust bonds, 10th Series.....	56,200.00	221,000.00	
Total.....	\$122,800.00	\$859,863.19	\$398,213.19

ATLANTIC RAILWAY COMPANY, JUNE 30, 1912,

Obligations and Income Bonds.

TOTAL PAR VALUE HELD BY RESPONDENT.	TOTAL PAR VALUE NOT HELD BY RESPONDENT.	INTEREST.			
		Rate per cent.	When payable.	Amount accrued during year.	Amount paid during year.
.....	\$3,816,000	5	Jan. and July	\$190,800.00	\$190,800.00
.....	15,107,000	4	Feb. and Aug.	604,280.00	100,000.00
.....	1,077,000	6	Apr. and Oct.	64,620.00	64,620.00
.....	3,000,000	4	December 31.	.....	.....
.....	\$23,000,000	.....	.....	\$859,700.00	\$355,420.00

Obligations.

PAYMENTS.		INTEREST.		
Interest.		Amount accrued during year.	Amount paid during year.	Rate per cent.
Original amount.	Amount outstanding.			
.....
\$23,650.00	.....	\$1,146.67	\$1,290.00	5
24,907.50	\$4,500.00	4,350.00	4,950.00	4½
24,220.00	9,240.00	6,160.00	6,600.00	4
\$72,777.50	\$13,740.00	\$11,656.67	\$12,840.00	.....

FUNDED DEBT OF GREAT NORTHERN

Mortgage Bonds, Miscellaneous

DESIGNATION OF BOND OR OBLIGATION.	TERM.		Total par value authorized.	Total par value outstand- ing.
	Date of issue.	Date of matur- ity.		
MORTGAGE BONDS.				
G. N. Ry., 1st and Refunding Gold Bonds	1911	1961	\$600,000,000	\$51,818,000
St. P. M. & M. Ry. Co. Consol. mortgage	1883	1933	50,000,000	13,344,000
ontana Extension.....	1887	1937	25,000,000	8,569,000
Pacific Extension.....	1890	1940	29,090,909	21,687,000
Montana Central Ry. Co. 1st mortgage..	1887	1937	10,000,000	29,090,909
Minneapolis Union Ry. Co. 1st mortgage	1882	1922	3,000,000	6,000,000
East'n Ry. Co. of Minn. N. Div. 1st mtge.	1898	1948	15,000,000	4,000,000
Willmar & Sioux Falls Ry. Co. 1st mtge.	1888	1938	3,646,080	2,150,000
Spokane Falls & Nor. Ry. Co. 1st mtge...	1889	1939	2,812,000	650,000
Total.....				\$174,686,909
COLLATERAL TRUST BONDS.				
N. P., G. N., C. B. & Q., Collat. Tr. Bonds.			222,400,000	
Issued.....			215,227,000	
G. N. proportion.....				107,613,500
Total.....				\$282,300,409

¹ Coupon Bonds, Jan., July; Registered Bonds, Jan., July; April, Oct.

RAILWAY COMPANY, JUNE 30, 1912.

Obligations, and Income Bonds.

TOTAL PAR VALUE HELD BY RESPONDENT.		TOTAL PAR VALUE NOT HELD BY RESPONDENT.	INTEREST.			
In treasury.	Pledged as collateral.		Rate per cent.	When payable.	Amount accrued during year.	Amount paid during year.
\$16,818,000		\$35,000,000	4½	Jan. and July	\$1,487,383.33	\$991,493.34
		13,344,000	6	" " "	800,640.00	799,710.00
		21,220,000	4½	" " "	954,900.00	957,352.50
		8,569,000	4	" " "	343,540.00	345,260.00
	\$11,502,000	10,185,000	4	June and Dec.	407,400.00	409,060.00
		29,090,909	4	Jan. and July	1,163,636.36	1,161,910.28
		16,000,000	6	" " "	360,000.00	359,790.00
		14,000,000	5	" " "	200,000.00	200,500.00
		2,150,000	6	" " "	129,000.00	129,000.00
		650,000	5	" " "	32,500.00	32,500.00
5,000		9,695,000	4	April and Oct.	387,800.00	388,720.00
	21,000	3,625,000	5	June and Dec.	181,250.00	179,425.00
	2,583,000	229,000	6	Jan. and July	13,740.00	13,440.00
\$16,823,000	\$14,106,000	\$143,757,909			\$6,461,789.69	\$5,968,161.12
			(1)	(1)		
			(1)	(1)		
		107,613,500	4		4,304,540.00	4,304,540.00
\$16,823,000	\$14,106,000	\$251,371,409			\$10,766,329.69	\$10,272,701.12

FUNDED DEBT OF ILLINOIS CENTRAL
Mortgage Bonds, Miscellaneous

DESIGNATION OF BOND OR OBLIGATION.	TERM.		TOTAL PAR VALUE AUTHOR- IZED.	TOTAL PAR VALUE OUTSTAND- ING.
	Date of issue.	Date of matur- ity.		
MORTGAGE BONDS:				
1st Mortgage Sterling Extd.....	1875	1951	\$2,500,000	\$2,500,000
Sterling 3s 1st Mortgage.....	1895	1951	2,500,000	2,500,000
Gold 4s 1st Mortgage.....	1886	1951	1,500,000	1,500,000
Gold 3s 1st Mortgage.....	1886	1951	2,500,000	2,499,000
Gold 3s 1st Mortgage Extd.....	1903	1951	3,000,000	3,000,000
Gold 3s 1st Mortgage Extd.....	1905	1950	1,000,000	1,000,000
1st Mortgage on K. & S. W.....	1881	1921	1,000,000	968,000
1st Mortgage on Springfield Division.....	1898	1951	2,000,000	2,000,000
1st Mortgage on D. & S. C. Division.....	1895	1951	10,000,000	5,425,000
1st Mortgage on St. Louis Division.....	1897	1951	5,000,000	4,998,000
1st Mortgage on St. Louis Division.....	1897	1951	10,000,000	8,377,000
1st Mortgage on Louisville Division.....	1897	1953	25,000,000	23,888,000
1st Mortgage on Omaha Division.....	1900	1951	5,000,000	5,000,000
1st Mortgage on Litchfield Division.....	1900	1951	4,000,000	3,235,000
1st Mortgage on Purchased Lines.....	1904	1952	20,000,000	12,000,000
Refunding Mortgage 4s.....	1908	1955	120,000,000	32,740,000
Belleville & Carondelet 1st Mortgage.....	1883	1923	485,000	470,000
Carbondate & Shawneetown 1st Mtge.....	1887	1932	250,000	241,000
St. Louis & Southern 1st Mortgage.....	1886	1931	550,000	538,000
1st Lien Equipment 4s.....	1908	1923	30,000,000	24,485,000
COLLATERAL TRUST BONDS:				
Gold 4s of 1952.....	1888	1952	15,000,000	15,000,000
Gold 4s of 1953.....	1892	1953	25,000,000	25,000,000
Sterling.....	1886	1950	5,352,000	5,266,000
Cairo Bridge.....	1892	1950	3,000,000	3,000,000
INCOME BONDS:				
St. Louis & Southern 2nd Mortgage.....	1886	1931	122,000	6,000
MISCELLANEOUS:				
Real Estate Mortgage.....	1910	1920	100,000	100,000
Real Estate Mortgage.....				
Total.....			\$294,859,000	\$185,736,000

RAILROAD COMPANY, JUNE 30, 1912.
Obligations and Income Bonds.

TOTAL PAR VALUE HELD BY RESPONDENT.	TOTAL PAR VALUE NOT HELD BY RESPONDENT.	INTEREST.			
		Rate per cent.	When payable.	Amount accrued during year.	Amount paid during year.
.....	\$2,500,000	4	Apr., Oct.	\$100,000 00	\$100,860 00
.....	2,500,000	3	Mar., Sept.	75,000 00	75,000 00
.....	1,500,000	4	Jan., July	60,000 00	58,780 00
.....	2,499,000	3½	Jan., July	87,485 00	86,660 00
.....	3,000,000	3½	Apr., Oct.	105,000 00	103,582 50
.....	1,000,000	3½	June, Dec.	35,000 00	35,000 00
.....	968,000	5	Feb., Aug.	48,400 00	48,400 00
.....	2,000,000	3½	Jan., July	70,000 00	70,000 00
.....	5,425,000	4	Feb., Aug.	.....	.....
.....	4,998,000	3	Jan., July	149,940 00	149,970 00
.....	8,377,000	3½	Jan., July	.....	.....
\$2,100,000	21,788,000	3½	Jan., July	293,195 00	293,238 75
.....	5,000,000	3	Feb., Aug.	.....	.....
87,000	3,148,000	3	Jan., July	94,440 00	97,770 00
.....	12,000,000	3½	Jan., July	420,000 00	421,277 50
.....	32,740,000	4	May, Nov.	1,308,800 00	1,268,620 00
.....	470,000	6	June, Dec.	28,200 00	28,110 00
.....	241,000	4	Mar., Sept.	9,640 00	9,640 00
.....	538,000	4	Mar., Sept.	21,520 00	21,240 00
24,485,000	.....	4	Jan., July	.....	1,097,675 00
.....	15,000,000	4	Apr., Oct.	600,000 00	593,810 00
71,000	24,929,000	4	May, Nov.	997,160 00	997,210 00
.....	5,266,000	3½	Jan., July	184,310 00	184,432 50
.....	3,000,000	4	June, Dec.	120,000 00	121,140 00
.....	6,000	.....	.....	.....	.....
.....	100,000	4	May, Nov.	4,000 00	4,000 00
.....	.....	5	.....	3,737 53	3,737 53
\$26,743,000	\$158,993,000	.....	.....	\$4,815,807 53	\$5,868,153 78

FUNDED DEBT OF MINNEAPOLIS, ST. PAUL AND

A. Mortgage Bonds, Miscellaneous

DESIGNATION OF BOND OR OBLIGATION.	TERM.		TOTAL PAR VALUE AUTHORIZED.	TOTAL PAR VALUE OUTSTANDING.
	Date of issue.	Date of maturity.		
MORTGAGE BONDS.				
Mpls. & Pac. Ry., 1st Mortgage Bonds...	1886	1936	\$4,290,000	\$286,000
M. S. S. M. & Atl., 1st Mortgage Bonds...	1886	1936	10,000,000	8,204,000
M., St. P. & S. S. M. Ry., Consol. Bonds...	1888	1938	60,715,000	52,225,000
M., St. P. & S. S. M. Ry., 2nd Mbrt. Bonds	1899	1949	5,000,000	3,500,000
Total			\$80,005,000	\$64,215,000

B. Equipment Trust

SERIES OR OTHER DESIGNATION.	CASH PAID ON DELIVERY OF EQUIPMENT.	DEFERRED	
		Principal.	
		Original amount.	Amount outstanding.
W. A. Read & Co.	\$557,001.25	\$1,935,000.00	\$975,000.00
W. A. Read & Co.	426,630.00	1,220,000.00	976,000.00
W. A. Read & Co.	168,866.29	1,190,000.00	1,080,000.00
W. A. Read & Co.	260,060.84	1,020,000.00	1,020,000.00
Total	\$1,412,558.38	\$5,365,000.00	\$4,051,000.00

SAULT STE. MARIE RAILWAY COMPANY, JUNE 30, 1912.

Obligations and Income Bonds.

TOTAL PAR VALUE HELD BY RESPONDENT.	TOTAL PAR VALUE NOT HELD BY RESPONDENT.	INTEREST.			
		Rate per cent.	When payable.	Amount accrued during year.	Amount paid during year.
.....	\$286,000	4	Jan. and July	\$11,440.00	\$11,440.00
\$10,000	8,194,000	4 ⁸⁵ / ₁₀₀	Jan. and July	327,800.00	327,560.00
.....	52,225,000	4	Jan. and July	2,058,600.00	2,029,740.00
.....	3,500,000	4	Jan. and July	140,000.00	139,820.00
\$10,000	\$64,205,000	.....	.....	\$2,537,840.00	\$2,508,560.00

Obligations.

PAYMENTS.		INTEREST.		
Interest.		Amount accrued during year.	Amount paid during year.	Rate per cent.
Original amount.	Amount outstanding.			
\$511,500.00	\$111,375.00	\$51,150.00	\$55,950.00	5
279,075.00	175,680.00	46,665.00	48,037.50	4½
283,275.00	214,650.00	50,775.00	52,425.00	4½
240,975.00	237,150.00	3,825.00	.....	4½
\$1,314,825.00	\$738,855.00	\$152,415.00	\$156,412.50	.....

FUNDED DEBT OF NORTHERN PACIFIC
Mortgage Bonds, Miscellaneous

DESIGNATION OF BOND OR OBLIGATION.	TERM.		TOTAL PAR VALUE AUTHORIZED.	TOTAL PAR VALUE OUTSTANDING.
	Date of issue.	Date of maturity.		
MORTGAGE BONDS:				
St. P. & N. P. Ry. Co. Gen'l Mortgage.....	1883	1923	.....	\$7,887,000
N. P. Ry. Co., Prior Lien Mortgage.....	1897	1997	\$130,000,000	108,068,500
General Lien Mortgage.....	1897	2047	60,000,000	60,000,000
St. P. & D. Division Mortgage.....	1900	1996	20,000,000	18,080,000
St. Paul & Duluth R. R. Co:				
1st Mortgage.....	1881	1931	1,000,000	1,000,000
2nd Mortgage.....	1887	1917	2,000,000	2,000,000
First Consol. Mortgage.....	1898	1968	5,000,000	1,000,000
T. Falls & L. S. R. R. Mortgage.....	1884	1914	210,000	210,000
Dul. Short line Mortgage.....	1886	1916	500,000	500,000
Wash. & Col. Riv. R. R. Co:				
1st Mortgage.....	1895	1935	2,622,000	2,620,000
COLLATERAL TRUST BONDS:				
N. P. G. N. Joint C. B. Q. Collateral.....	1901	1921	222,400,000	¹ 107,613,500
				\$298,979,000

¹Northern Pacific proportion.
\$2,155,227,000.00.

Total par value outstanding for whole issue

RAILWAY COMPANY, JUNE 30, 1912.

Obligations and Income Bonds.

TOTAL PAR VALUE HELD BY RESPONDENT.		TOTAL PAR VALUE NOT HELD BY RESPONDENT.	INTEREST.			
In treasury.	In sinking or other funds.		Rate per cent.	When payable.	Amount accrued during year.	Amount paid during year.
		\$7,887,000	6	Feb. and Aug.	\$473,220 00	\$472,575 00
\$3,933,000		104,135,500	4	Jan. and Apr. July and Oct.	4,105,360 00	4,074,385 00
8,828,500		51,171,500	3	Feb. and May	1,545,830 00	1,553,467 50
		8,080,000	4	Aug. and Nov. June and Dec.	323,200 00	322,540 00
		1,000,000	5	Feb. and Aug.	50,000 00	49,975 00
		2,000,000	5	Apr. and Oct.	100,000 00	102,950 00
		1,000,000	4	June and Dec	40,000 00	39,500 00
		210,000	6	Jan. and July	12,600 00	12,600 00
		500,000	5	Mar. and Sept.	25,000 00	25,050 00
2,480,000		140,000	4	Jan. and July	5,600 00	5,600 00
2,139,000		105,474,500	4	Jan. and July	4,226,701 44	4,226,701 44
\$17,380 500		\$281,598,500			\$10,907,511 44	\$10,885,343 94

FUNDED DEBT OF WISCONSIN
A. Mortgage Bonds, Miscellaneous

DESIGNATION OF BOND OR OBLIGATION.	TERM.		TOTAL PAR VALUE AUTHORIZED.	TOTAL PAR VALUE OUTSTANDING.
	Date of issue.	Date of maturity.		
MORTGAGE BONDS.				
W. C. Railway 1st Refunding.....	1909	1959	\$6,000,000	\$6,000,000
W. C. Railway 1st General.....	1899	1949	27,000,000	23,742,000
Sup. & Dul. Division and Terminal.....	1906	1936	7,500,000	7,500,000
M. & L. W. R. R. 1st.....	1882	1912	639,000	305,000
C. W. & M. R. R.....	1885	1916	835,000	776,000
M. & S. E. Division P. M. Mortgage....	1901	1951	450,000	388,000
Total.....			\$42,424,000	\$38,711,000

B. Equipment Trust

SERIES OR OTHER DESIGNATION.	CASH PAID ON DELIVERY OF EQUIPMENT.	DEFERRED	
		Principal.	
		Original amount.	Amount outstanding.
W. C. Ry. Gold Equip'm't Trust Bonds.....	\$138,458 84	\$600,000 00	.....
Haskell & Parker Car Co.....	97,725 00	293,175 00	\$19,545 00
Haskell & Parker Car Co.....	34,807 50	104,422 50	27,846 00
Haskell & Parker Car Co.....	62,400 00	561,600 00	299,520 00
Haskell & Parker Car Co.....	86,825 00	781,425 00	468,855 00
Dickinson Trust Eq. Notes.....	16,486 00	120,000 00	16,000 00
M. St. P. & S. S. M. Ry. Co.....	.....	700,144 03	665,136 80
Total.....	\$436,702 34	\$3,160,766 53	\$1,496,902 80

CENTRAL RAILWAY COMPANY, JUNE 30, 1912.

Obligations and Income Bonds.

TOTAL PAR VALUE HELD BY RESPONDENT.	TOTAL PAR VALUE NOT HELD BY RESPONDENT.	INTEREST.			
		Rate per cent.	When payable.	Amount accrued during year.	Amount paid during year.
.....	\$6,000,000	4	Apr., Oct.	\$148,275 87	\$170,000 00
.....	23,742,000	4	Jan., July	950,456 44	950,456 44
.....	7,500,000	4	May, Nov.	300,000 00	300,000 00
.....	305,000	6	Jan., July	35,940 00	35,940 00
.....	776,000	6	Mar., Sept.	46,560 06	46,560 00
.....	388,000	4	May, Nov.	15,741 34	15,781 34
.....	\$38,711,000	.....	.....	\$1,496,973 65	\$1,518,737 78

Obligations.

PAYMENTS.		INTEREST.		
Interest.		Amount accrued during year.	Amount paid during year.	Rate per cent.
Original amount.	Amount outstanding.			
\$165,000 00	.....	\$2,750 00	\$2,750 00	5
52,771 50	\$439 76	1,817 68	2,198 81	4½
18,796 06	1,566 34	1,641 17	1,722 97	4½
89,856 00	26,956 80	14,160 64	14,227 20	4
125,028 00	46,885 50	20,097 09	21,879 90	4
19,800 00	780 00	1,590 00	1,920 00	6
317,123 76	291,828 97	35,271 85	25,294 79	4½
\$788,375 32	\$368,457 37	\$77,328 43	\$69,993 67	.....

FUNDED DEBT AND

NAME OF ROAD.	TOTAL PAR VALUE			
	Mortgage bonds.	Collateral trust bonds.	Plain bonds, de- bentures and notes.	Income bonds. --
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	\$172,251,000	\$30,006,000	\$19,695,000	.....
Chicago, Burlington & Quincy.....	191,713,800	7,310,200	10,829,000	.....
Chicago, Milwaukee & St. Paul.....	157,257,000	.....	111,120,155	.....
Chicago, St. P., Minneap. & Omaha..	30,098,046	.....	5,000,000	.....
Chicago, Harvard & Geneva Lake....	125,000	.....	.....	.....
Duluth, South Shore & Atlantic....	20,000,000	.....	.....	\$3,000,000
Elgin, Joliet & Eastern	10,000,000	.....	.....	.....
Great Northern.....	174,686,909	107,613,500	.....	.....
Illinois Central.....	137,364,000	48,266,000	.....	6,000
Minn., St. Paul & Sault Ste Marie....	64,215,000	.....	.....	.....
Northern Pacific.....	191,365,500	107,613,500	.....	.....
Wisconsin & Michigan.....	2,751,000	.....	.....	1,117,245
Total.....	\$1,151,827,255	\$300,809,200	\$146,644,155	\$4,123,245
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	\$425,000	.....	.....	.....
Ashland, Odanah & Marengo.....	.....	.....	.....	.....
Bayfield Transfer.....	1,500,000	.....	.....	.....
Big Falls Ry. Co.....	.....	.....	\$5,000	.....
Chippewa Valley & Northern	150,000	\$7,000	.....	.....
Green Bay & Western.....	.....	.....	.....	\$7,600,000
Hazelhurst & Southeastern.....	.....	.....	.....	.....
Iola & Northern.....	.....	.....	.....	.....
Kewaunee, Green Bay & Western....	408,000	.....	.....	.....
La Crosse & Southeastern	1,000,000	.....	.....	.....
Lake Superior Terminal & Transfer..	.....	.....	.....	.....
Marquette, Tomahawk & Western....	.....	.....	.....	.....
Mattoon R'y Co.....	.....	.....	.....	.....
Mineral Point & Northern.....	450,000	.....	.....	.....
Northwestern Coal R'y Co.....	794,000	.....	.....	.....
Stanley, Merrill & Phillips.....	500,000	.....	.....	.....
Tomahawk & Eastern .....	.....	.....	.....	.....
Wisconsin & Northern	19,050	.....	.....	.....
Wisconsin Northwestern.....	.....	.....	.....	.....
Total.....	\$5,246,050	\$7,000	\$5,000	\$7,600,000

¹ Receipts outstanding for funded debt.

INTEREST, ENTIRE SYSTEM, 1912.

OUTSTANDING, JUNE 30, 1912.				INTEREST.	
Miscellaneous funded obligations.	Equipment trust obligations.	Total.	Total par value held by respondent corporation.	Amount accrued during year.	Amount paid during year.
		\$221,952.000	\$40,932.500	\$8,043,839 90	\$7,916,951 50
		209,853.000	29,112.500	8,547,309 04	8,504,980 04
		268,377.155	41,806.700	8,494,528 74	8,017,484 33
		35,098.046	51.046	1,774,303 34	1,683,120 00
		125.000		6,250 00	
	\$398,213	23,398.213		871,357 00	368,260 00
		10,000.000		500,000 00	500,000 00
		282,300.409	30,929.000	10,766,329 69	10,272,701 12
\$100,000		185,736.000	26,743.000	4,815,807 53	5,868,153 78
	4,051.000	68,266.000	10,000	2,690,255 00	2,664,072 50
		298,979.000	17,380.500	10,907,511 44	10,885,343 94
		3,868.245		61,570 85	
\$100,000	\$4,449,213	\$1,607,953,068	\$186,965,246	\$57,479,062 53	\$56,681,967 21
		\$425,000		\$21,250 00	\$21,250 00
		1,500,000		75,000 00	
\$7,428		12,428			445 68
		157,000	\$10,000	6,630 60	6,630 60
		7,600,000		65,000 00	65,000 00
\$30,000		30,000			
		408,000		20,400 00	20,400 00
		1,000,000	250,000	37,500 00	37,500 00
		450,000		22,500 00	22,500 00
		794,000		39,700 00	39,700 00
		500,000		25,000 00	25,000 00
		19,050		1,119 97	3,048 54
\$37,428		\$12,895,478	\$260,000	\$314,100 57	\$241,474 82

RECAPITULATION OF CAPITALIZATION

NAME OF ROAD.	CAPITAL STOCK.				
	Total par value outstand- ing.	Assignment.		Amount per mile of line.	
		To railways.	To other propert- ies.	Miles.	Amount.
<i>a. Interstate Roads</i>					
Chicago & North Western....	\$154,854,486	\$154,854,486	7,744.85	\$19,995	
Chicago, Burlington & Quincy.....	110,839,100	110,839,100	8,808.31	12,583	
Chicago, Milwaukee & St. Paul.....	232,623,100	232,623,100	7,281.02	31,949	
Chi., St. Paul, Minn. & Omaha.....	34,044,195	34,044,195	1,672.01	20,361	
Chi., Harvard & Geneva Lake.....	150,000	150,000	12.82	11,700	
Duluth, S. Shore & Atlantic.....	22,000,000	22,000,000	597.43	36,824	
Elgin, Joliet & Eastern.....	10,000,000	10,000,000	227.65	43,927	
Great Northern.....	209,990,750	203,490,750	\$6,500,000	7,175.88	28,357
Illinois Central.....	119,285,700	119,285,700	2,370.75	50,315	
Minn., St. P. & S. Ste. Marie.....	37,810,200	37,810,200	2,794.94	13,528	
Northern Pacific.....	248,000,000	248,000,000	6,483.51	38,269	
Wisconsin & Michigan.....	1,500,000	1,500,000	127.05	11,806	
Total.....	\$1,181,097,531	\$1,174,597,531	\$6,500,000	45,296.22	\$25,931
<i>b. Intrastate Roads</i>					
Ahnapee & Western.....	\$439,500	\$439,500	34.00	\$12,926	
Ashland, Odanah & Marengo.....	100,000	100,000	27.50	3,636	
Bayfield Transfer.....	1,675,400	1,675,400	3.86	434,041	
Big Falls Ry. Co.....	1,000	1,000	21.00	48	
Chp. Valley & Northern.....	58,000	58,000	18.79	3,087	
Green Bay & Western.....	2,500,000	2,500,000	225.00	11,111	
Hazelhurst & Southeastern.....	100,000	100,000	11.00	9,091	
Iola & Northern.....	71,400	71,400	4.70	15,191	
Kewaunee, G. Bay & Western.....	664,950	664,950	36.70	18,118	
La Crosse & Southeastern.....	1,000,000	1,000,000	40.31	24,504	
Lake Sup. Term. & Transfer.....	410,400	410,400	22.42	18,305	
Mar., Tomahawk & Western.....	161,500	161,500	43.77	3,690	
Mattoon R'y Co.....	4,000	4,000	29.36	136	
Mineral Point & Northern.....	550,000	550,000	26.40	20,833	
Northwestern Coal R'y Co.....	1,000,000	1,000,000	8.00	125,000	
Stanley, Merrill & Phillips.....	100,000	100,000	45.62	2,192	
Tomahawk & Eastern.....	1,000		\$1,000		
Wisconsin & Northern.....	1,339,900	1,339,900	55.86	23,987	
Wisconsin & Northwestern.....	300,000	300,000	25.30	11,857	
Total.....	\$10,477,050	\$10,476,050	\$1,000	680.09	\$15,404

FUNDED DEBT ISSUED DURING YEAR ENDING

NAME OF ROAD.	TOTAL PAR VALUE ISSUED DURING YEAR.		
	Mortgage bonds.	Miscellane- ous obli- gations.	Total.
<i>Interstate Roads.</i>			
Chicago & North Western.....	\$16,133,000		\$16,133,000
Chicago, Burlington Quincy.....	1,928,000		1,928,000
Chicago, Milwaukee & St. Paul.....	34,893,500		34,893,500
Chicago, St. Paul, Minneapolis & Omaha.....	5,000,000		5,000,000
Great Northern.....	6,818,000		6,818,000
Illinois Central.....	1,800,000		1,800,000
Minneapolis, St. Paul & Sault Ste. Marie.....	1,520,000	\$1,020,000	2,540,000
Northern Pacific.....	1,500,000		1,500,000
Total.....	\$69,592,500	\$1,020,000	\$70,612,500

¹ Includes mileage of 159.35 for roads not reporting funded debt.

TION, ENTIRE SYSTEM 1912.

Total par value outstanding.	FUNDED DEBT.		Amount per mile of line.		TOTAL RAILWAY CAPITAL.	
	Assignment.		Miles.	Amount.	Total par value outstanding assigned to railroads.	Amount per mile of line.
	To railroads.	To other properties.				
\$221,952,000	\$221,952,000	.....	7,744.85	\$28,658	\$376,806,486	\$48,653
209,853,000	209,853,000	.....	8,808.31	23,824	320,692,100	36,407
268,377,154	268,377,154	.....	7,281.02	36,860	501,000,254	68,809
35,098,046	35,098,046	.....	1,672.01	20,992	69,142,241	41,353
125,000	125,000	.....	12.82	9,750	275,000	21,450
23,398,213	23,304,379	\$93,834	597.43	39,008	45,304,379	75,832
10,000,000	10,000,000	.....	227.65	43,927	20,000,000	87,854
282,300,409	174,686,909	107,613,500	7,175.88	24,344	378,177,659	52,701
185,736,000	185,736,000	.....	2,370.75	78,345	305,021,700	128,660
68,266,000	68,266,000	.....	2,794.94	24,425	106,076,200	37,953
298,979,000	298,979,000	.....	6,483.51	29,516	546,979,000	67,785
3,868,245	3,868,245	.....	127.05	30,447	5,368,245	42,253
\$1,607,953,067	\$1,500,245,733	\$107,707,334	45,296.22	\$33,121	\$2,674,843,264	\$59,052
\$425,000	\$425,000	.....	34.00	\$12,500	\$864,500	\$25,426
1,500,000	1,500,000	.....	3.86	338,601	100,000	3,636
12,428	12,428	.....	21.00	592	3,175,400	822,642
157,000	157,000	.....	18.79	8,355	13,428	640
7,600,000	7,600,000	.....	225.00	33,778	215,000	11,442
30,000	30,000	.....	4.70	6,383	10,100,000	44,889
408,000	408,000	.....	36.70	11,117	100,000	9,091
1,000,000	1,000,000	.....	40.81	24,504	101,400	21,574
.....	.....	.....	.....	.....	1,072,950	29,235
.....	.....	.....	.....	.....	2,000,000	49,008
.....	.....	.....	.....	.....	410,400	18,305
.....	.....	.....	.....	.....	161,500	3,690
.....	.....	.....	.....	.....	4,000	136
450,000	450,000	.....	26.40	17,946	1,000,000	37,879
794,000	220,000	\$574,000	8.00	27,500	1,220,000	152,500
500,000	500,000	.....	45.62	10,960	600,000	13,152
19,051	19,051	.....	55.86	341	1,358,951	24,328
.....	.....	.....	.....	.....	300,000	11,857
\$12,895,479	\$12,321,479	\$574,000	680.09	\$18,117	\$22,797,529	\$33,521

JUNE 30, 1912, AND PURPOSE OF THE ISSUE.

CASH REALIZED ON AMOUNT ISSUED DURING YEAR.			PURPOSE OF THE ISSUE.
Mortgage bonds.	Miscellaneous obligations.	Total.	
\$13,875,000	.....	\$13,875,000	Construction of new properties, additions and betterments, and refundment of securities. For refundment of securities. For cash.
34,895,872	.....	34,895,872	
5,120,000	.....	5,120,000	
1,710,000	.....	1,710,000	For additions and betterments.
1,440,200	\$994,500	2,434,700	For additions and betterments and acquisition of securities.
.....	.....	.....	For purchase of railway or other property.
.....	.....	.....	For construction of new properties and additions and betterments.
.....	.....	.....	For new acquisitions and betterments.
\$57,041,072	\$994,500	\$58,035,572	

EXPENDITURES FOR ADDITIONS AND

Italic figures denote credits.

NAME OF ROAD.	Right of way and station grounds.	Real estate.	Widening cuts and fills.
A. WISCONSIN.			
<i>a. Interstate Roads.</i>			
Chicago & North Western.....	<i>\$61,981 53</i>	<i>\$100 00</i>	\$8,645 55
Chicago, Burlington & Quincy ¹			
Chicago, Milwaukee & St. Paul.....	172,285 62	141 54	30,461 44
Chicago, St. Paul, Minneapolis & Omaha.....	62,656 89		703 15
Chicago, Harvard & Geneva Lake.....	32 50		
Duluth, South Shore & Atlantic.....	51 00	683 25	
Elgin, Joliet & Eastern.....			
Great Northern.....	4,041 78	21 45	
Illinois Central.....			
Minneapolis, St. Paul & Sault Ste. Marie.....			
Northern Pacific.....	2,289 81		537 95
Wisconsin & Michigan.....			
Total ²	\$179,376 07	\$463 16	\$39,272 19
<i>b. Intrastate Roads.</i>			
Ahnapee & Western.....		\$250 00	
Ashland, Odanah & Marengo.....			
Bayfield Transfer.....			
Big Falls Ry. Co.....			
Chippewa Valley & Northern.....	\$80 00		
Green Bay & Western.....			
Hazelhurst & Southeastern.....			
Iola & Northern.....			
Kewaunee, Green Bay & Western.....			
La Crosse & Southeastern.....	1,460 93		
Lake Superior Terminal & Transfer.....			
Marinette, Tomahawk & Western.....			
Mattoon R'y Co.....			
Mineral Point & Northern.....			
Northwestern Coal R'y Co.....			
Stanley, Merrill & Phillips.....	100 85		
Tomahawk & Eastern.....			
Wisconsin & Northern.....			
Wisconsin Northwestern.....			
Total.....	\$1,641 78	\$250 00	
B. ENTIRE SYSTEM.			
<i>- Interstate Roads.</i>			
Chicago & North Western.....	<i>\$18,815 87</i>	<i>\$32,421 68</i>	\$24,589 16
Chicago, Burlington & Quincy.....	479,340 90	916,945 53	51,536 06
Chicago, Milwaukee & St. Paul.....	705,391 99		125,016 17
Chicago, St. Paul, Minneapolis & Omaha.....	63,608 67		3,030 77
Chicago, Harvard & Geneva Lake.....	65 00		
Duluth, South Shore & Atlantic.....	776 04	1,683 25	
Elgin, Joliet & Eastern.....		10,775 00	
Great Northern.....	147,443 33	5,754 63	71,160 40
Illinois Central.....	133,279 84	616,665 25	
Minneapolis, St. Paul & Sault Ste. Marie.....	114,739 23	13,738 78	8,594 26
Northern Pacific.....	159,441 67	6,570 00	49,142 94
Wisconsin & Michigan.....			
Total.....	\$1,785,270 80	\$1,539,710 76	\$333,069 76

¹ C. B. & Q. does not report "Additions and betterments" in Wisconsin.

BETTERMENTS, YEAR ENDING JUNE 30, 1912.

Protection of banks.	Grade revision and changes of line.	Tunnel improvements.	Bridges, trestles and culverts.	Increased weight of rail.	Improved frogs and switches.	Track fastenings and other material.
\$1,824 89	\$63,679 12	\$6,093 36	\$135,546 79	\$34,911 83	\$1,035 67	\$55,029 41
8,801 69	58,606 05	357 49	86,517 25	66,055 81	1,053 00	45,128 11
68 76	53,987 27		16,976 42	11,939 32	54 76	18,976 72
					10 00	74 19
				5,157 25		279 37
			10,764 40	8,769 50	545 53	5,513 66
62 75	4,808 32		72,275 73		48 52	3,086 01
\$10,627 59	\$181,080 76	\$6,450 85	\$322,080 59	\$126,833 71	\$2,747 48	\$128,087 47
				\$5,400 00		
				7,400 00		
	\$238 54					
	\$238 54			\$12,800 00		
\$12,740 52	\$66,404 31	\$6,093 36	\$678,617 94	\$158,589 69	\$2,268 98	\$248,227 57
121,410 86	131,047 02	381,853 57	342,249 97	9,628 80		180,700 74
36,122 85	240,423 87	1,467 18	355,073 65	271,098 30	4,321 70	185,209 36
36,017 05	53,987 27		78,702 61	34,628 43	873 40	35,562 78
					20 00	148 38
				20,316 39		1,513 65
458 41		44,478 89	9,031 66			
8,875 50		37,135 52	19,773 62	132,696 58	6,146 75	123,350 38
45,263 77	294,122 34		217,164 95	76,695 24	7,617 66	54,045 41
	902 97	49,039 64	40,740 73	45 00		11,005 81
62,519 80	522,353 95	3,427 08	442,512 98	162,881 00	9,255 66	356,115 86
\$232,881 22	\$1,309,241 73	\$523,495 24	\$2,183,868 11	\$866,579 43	\$30,504 15	\$1,195,879 94

* Exclusive of C. B. & Q.

EXPENDITURES FOR ADDITIONS

Italic figures denote credits.

NAME OF ROAD.	Ballast.	Additional main tracks.	Siding and spur tracks.
A. WISCONSIN.			
<i>a. Interstate Roads.</i>			
Chicago & North Western.....	\$38,966 16	\$197,162 83	\$43,414 43
Chicago, Burlington & Quincy ¹	66,820 69	291,203 94	78,259 94
Chicago, Milwaukee & St. Paul.....	12 85	1,412,064 83	11,574 63
Chicago, St. Paul, Minneapolis & Omaha.....	46 27	¹ 197 38	.....
Chicago, Harvard & Geneva Lake.....	.....	.....	.....
Duluth, South Shore & Atlantic.....	4293 36	.....	2,875 73
Elgin, Joliet & Eastern.....	.....	.....	.....
Great Northern.....	.....	4,543 64	14,218 95
Illinois Central.....	.....	.....	.....
Minneapolis, St. Paul & Sault Ste. Marie.....	.....	.....	.....
Northern Pacific.....	.....	32,953 40	507 90
Wisconsin & Michigan.....	.....	.....	397,401 16
Total ²	\$106,139 33	\$1,938,126 02	\$547,235 94
<i>b. Intrastate Roads.</i>			
Ahnapee & Western.....	.....	.....	.....
Ashland Odanah & Marengo.....	.....	.....	.....
Bayfield Transfer.....	.....	.....	.....
Big Falls Ry. Co.....	.....	.....	.....
Chippewa Valley & Northern.....	.....	.....	.....
Green Bay and Western.....	.....	.....	\$3,900 00
Hazelhurst & Southeastern.....	.....	.....	.....
Iola & Northern.....	.....	.....	.....
Kewaunee, Green Bay & Western.....	.....	.....	.....
La Crosse & Southeastern.....	.....	.....	.....
Lake Superior Terminal & Transfer.....	.....	.....	.....
Marinette, Tomahawk & Western.....	.....	.....	.....
Mattoon R'y Co.....	.....	.....	.....
Mineral Point & Northern.....	.....	.....	.....
Northwestern Coal R'y Co.....	.....	.....	.....
Stanley, Merrill & Phillips.....	.....	.....	518 82
Tomahawk & Eastern.....	.....	.....	.....
Wisconsin & Northern.....	.....	.....	.....
Wisconsin Northwestern.....	.....	.....	.....
Total.....	.....	.....	\$4,418 82
B. ENTIRE SYSTEM.			
<i>b. Interstate Roads.</i>			
Chicago & Northwestern.....	\$203,507 01	\$271,415 56	\$183,784 49
Chicago, Burlington & Quincy.....	198,690 96	<i>127,486 43</i>	482,299 54
Chicago, Milwaukee & St. Paul.....	274,237 44	1,146,654 41	204,623 55
Chicago, St. Paul, Minneapolis & Omaha.....	12 85	1,412,064 83	13,161 29
Chicago, Harvard & Geneva Lake.....	92 55	³ 394 76	.....
Duluth, South Shore & Atlantic.....	41,591 75	.....	46,443 62
Elgin, Joliet & Eastern.....	.....	65,664 27	3,007 99
Great Northern.....	34,143 91	78,512 07	329,065 17
Illinois Central.....	.....	724,617 83	166,057 70
Minneapolis, St. Paul & Sault Ste. Marie.....	10,901 40	11,850 86	65,912 46
Northern Pacific.....	179,383 98	511,349 92	262,633 67
Wisconsin & Michigan.....	.....	110,236 03	673,343 17
Total.....	\$902,561 85	\$4,205,274 11	\$2,430,332 65

¹C. B. & Q. does not report "Additions and betterments in Wisconsin."²Exclusive of C. B. & Q.

AND BETTERMENTS, 1912—Continued.

Terminal yards.	Fencing right of way.	Improvement of over and under grade crossings.	Track elevation, elimination of grade crossings, etc.	Interlocking apparatus.	Block and other signal apparatus.
\$202 10	\$5,732 76	\$0 34	\$59,415 16	\$11,180 38	\$49,950 22
99,534 96	12,793 97	4,978 37	8,722 08	5,068 30	7,031 71
317 35	2,804 39			310 72	122 59
	1,035 54				
18,812 06	27 85		24,452 47	20	
		8,562 93			
923 08	685 16		3,404 70	4 25	
\$119,839 55	\$23,079 67	\$13,541 64	\$95,994 41	\$16,563 85	\$57,104 52
\$516 41					
				\$2,421 03	
	\$9 72				
\$516 41	\$9 72			\$2,421 03	
\$131,011 80	\$7,125 11	\$28,405 76	\$578,660 41	\$25,662 00	\$68,124 45
175,213 50	29,783 47	13,275 23	117,392 13	24,190 86	103,152 72
408,704 57	52,507 46	20,431 61	35,796 10	20,800 70	28,858 71
44,839 43	4,034 95		2,321 71	515 74	465 15
	1,035 54				
866 85			65,672 41	5,186 43	
192,383 24	21,617 26	8,156 46	31,542 92	13,535 93	11,400 01
386,220 95	1,278 21	25,701 34	169,443 29	18,486 17	102,523 28
685 15	6,303 15		300 00		337 48
601,629 46	1,723 31	29 56	71,923 47	7,432 66	2,878 43
\$1,941,554 95	\$65,841 52	\$95,999 96	\$1,072,452 44	\$115,810 49	\$317,740 23

³Ties.

⁴Roadway tools.

EXPENDITURES FOR ADDITIONS AND

Italic figures denote credits.

NAME OF ROAD.	Telegraph and telephone lines.	Station buildings and fixtures.	Shops, enginehouse and turntable.
A. WISCONSIN.			
<i>a. Interstate Roads.</i>			
Chicago & North Western	\$6,790 77	\$13,557 89	\$2,377 83
Chicago, Burlington & Quincy ¹			
Chicago, Milwaukee & St. Paul	14,871 92	100,574 99	59,960 02
Chicago, St. Paul, Minneapolis & Omaha		2,540 06	1,836 84
Chicago, Harvard & Geneva Lake			
Duluth, South Shore & Atlantic		672 37	249 20
Elgin, Joliet & Eastern			
Great Northern	1,058 19	5,415 89	12,784 12
Illinois Central			
Minneapolis, St. Paul & Sault Ste. Marie			
Northern Pacific		251 68	1,543 50
Wisconsin & Michigan			3,330 49
Total ²	\$22,720 88	\$121,668 14	\$78,995 00
<i>b. Interstate Roads.</i>			
Ahnapee & Western			
Ashland, Odanah & Marengo			
Bayfield Transfer			
Big Falls Ry. Co.			
Chippewa Valley & Northern			
Green Bay & Western			
Hazelhurst & Southeastern			
Iola & Northern			
Kewaunee, Green Bay & Western			
La Crosse & Southeastern		\$99 75	
Lake Superior Terminal & Transfer			
Marinette, Tomahawk & Western			
Mattoon Ry. Co.			
Mineral Point & Northern			
Northwestern Coal Ry. Co.			
Stanley, Merrill & Phillips		282 83	
Wisconsin & Northern			
Wisconsin & Northwestern			
Total		\$382 58	
ENTIRE SYSTEM.			
<i>Interstate Roads.</i>			
Chicago & North Western	\$142,903 42	\$215,088 41	\$587,792 87
Chicago, Burlington & Quincy	7,725 48	1,559,819 61	133,607 20
Chicago, Milwaukee & St. Paul	61,035 59	392,767 73	246,080 64
Chicago, St. Paul, Minneapolis & Omaha	887 51	8,266 07	87,310 04
Chicago, Harvard & Geneva Lake			
Duluth, South Shore & Atlantic		[5,952 52	2,357 84
Elgin, Joliet & Eastern	2,560 49	22 50	6,679 33
Great Northern	32,597 39	33,454 91	272,643 33
Illinois Central	15,049 54	108,451 13	604,630 83
Minneapolis, St. Paul & Sault Ste. Marie	13,681 40	75,513 41	3,295 29
Northern Pacific	48,961 01	347,913 68	355,913 38
Wisconsin & Michigan			3,330 49
	\$325,401 83	\$2,747,249 97	\$2,253,640 74

¹C. B. & Q. does not report additions and betterments in Wisconsin.²Exclusive of C. B. & Q.

BETTERMENTS, 1912—Continued.

Shop machinery and tools.	Water and fuel stations	Grain elevators and storage warehouses.	Dock and wharf property.	Electric Light and power plant.	Electric power transmission.
\$9,608 97	\$8,455 96	\$8,446 15	\$161,969 69	³ \$2,859 27	
32,006 89	30,057 09	1,296 90	314 66	³ 4,999 92	
359 20	19,175 59			³ 2,597 72	
				5 75	
5,822 36	4,117 42				
2,596 54					
\$50,393 96	\$53,571 22	\$9,743 05	\$162,284 35	\$10,462 66	
	\$80 00				
	\$80 00				
\$171,241 69	\$142,217 41	\$8,969 15	\$63,519 15	³ \$8,801 82	
78,343 33	96,521 78	1,016 42	776 36		
131,358 84	123,356 67	174,677 42	1,291 41	³ 20,520 06	
25,853 02	27,947 36	763 00		³ 2,597 72	
				11 50	
19,626 22	8,376 12		72 70		
	5,366 37		1,727 43		
68,664 59	130,639 08	450 00	5,116 30	570 33	\$4,855 85
42,942 92	56,660 33				
2,767 77	4,650 75				
61,092 13	137,791 77		81,545 03		
2,596 54					
\$604,487 05	\$733,527 64	\$165,904 85	\$26,864 68	\$31,360 77	\$4,855 85

³Roadway, machinery and tools

EXPENDITURES FOR ADDITIONS AND

Italic figures denote credits.

NAME OF ROAD.	Gas-pro- ducing plants.	Snow and sand fences and snow sheds.	Miscella- neous structures.
A. WISCONSIN.			
<i>a. Interstate Roads.</i>			
Chicago & North Western.....			
Chicago, Burlington & Quincy ¹			
Chicago, Milwaukee & St. Paul.....		\$252 10	
Chicago, St. Paul, Minneapolis & Omaha.....			
Chicago, Harvard & Geneva Lake.....			
Duluth, South Shore & Atlantic.....			
Elgin, Joliet & Eastern.....			
Great Northern.....			
Illinois Central.....			
Minneapolis, St. Paul & Sault Ste. Marie.....			
Northern Pacific.....			
Wisconsin & Michigan.....			
Total ²		\$252 10	
<i>b. Intrastate Roads.</i>			
Ahnapee & Western.....			
Ashland, Odanah & Marengo.....			
Bayfield Transfer.....			
Big Falls Ry. Co.....			
Chippewa Valley & Northern.....			
Green Bay & Western.....			
Hazelhurst & Southeastern.....			
Iola & Northern.....			
Kewaunee, Green Bay & Western.....			
La Crosse & Southeastern.....			\$317 40
Lake Superior Terminal & Transfer.....			
Marquette, Tomahawk & Western.....			
Mattoon R'y Co.....			
Mineral Point & Northern.....			
Northwestern Coal R'y.....			
Stanley, Merrill & Phillips.....			
Wisconsin & Northern.....			
Wisconsin Northwestern.....			
Total.....			\$317 40
B. ENTIRE SYSTEM.			
<i>Interstate Roads.</i>			
Chicago & North Western.....	\$927 15	\$530 46	\$26,894 13
Chicago, Burlington & Quincy.....		124 94	
Chicago, Milwaukee & St. Paul.....		1,034 64	
Chicago, St. Paul, Minneapolis & Omaha.....			
Chicago, Harvard & Geneva Lake.....			
Duluth, South Shore & Atlantic.....		2,960 76	1,217 88
Elgin, Joliet & Eastern.....			
Great Northern.....	7141 29	139,392 31	
Illinois Central.....			
Minneapolis, St. Paul & Sault Ste. Marie.....		8,050 89	
Northern Pacific.....		3,888 03	
Wisconsin & Michigan.....			
Total.....	\$785 86	\$155,082 03	\$28,112 01

¹C. B. & Q. does not report "Additions and betterments" for Wisconsin.²Exclusive of C. B. & Q.³Interest and commission.⁴Property retired.

BETTERMENTS, 1912—Continued.

Recon- struction of road purchased.	Equipment.	Other additions and better- ments.	Total.	Source of funds expended.	
				Through issue of securities.	From current funds and special appro- priations.
	\$19,691 79	\$4,832 89	\$849,917 10	\$483,435 77	\$366,481 33
\$65,613 18	708,108 74	39,834 99	2,035,866 10		
	173,929 71	2,688 99	1,861,306 94	1,805,665 58	34,358 64
	981 02		1,347 11	981 02	368 09
	1,898 10	863 12	8,917 35		8,917 35
			112,674 63		
			8,562 93		8,562 93
			^a 120,618 60	92,312 79	28,305 81
	4,863 24		122,941 80		122,941 80
	82,126 30		321,201 89		
\$65,613 18	\$784,166 52	\$48,219 99	\$5,443,354 45		
	\$5,262 00		\$10,412 00	^a \$500 00	\$10,912 00
			80 00		
	3,245 66		14,545 66	^a 5,090 00	19,635 66
	4,892 00		4,892 00	^a 620 00	5,512 00
			2,196 62		2,196 62
			516 41		516 41
	^b 1,083 33		^b 1,083 33	^b 1,750 00	666 67
	183 40		183 40		
			2,421 03		2,421 03
	8,087 00		7,174 78		7,174 77
	740 00		740 00	^a 740 00	
	\$3,672 73		\$21,406 95		
	\$78,393 45	\$44,518 24	\$3,773,214 29	\$1,449,899 45	\$2,323,314 84
	4,367,127 43		9,843,615 17		9,843,615 17
	2,286,933 32	158,238 79	7,364,679 89		
\$76,519 37	377,124 24	5,089 51	2,394,658 77	2,418,946 73	24,287 96
	1,962 04		2,694 23	1,962 04	732 19
	22,221 20	730 43	91,528 14		91,528 14
	95,076 35		325,609 35		325,609 35
	1,919,477 36	118,829 33	4,237,468 18		
	1,732,710 34	5,789 09	5,266,031 30	5,204,549 86	61,481 44
	73,076 24	1,022 92	371,003 11	660,560 46	289,557 35
	774,643 35	14,521 27	5,239,475 05		5,239,475 05
	152,302 72		637,203 51		
\$76,519 37	\$11,229,060 82	\$348,739 58	\$39,547,180 97		

^aThis entry to correct error in report for June 30, 1911.

^bDetails not reported.

^cBoarding machinery and tools.

EXPENDITURES FOR NEW LINES
ROAD.*Italic figures denote credits.*

NAME OF ROAD.	Engineering.	Right of way and station grounds.	Real estate.	Grading.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western				
Chicago, Burlington & Quincy				
Chicago, Milwaukee & St. Paul				
Chicago, St. Paul, Minne'olis & Omaha	\$3,648 49			\$3,393 67
Chicago, Harvard & Geneva Lake				
Duluth, South Shore & Atlantic				
Elgin, Joliet & Eastern				
Great Northern				
Illinois Central				
Minne'olis, St. Paul & Sault Ste. Marie				
Northern Pacific				
Wisconsin & Michigan				
<i>b. Intrastate Roads.</i>				
Ahnapee & Western				
Ashland, Odanah & Marengo				
Bayfield Transfer				
Big Falls Ry. Co.				
Chippewa Valley & Northern				
Green Bay & Western				
Hazelhurst & Southeastern				
Tola & Northern				
Kewaunee, Green Bay & Western				
La Crosse & Southeastern				
Lake Superior Terminal & Transfer				
Marinette, Tomahawk & Western				
Mattoon Ry. Co.				
Mineral Point & Northern				
Northwestern Coal R'y Co.				
Stanley, Merrill & Phillips				
Wisconsin & Northern	\$816 44	\$93 41	\$1,200 12	\$73 99
Wisconsin Northwestern				
Total	\$816 44	\$93 41	\$1,200 12	\$73 99
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western	\$1,544 87	\$147 88		\$566 78
Chicago, Burlington & Quincy	13,679 77	71,928 61		121,088 06
Chicago, Milwaukee & St. Paul				
Chicago, St. Paul, Minne'olis & Omaha	3,648 49			3,393 67
Chicago, Harvard & Geneva Lake				
Duluth, South Shore & Atlantic				
Elgin, Joliet & Eastern				
Great Northern	243,248 21	151,777 53	\$24,309 44	2,459,997 72
Illinois Central				
Minneapolis, St. Paul, & S. Ste. Marie	46,742 08	371,063 81		43,302 55
Northern Pacific	80,898 86	137,900 87		552,424 10
Wisconsin & Michigan				
Total	\$882,465 30	\$732,818 70	\$24,309 44	\$3,173,985 54

AND EXTENSIONS, YEAR ENDING JUNE 30, 1912.

Tunnels.	Bridges, trestles and culverts.	Ties.	Rails.	Frogs and switches.	Track fastenings and other material.
	\$20,045 59	\$2,885 59	\$5,747 28	\$542 98	\$272 02
	\$32 20	\$106 77	\$0 75	\$16 27	\$54 03
	\$32 20	\$106 77	\$0 75	\$16 27	\$54 03
	\$391 26	\$1,216 56	\$70 87	\$35 28	\$460 21
\$130 85	106,387 58	11,357 46	11,302 98	24 69	14,840 93
	20,045 59	2,885 59	5,747 28	542 98	272 02
10,480 39	724,491 66	880,897 68	1,510,296 90	27,196 80	352 778 41
4,133 99	117,385 14	26,918 45	81,912 27	9,315 09	14,020 96
33,866 01	158,330 39	156,985 90	441,983 84	4,412 79	40,676 50
\$48,611 24	\$1,086,940 44	\$1,074,490 46	\$2,039,677 84	\$41,527 63	\$422,504 99

EXPENDITURES FOR NEW LINES
ROAD—*Italic figures denote credits*

NAME OF ROAD.	Ballast.	Track laying and sur- facing.	Roadway tools.	Fencing right of way.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....				
Chicago, Burlington & Quincy.....				
Chicago, Milwaukee & St. Paul.....				
Chicago, St. P., Minneapolis & Omaha.....	\$5,388 90	\$1,479 91		\$722 56
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....				
Great Northern.....				
Illinois Central.....				
Minneapolis, St. Paul & Sault Ste. Marie.....				
Northern Pacific.....				
Wisconsin & Michigan.....				
Total.....				
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....				
Ashland, Odanah & Marengo.....				
Bayfield Transfer.....				
Big Falls Ry. Co.....				
Chippewa Valley & Northern.....				
Green Bay & Western.....				
Hazelhurst & Southeastern.....				
Iola & Northern.....				
Kewaunee, Green Bay & Western.....				
La Crosse & Southeastern.....				
Lake Superior Terminal & Transfer.....				
Marinette, Tomahawk & Western.....				
Mattoon R'y Co.....				
Mineral Point & Northern.....				
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....				
Wisconsin & Northern.....	\$47 64	\$453 66		
Wisconsin Northwestern.....				
Total.....	\$47 64	\$453 66		
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....		\$3,612 81	\$16 21	\$1,072 49
Chicago, Burlington & Quincy.....	\$25,965 80	1,076 59	225 87	4,442 63
Chicago, Milwaukee & St. Paul.....				
Chicago, St. P., Minneapolis & Omaha.....	5,388 90	1,479 91		722 56
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....				
Great Northern.....	58,937 17	175,971 02	478 49	4,392 86
Illinois Central.....				
Minneapolis, St. P., & Sault Ste. Marie.....	31,127 66	91,106 57	4,365 83	2,577 94
Northern Pacific.....	23 00	126,192 66	1,926 04	9,596 37
Wisconsin & Michigan.....				
Total.....	\$110,664 73	\$399,439 56	\$7,012 44	\$21,359 73

EXPENDITURES FOR NEW LINES
ROAD.—*Italic figures denote credits.*

NAME OF ROAD.	Shop machinery and tools.	Water stations.	Fuel stations.	Grain elevators.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....				
Chicago, Burlington & Quincy.....				
Chicago, Milwaukee & St. Paul.....				
Chicago, St. Paul, Minneapolis & Omaha.....				
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....				\$5,083 03
Great Northern.....				
Illinois Central.....				
Minneapolis, St. P. & Sault Ste. Marie.....				
Northern Pacific.....				
Wisconsin & Michigan.....				
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....				
Ashland, Odanah & Marengo.....				
Bayfield Transfer.....				
Big Falls Ry. Co.....				
Chippewa Valley & Northern.....				
Green Bay & Western.....				
Hazelhurst & Southeastern.....				
Iola & Northern.....				
Kewaunee, Green Bay & Western.....				
La Crosse & Southeastern.....				
Lake Superior Terminal & Transfer.....				
Marinette, Tomahawk & Western.....				
Mattoon Ry. Co.....				
Mineral Point & Northern.....				
Northwestern Coal Ry. Co.....				
Stanley, Merrill & Phillips.....	\$15 02	\$240 36		
Wisconsin & Northern.....				
Wisconsin Northwestern.....				
Total.....	\$15 02	\$240 36		
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....		\$6,276 82	\$570 02	
Chicago, Burlington & Quincy.....		9,624 58	1,007 05	
Chicago, Milwaukee & St. Paul.....				
Chicago, St. Paul, Minneap. & Omaha.....				
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....		18,215 98	41 62	\$5,083 03
Great Northern.....				
Illinois Central.....		4,342 32	369 46	
Minneapolis, St. P. & S. Ste. Marie.....				
Northern Pacific.....		34,884 25	617 02	
Wisconsin & Michigan.....				
Total.....		\$73,343 95	\$507 83	\$5,083 03

EXPENDITURES FOR NEW LINES

Italic figures denote credits.

ROAD—

NAME OF ROAD.	Miscellaneous structures	Transportation of men and material.	Rent of equipment	Earnings and operating expenses during construction.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....				
Chicago, Burlington & Quincy.....				
Chicago, Milwaukee & St. Paul.....				
Chicago, St. Paul, Minneapolis & O.....			\$20 50	
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....				
Great Northern.....				
Illinois Central.....				
Minneapolis, St. Paul & Sault St. Marie.....				
Northern Pacific.....				
Wisconsin & Michigan.....				
Total.....				
<i>b. Intrastate Roads.</i>				
Alnapee & Western.....				
Ashland, Odanah & Marengo.....				
Bayfield Transfer.....				
Big Falls Ry. Co.....				
Chippewa Valley & Northern.....				
Green Bay & Western.....				
Hazelhurst & Southeastern.....				
Iola & Northern.....				
Kewaunee, Green Bay & Western.....				
La Crosse & Southeastern.....				
Lake Superior Terminal & Transfer... ..				
Marinette, Tomahawk & Western.....				
Mattoon Ry. Co.....				
Mineral Point & Northern.....				
Northwestern Coal Ry. Co.....				
Stanley, Merrill & Phillips.....				
Wisconsin & Northern.....	\$204 92			
Wisconsin Northwestern.....				
Total.....	\$204 92			
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	\$946 34		\$2,218 30	\$131 70
Chicago, Burlington & Quincy.....	2,047 32	\$15,091 11	16,713 70	
Chicago, Milwaukee & St. Paul.....				
Chicago, St. Paul, Minneapolis & O.....			20 50	
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....				
Great Northern.....	\$18,420 80	209,298 74	67,659 70	440 95
Illinois Central.....				
Minneapolis, St. Paul, & Sault St. M... ..	1,606 90	45 64	73 50	2,026 65
Northern Pacific.....	42,280 36	² 1,108,456 55	7,210 15	19,034 49
Wisconsin & Michigan.....				
Total.....	\$61,207 08	\$914,203 28	\$93,895 85	\$20,751 89

¹Details not reported.

EXPENDITURES FOR NEW LINES
EQUIP

NAME OF ROAD.	Steam locomotives.	Electric locomotives.	Passenger train cars.
A. WISCONSIN.			
<i>a. Interstate Roads.</i>			
Chicago & North Western.....			
Chicago, Burlington & Quincy.....			
Chicago, Milwaukee & St. Paul.....			
Chicago, St. Paul, Minneapolis & Omaha.....			
Chicago, Harvard & Geneva Lake.....			
Duluth, South Shore & Atlantic.....			
Elgin, Joliet & Eastern.....			
Great Northern.....			
Illinois Central.....			
Minneapolis, St. Paul & Sault Ste. Marie.....			
Northern Pacific.....			
Wisconsin & Michigan.....			
Total.....			
<i>b. Intrastate Roads.</i>			
Ahnapee & Western.....			
Ashland, Odanah & Marengo.....			
Hayfield Transfer.....			
Big Falls Railway Co.....			
Chippewa Valley & Northern.....			
Green Bay & Western.....			
Hazelhurst & Southeastern.....			
Iola & Northern.....			
Kewaunee, Green Bay & Western.....			
La Crosse & Southeastern.....			
Lake Superior Terminal & Transfer.....			
Marquette, Tomahawk & Western.....			
Mattoon Railway Co.....			
Mineral Point & Northern.....			
Northwestern Coal Railway Co.....			
Stanley, Merrill & Phillips.....			
Wisconsin & Northern.....			
Wisconsin Northwestern.....			
Total.....			
B. ENTIRE SYSTEM.			
<i>Interstate Roads.</i>			
Chicago & North Western.....			
Chicago, Burlington & Quincy.....			
Chicago, Milwaukee & St. Paul.....			
Chicago, St. Paul, Minneapolis & Omaha.....			
Chicago, Harvard & Geneva Lake.....			
Duluth, South Shore & Atlantic.....			
Elgin, Joliet & Eastern.....			
Great Northern.....			
Illinois Central.....	\$193,992 21		\$35,519 28
Minneapolis, St. Paul, & Sault Ste. Marie.....			
Northern Pacific.....			
Wisconsin & Michigan.....			
Total.....	\$193,992 21		\$35,519 28

EXPENDITURES FOR NEW LINES

GENERAL

NAME OF ROAD.	Law ex- penses.	Station- ery and printing.	Insur- ance.	Taxes.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....				
Chicago, Burlington & Quincy.....				
Chicago, Milwaukee & St. Paul.....				
Chicago, St. Paul, Minneapolis & Omaha.....				
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....				
Great Northern.....				
Illinois Central.....				
Minneapolis, St. Paul & S. Ste. Marie.....				
Northern Pacific.....				
Wisconsin & Michigan.....				
Total.....				
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....				
Ashland, Odanah & Marengo.....				
Bayfield Transfer.....				
Big Falls Ry. Co.....				
Chippewa Valley & Northern.....				
Green Bay & Western.....				
Hazelhurst & Southeastern.....				
Iola & Northern.....				
Kewaunee, Green Bay & Western.....				
La Crosse & Southeastern.....				
Lake Superior Terminal & Transfer.....				
Marinette, Tomahawk & Western.....				
Mattoon R'y Co.....				
Mineral Point & Northern.....				
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....				
Wisconsin & Northern.....	\$6,567 12	\$405 69	\$194 32	
Wisconsin Northwestern.....				
Total.....	\$6,567 12	\$405 69	\$194 32	
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....		\$18 28		
Chicago, Burlington & Quincy.....	\$12 65			\$38 72
Chicago, Milwaukee & St. Paul.....				
Chicago, St. Paul, Minneapolis & Omaha.....				
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....				
Great Northern.....	39 55	23 10	\$172 66	2,712 83
Illinois Central.....				
Minneapolis, St. Paul & S. Ste Marie.....	250 00	72 43	1,766 46	4,651 68
Northern Pacific.....		299 72	160 11	6,414 65
Wisconsin & Michigan.....				
Total.....	\$302 20	\$413 53	\$2,099 23	\$13,817 88

AND EXTENSIONS, 1912—Concluded.
EXPENDITURES.

Interest and commissions.	Other ex- penditures.	Total.	Source of funds expended.		
			Through issue of securities.	From current funds.	From special appropriations.
\$14,227 50	\$25,373 08	\$46,767 71	\$46,767 71		
\$14,227 50	\$25,373 08	\$46,767 71	\$46,767 71		
	\$85 80	\$18 28 137 17		\$18 28 137 17	
\$317,431 33	\$83 45	\$320,462 92	\$320,462 92		
300 00	6,459 20	13,499 77	13,499 77		
		6,874 48		6,874 48	
\$317,731 33	\$6,628 45	\$340,992 62	\$333,962 69	\$7,029 93	

Italic figures denote credits.

ROAD AND EQUIPMENT—INVESTMENT

NAME OF ROAD.	RECAPITULATION OF EXPENDITURES FOR NEW ENDING JUNE			
	Road.	Equip- ment.	General expendi- tures,	Total.
A. WISCONSIN:				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	\$14,506,058 41			\$14,506,058 41
Chicago, Burlington & Quincy.....				
Chicago, Milwaukee & St. Paul.....				
Chi., St. Paul, Minn. & Omaha.....	<i>40,060 71</i>			<i>40,060 71</i>
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....				
Great Northern.....	5,083 03			5,083 03
Illinois Central.....				
Minn., St. Paul & Sault Ste. Marie..	<i>68,364 75</i>			<i>68,364 75</i>
Northern Pacific.....				
Wisconsin & Michigan.....				
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....				
Ashland, Odanah & Marengo.....				
Bayfield Transfer.....				
Big Falls Ry. Co.....				
Chippewa Valley & Northern.....				
Green Bay & Western.....				
Hazelhurst & Southeastern.....				
Iola & Northern.....				
Kewaunee, Green Bay & Western..				
La Crosse & Southeastern.....				
Lake Sup. Terminal & Transfer....				
Marinette, Tomahawk & Western..				
Mattoon R'y Co.....				
Mineral Point & Northern.....				
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....				
Wisconsin & Northern.....	\$3,409 78	\$151 40	\$46,767 71	\$50,328 89
Wisconsin Northwestern.....				
Total.....	\$3,409 78	\$151 40	\$46,767 71	\$50,328 89
B. ENTIRE SYSTEM:				
<i>Interstate Roads.</i>				
Chicago & North Western.....	\$14,540,330 81		\$18 28	\$14,540,349 09
Chicago, Burlington & Quincy.....	451,502 87	\$1,633 86	137 17	453,273 90
Chicago, Milwaukee & St. Paul.....	<i>16,073 54</i>			<i>16,073 54</i>
Chi., St. Paul, Minn. & Omaha.....	<i>40,060 71</i>			<i>40,060 71</i>
Chi., Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....				
Great Northern.....	7,078,883 91		320,462 92	7,399,346 83
Illinois Central.....	7,969,208 69	917,036 58		8,886,245 27
Minn., St. Paul & Sault Ste. Marie..	1,115,332 01		13,499 77	1,128,831 78
Northern Pacific.....	735,465 80		6,874 48	742,340 28
Wisconsin & Michigan.....				
Total.....	\$31,834,589 84	\$918,670 44	\$340,992 62	\$33,094,252 90

SINCE JUNE 30, 1907.

Source of funds expended.			Expenditures for additions and betterments during the year.	Total expenditures July 1, 1907, to June 30, 1911.	Total expenditures July 1, 1907, to June 30, 1912.
Through issue of securities.	From current funds.	From special appropriations.			
\$13,875,000 00	\$631,058 41		\$849,917 10	\$12,766,275 93	\$28,122,251 44
			877,857 01	12,217,937 59	13,095,794 60
			1,838,336 70	8,254,980 13	10,093,316 83
	40,060 71		1,861,306 94	1,367,461 57	3,188,707 80
			1,347 11	2,503 98	3,851 09
			8,917 35	11,587 26	20,504 61
			112,674 63	1,465,981 69	1,583,739 35
5,083 03			8,562 93	6,759 47	15,322 40
68,364 75			120,618 60	1,121,068 15	1,173,322 00
			122,941 80		122,941 80
			321,201 89	55,619 54	265,582 35
			\$10,412 00	\$750 00	\$9,662 00
				9,945 22	9,945 22
				3,423,032 76	3,423,032 76
				7,390 00	7,390 00
			80 00	21,392 83	21,472 83
			14,545 66	107,316 58	92,770 92
				2,067 50	2,067 50
			4,892 00	26,179 40	31,071 40
			2,196 62	5,462 54	7,659 16
			12,029 34	114,928 25	126,957 59
			1,083 33	1,583 89	500 56
			563 33	8,129 93	8,693 26
				2,633 51	2,633 51
			2,421 03	11,663 19	9,242 16
			7,174 78	30,337 69	23,162 91
			740 00	660,210 36	709,799 25
			3,326 06	357,220 50	360,546 56
			\$36,625 87	\$4,569,975 99	\$4,656,930 75
\$13,875,000 00	\$665,349 09		\$3,773,214 29	\$68,597,897 71	\$86,911,461 09
	453,273 90		9,843,615 17	45,232,465 92	55,529,354 99
	16,073 54		7,364,679 89	33,879,094 29	41,227,700 64
	40,060 71		2,394,658 77	3,183,387 45	5,537,985 51
			2,694 23	5,007 95	7,702 18
			91,528 14	466,102 05	557,630 19
			325,609 35	1,491,258 26	1,816,867 61
	7,399,346 83		4,237,468 16	53,874,171 00	65,510,985 99
			5,266,031 30	19,155,616 42	33,307,892 99
8,886,245 27			371,003 11	22,605,912 54	24,105,747 43
1,128,831 78			5,239,475 05	52,259,090 55	58,240,905 88
	742,340 28		637,203 51	99,981 39	537,222 12
\$23,874,003 51	\$9,220,249 39		\$39,547,180 97	\$300,650,022 75	\$373,291,456 62

INCOME ACCOUNT, YEAR
OPERATING

NAME OF ROAD.	Rail Operations.			
	Operating revenues.	Operating expenses.	Net operating revenue.	Net operating deficit.
A. WISCONSIN.				
<i>a. Interstate roads.</i>				
Chicago & North Western.....	\$21,830,740 01	\$14,261,118 80	\$7,569,621 21	.....
Chicago, Burlington & Quincy.....	4,352,534 69	2,397,444 72	1,955,089 97	.....
Chicago, Milwaukee & St. Paul.....	18,687,611 56	13,088,956 40	5,598,655 16	.....
Chicago, St. P., Minn. & Omaha.....	7,166,864 85	5,236,248 11	1,930,616 74	.....
Chi. Harvard & Geneva Lake.....	13,089 38	13,205 90	.....	\$116 52
Duluth, South Shore & Atlantic.....	375,253 02	388,728 47	.....	13,475 45
Elgin, Joliet & Eastern.....	58,785 48	58,884 50	.....	99 02
Great Northern.....	1,931,247 00	1,302,893 96	628,353 04	.....
Illinois Central.....	161,518 21	218,874 74	.....	57,356 53
Mpls., St. P. & S. S. Marie.....	10,168,712 95	6,693,139 07	3,475,573 88	.....
Northern Pacific.....	526,512 39	559,576 57	.....	33,064 18
Wisconsin & Michigan.....	97,974 24	92,167 10	5,807 14	.....
Total.....	\$65,370,843 78	\$44,311,238 34	\$21,163,717 14	\$104,111 70
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	\$97,856 69	72,227 46	25,629 23	.....
Ashlund, Odanah & Marengo.....	81,742 62	60,946 75	20,795 87	.....
Bayfield Transfer.....	37,829 38	31,959 40	5,869 98	.....
Big Falls Ry. Co.....	8,390 77	9,505 84	.....	\$1,115 07
Chippewa Valley & Northern.....	17,710 83	15,474 99	2,235 84	.....
Green Bay & Western.....	725,276 70	480,791 64	244,485 06	.....
Hazelhurst & Southeastern.....	41,747 65	14,302 99	27,444 66	.....
Iola & Northern.....	9,375 78	7,335 93	2,039 85	.....
Kewaunee, Green Bay & W's't'n.....	182,682 86	90,617 00	92,065 86	.....
La Crosse & Southeastern.....	74,993 96	44,611 44	30,382 52	.....
Lake Sup. Terminal & Transfer.....	196,445 39	199,566 52	.....	3,121 13
Mar., Tomahawk & Western.....	40,569 24	30,383 54	10,185 70	.....
Mattoon R'y. Co.....	21,075 58	22,523 69	.....	1,448 11
Mineral Point & Northern.....	88,604 38	68,414 60	20,189 78	.....
Northwestern Coal R'y. Co.....	29,125 00	20,681 32	8,443 68	.....
Stanley, Merrill & Phillips.....	86,323 23	95,887 56	.....	9,564 33
Tomahawk & Eastern.....	12,285 32	9,283 81	3,001 51	.....
Wisconsin & Northern.....	86,293 83	48,925 29	37,368 54	.....
Wisconsin Northwestern.....	31,355 79	21,295 08	10,060 71	.....
Total.....	\$1,869,685 00	\$1,344,734 85	\$540,198 79	\$15,248 64
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	\$73,698,591 58	\$52,701,842 30	\$20,996,748 28	.....
Chicago, Burlington & Quincy.....	86,723,067 97	60,646,949 16	26,076,118 81	.....
Chicago, Milwaukee & St. Paul.....	63,122,743 34	47,743,156 54	15,379,586 80	.....
Chi. St. P., Mpls. & Omaha.....	15,135,426 08	10,466,216 49	4,669,209 59	.....
Chi. Harvard & Geneva Lake.....	26,178 77	26,411 79	.....	\$233 02
Duluth, South Shore & Atlantic.....	3,152,475 03	2,395,160 78	757,314 25	.....
Elgin, Joliet & Eastern.....	10,720,751 78	6,171,241 36	4,549,510 42	.....
Great Northern.....	66,160,622 52	37,610,569 39	28,550,053 13	.....
Illinois Central.....	58,727,272 17	48,121,466 54	10,605,805 63	.....
Mpls., St. Paul & Sault S. Marie.....	26,263,396 30	15,882,727 90	10,381,268 40	.....
Northern Pacific.....	63,423,946 62	38,158,517 02	25,265,429 60	.....
Wisconsin & Michigan.....	145,782 59	137,141 18	8,641 41	.....
Total.....	\$467,300,854 75	\$320,061,401 45	\$147,239,686 32	\$233 02

¹ Includes salvage \$144.25.

STATISTICS—STEAM RAILROADS.

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ENDING JUNE 30, 1912.
INCOME.

Outside Operations.				Total net revenue.	Total net deficit.
Revenues.	Expenses.	Net revenue.	Net deficit.		
\$228,270 46	\$203,492 91	\$24,777 55		\$7,594,398 76	
53,747 64	67,741 77		\$13,994 13	1,941,095 84	
333,798 89	328,552 10	5,246 79		5,603,901 95	
111,750 97	114,246 36		2,495 39	1,928,121 35	\$116 52
15,407 68	13,260 05	2,147 63			11,327 82
				628,353 04	99 02
					57,356 53
75,985 75	76,649 85		664 10	3,474,909 78	
					33,064 18
	1,148 76		1,148 76	4,658 38	
\$818,961 39	\$805,091 80	32,171 97	\$18,302 38	\$21,175,439 10	\$101,964 07
				\$25,629 23	
				20,795 87	
				5,869 98	\$1,115 07
				2,235 84	
				244,485 06	
				27,444 66	
				2,039 85	
				92,065 86	
				30,382 52	
					3,121 13
				10,185 70	1,448 11
				20,189 78	
				8,443 68	
					9,564 33
				3,001 51	
				37,368 54	
				10,060 71	
				\$540,198 79	\$15,248 64
\$824,468 87	\$857,507 46		\$33,038 59	\$20,963,709 69	
906,174 65	1,028,875 16		122,700 51	25,953,418 30	
1,365,789 24	1,344,321 19	\$21,468 05		15,401,054 85	
179,892 22	184,624 90		4,732 68	4,664,476 91	\$233 02
72,431 55	69,073 23	3,358 32		760,672 57	
				4,549,510 42	
1,154,679 81	1,038,820 54	115,859 27		28,665,912 40	
493,378 32	600,735 22		107,356 90	10,498,448 73	
420,244 63	340,563 12	79,681 51		10,460,949 91	
1,829,659 95	1,516,909 01	312,750 94		25,578,180 54	
	1,148 76		1,148 76	7,492 65	
\$7,246,719 24	\$6,982,578 59	\$533,118 09	\$268,977 44	\$147,503,826 97	\$233 02

INCOME ACCOUNT.

NAME OF ROAD.	OPERATING INCOME—Concluded.		
	Taxes accrued.	Operating income.	Operating loss.
A. WISCONSIN.			
<i>a. Interstate Roads.</i>			
Chicago & North Western.....	\$1,219,646 62	\$6,374,752 14	
Chicago, Burlington & Quincy.....	198,504 17	1,742,591 67	
Chicago, Milwaukee & St. Paul.....	1,087,455 77	4,516,446 18	
Chicago, St. Paul, Minneapolis & Omaha.....	369,087 30	1,559,034 05	
Chicago, Harvard & Geneva Lake.....	450 49		\$567 01
Duluth, South Shore & Atlantic.....	16,705 01		28,032 83
Elgin, Joliet & Eastern.....	4,776 91		4,875 93
Great Northern.....	129,733 78	498,619 26	
Illinois Central.....	12,301 66		69,658 19
Minneapolis, St. Paul & Sault Ste. Marie.....	124,852 73	3,350,057 05	
Northern Pacific.....	38,977 05		72,041 23
Wisconsin & Michigan.....	4,009 95	648 43	
Total.....	\$3,206,501 44	\$18,042,148 78	\$175,175 19
<i>b. Intrastate Roads.</i>			
Ahnapee & Western.....	\$3,719 57	\$21,909 66	
Ashland, Odanah & Marengo.....	1,394 38	19,401 49	
Bayfield Transfer.....	402 43	5,467 55	
Big Falls Railway Co.....	378 25		\$1,493 32
Chippewa Valley & Northern.....	450 91	1,784 93	
Green Bay & Western.....	27,806 22	216,678 84	
Hazelhurst & Southeastern.....	662 02	26,782 64	
Iola & Northern.....	144 74	1,895 11	
Kewaunee, Green Bay & Western.....	7,263 98	84,801 88	
La Crosse & Southeastern.....	3,324 42	27,058 10	
Lake Superior Terminal & Transfer.....	5,811 85		8,932 98
Marinette, Tomahawk & Western.....	1,590 78	8,594 92	
Mattoon Railway Co.....	835 00		2,283 11
Mineral Point & Northern.....	3,326 05	16,863 73	
Northwestern Coal Railway Co.....	237 77	8,205 91	
Stanley, Merrill & Phillips.....	2,422 30		11,986 63
Tomahawk & Eastern.....		3,001 51	
Wisconsin & Northern.....	5,718 70	31,649 84	
Wisconsin Northwestern.....	1,108 68	8,952 03	
Total.....	\$66,598 05	\$483,048 14	\$24,696 04
B. ENTIRE SYSTEM.			
<i>Interstate Roads.</i>			
Chicago & North Western.....	\$3,422,838 13	\$17,540,871 56	
Chicago, Burlington & Quincy.....	3,303,058 11	22,650,360 19	
Chicago, Milwaukee & St. Paul.....	2,868,710 26	12,532,344 59	
Chicago, St. Paul, Minneapolis & Omaha.....	782,845 95	3,881,630 96	
Chicago, Harvard & Geneva Lake.....	900 98		\$1,134 00
Duluth, South Shore & Atlantic.....	217,417 86	543,254 71	
Elgin, Joliet & Eastern.....	255,359 89	4,294,150 53	
Great Northern.....	3,486,571 97	25,179,340 43	
Illinois Central.....	2,685,730 13	7,812,718 60	
Minneapolis, St. Paul & Sault Ste. Marie.....	1,123,135 50	9,337,814 41	
Northern Pacific.....	3,739,079 37	21,839,101 17	
Wisconsin & Michigan.....	11,456 44		3,963 79
Total.....	\$21,897,104 59	\$125,611,587 15	\$5,097 79

¹ Includes \$100,655 28 other properties, net income.

² Includes \$31,209.98 other properties, net income.

1912—Continued.

OTHER INCOME.

Rents accrued from lease of road.	Other rents—credits.			Separately operated properties—profit.	Dividends declared on stocks owned or controlled.
	Hire of equipment—balance.	Joint facilities.	Miscellaneous rents.		
		\$8,622 32	\$16,355 70	\$83,854 17	\$495,307 86
		1,200 00	935 47		
		81,812 68	34,201 90		7,778 03
		22,249 13	4,893 90	31,059 98	19,363 53
	\$1,074 03	100 00			
	4,019 30		120,598 30		
	555 62			1,355 58	
	1,728 85	56,738 07	6,666 71		
	\$14,372 44	\$555 50			
	25 75				
	6,391 65	207 83			
	757 00	11,427 10	\$43 70		
\$1,000 00	3,187 90				
	635 96				
\$1,000 00	\$25,370 70	\$12,190 43	\$43 70		
		\$90,383 68	¹ \$176,061 90		\$1,844,722 00
\$2,976 36		476,190 25	135,582 89		768,342 00
		224,391 80	184,584 33		31,825 00
		126,230 77	² 50,085 04		41,976 00
	\$5,827 60	16,517 08	³ 1,425 38		
		24,295 96	4,740 78		
2,301 00	358,364 27	511,163 39	289,674 68		4,410,638 20
		1,172,849 35	205,501 68		120,408 00
	313,073 28	108,627 71	4,454 88		450,002 00
288,979 96	615,815 58	1,570,215 35	256,975 85	\$16,967 09	4,597,152 00
	2,491 60	13,767 64			
\$294,257 32	\$1,295,572 33	\$4,334,632 98	\$1,309,087 41	\$16,967 09	\$12,265,065 20

³ Other properties, net income.

Italic figures denote credits.

INCOME ACCOUNT

NAME OF ROAD.	OTHER INCOME.—Concluded.			
	Interest accrued on funded debt owned or controlled.	Interest on other securities, loans and accounts.	Unextinguished premiums on outstanding funded debt.	Miscellaneous income.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	\$1,349 21	\$305,441 47		
Chicago, Burlington & Quincy...				
Chicago, Milwaukee & St. Paul..	1,291,291 37	384,980 36	\$71,468 67	
Chicago, St. Paul, Mpls. & Omaha	5,480 24	1,231 44	3,560 97	\$51 95
Chicago, Harvard & Geneva Lake				
Duluth, South Shore & Atlantic.	1,729 77	1,045 99		
Elgin, Joliet & Eastern.....				
Great Northern.....				
Illinois Central.....				334 73
Mpls., St. Paul & S. Ste. Marie....				
Northern Pacific.....				
Wisconsin & Michigan.....				
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....		\$1,784 47		
Ashland, Odanah & Marengo.....				
Bayfield Transfer.....				
Big Falls Ry. Co.....				
Chippewa Valley & Northern.....				
Green Bay & Western.....	\$8,750 00	9,891 49		
Hazelhurst & Southeastern.....				
Iola & Northern.....		472 74		
Kewaunee, Green Bay & Western		6,485 12		
La Crosse & Southeastern.....				
Lake Superior Terminal & Trans.				
Marquette, Tomahawk & West'n.		684 58		
Mattoon Ry. Co.....				
Mineral Point & Northern.....				
Northwestern Coal Ry. Co.....		1,467 73		\$22,115 80
Stanley, Merrill & Phillips				
Tomahawk & Eastern.....				
Wisconsin & Northern.....				
Wisconsin Northwestern.....				
Total.....	\$8,750 00	\$20,786 13		\$22,115 80
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	\$5,025 00	\$1,137,584 63		
Chicago, Burlington & Quincy...	550,122 93	217,829 72		
Chicago, Milwaukee & St. Paul..	5,283,516 23	1,575,206 05	\$292,424 99	
Chicago, St. Paul, Mpls. & Omaha	11,880 00	2,669 50	7,719 43	\$112 62
Chicago, Harvard & Geneva Lake				
Duluth, South Shore & Atlantic..	9,343 79	5,650 14		
Elgin, Joliet & Eastern.....		59,027 67		
Great Northern.....	1,250,771 33	1,497,985 57		410 62
Illinois Central.....	1,668,253 83	1,113,870 65		12,266 35
Mpls., St. Paul & S. Ste. Marie....	47,147 17	155,062 56		
Northern Pacific.....	1,674,160 79	223,000 32		13,177 91
Wisconsin & Michigan.....				
Total.....	\$10,500,221 37	\$5,987,886 81	\$300,144 42	\$25,967 50

1912.—Continued.

Total other in- come.	Gross corporate income.	Gross corporate loss.	DEDUCTIONS FROM GROSS CORPORATE INCOME.		
			Rents accrued for lease of other roads.	Other Rents — debits.	
				Hire of equipment balance.	Joint facilities.
\$910,930 73	\$7,285,682 87		\$244,190 88	\$123,336 85	33,263 20
2,135 47	1,744,727 14				14,409 76
1,871,533 01	6,387,979 19			304,593 82	1,452 74
87,891 14	1,646,925 19			29,270 33	16,288 18
		\$567 01			
3,949 79		24,083 04			10,200 99
4,019 30		856 63	11,500 00		
120,598 30	619,217 56				25,977 95
1,576 47		68,081 72			
63,404 78		8,636 45			5,039 32
1,728 85	2,377 28				4,959 35
\$1,784 47	\$23,694 13			\$3,564 64	
	19,401 49				
	5,467 55			6,215 38	
	1,784 93	\$1,493 32	\$2,800 00		
33,569 43	250,248 27				\$19,455 73
	26,782 64				
498 49	2,393 60				
13,084 60	97,886 48				7 38
	27,058 10				3,000 00
12,227 80	3,294 82			2,358 46	936 36
4,872 48	13,467 40				
		2,283 11			
	16,863 73			122 50	2,039 25
23,583 53	31,789 44				
635 96		11,350 67	600 00		
	3,001 51		1,000 00	3,190 00	
	31,649 84			152 35	
	8,952 03		500 00		
\$90,256 76	\$563,735 96	\$15,127 10	\$4,900 00	\$15,603 33	\$25,438 72
\$3,253,777 21	\$20,794,648 77		\$357,408 09	\$412,704 44	\$261,295 62
2,151,044 15	24,801,404 34			478,776 14	973,001 60
7,591,948 40	20,124,292 99			1,246,290 50	440,955 37
240,673 36	4,122,304 32			66,043 17	292,796 23
		\$1,134 00			
38,763 99	582,018 70				41,903 28
88,064 41	4,382,214 94		1,147,779 40	402,678 72	374,632 21
8,321,309 06	33,500,649 49				772,034 28
4,293,149 86	12,105,868 46		3,066,288 86	154,893 65	593,822 72
1,078,367 60	10,416,182 01		2,918,600 71		167,409 47
9,256,444 85	31,095,546 02		125,451 86		392,362 97
16,259 24	12,295 45				7,389 10
\$36,329,802 13	\$161,937,425 49	\$1,134 00	\$7,615,528 92	\$2,761,386 62	\$4,317,602 85

INCOME ACCOUNT,

NAME OF ROAD.	DEDUCTIONS FROM GROSS COR			
	Other rents, debts— concluded. Miscellan- eous rents.	Separately operated properties— loss.	Interest accrued on funded debt.	Other interest.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western	\$125 00		\$2,159,771 01	\$10,699 44
Chicago, Burlington & Quincy	7 68			
Chicago, Milwaukee & St. Paul	2,844 53		2,076,062 82	
Chicago, St. Paul, Minneapolis & O Chicago, Harvard & Geneva Lake	240 00		760,697 01	13,063 33
			3,125 00	667 38
Duluth, South Shore & Atlantic			154,646 89	
Elgin, Joliet & Eastern				
Great Northern	25 00			
Illinois Central			82,362 80	
Minneapolis, St. Paul & S. St. Marie				
Northern Pacific				
Wisconsin & Michigan	20 00		33,199 00	853 70
<i>b. Intrastate Roads.</i>				
Ahnapee & Western	\$125 83		\$21,250 00	
Ashland, Odanah & Marengo	50 00			
Bayfield Transfer			75,000 00	
Big Falls Ry. Co.			445 68	
Chippewa Valley & Northern			6,630 60	\$721 49
Green Bay & Western			65,000 00	
Hazelhurst & Southeastern				
Iola & Northern				
Kewaunee, Green Bay & Western			20,400 00	
LaCrosse & Southeastern			37,500 00	
Lake Superior Term'l & Transfer				
Marquette, Tomakawk & Western				
Mattoon Ry. Co.				2,750 00
Mineral Point & Northern			22,500 00	3,283 74
Northwestern Coal Ry. Co.			39,700 00	
Stanley, Merrill, & Phillips			25,000 00	3,371 91
Tomahawk & Eastern				
Wisconsin & Northern				
Wisconsin Northwestern				
Total	\$175 83		\$313,426 28	\$10,127 14
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western	\$163,382 87		\$8,043,839 90	\$39,848 94
Chicago, Burlington & Quincy	17,277 30		8,547,309 04	13,493 46
Chicago, Milwaukee & St. Paul	12,072 34		8,494,528 74	
Chicago, St. Paul, Minneapolis & O Chicago, Harvard & Geneva Lake	1,514 28		1,649,028 85	28,318 51
			6,250 00	1,334 77
Duluth, South Shore & Atlantic	285 48	\$30,020 28	871,356 67	
Elgin, Joliet & Eastern	1,821 59		500,000 00	1,253 60
Great Northern	22,199 50		10,766,329 69	283,159 03
Illinois Central	8,761 83		4,815,807 53	
Minneapolis, St. P. & S. Ste. Marie	190 00		2,659,855 00	445,836 94
Northern Pacific	8,505 13		10,907,511 44	
Wisconsin & Michigan	20 00		61,570 85	1,270 81
Total	\$236,030 32	\$30,020 28	\$57,323,387 71	\$814,516 06

1912--Continued.

CORPORATE INCOME--Concluded. 7					
Extinguishment of discounts on securities.	Sinking and redemption funds chargeable to income	Other deductions.	Total deductions from gross corporate income.	Net corporate income.	Net corporate loss.
	\$10,203 00	\$10,838 31	\$2,592,427 69	\$4,693,255 18	
			2,384,953 91	4,003,025 28	
			819,558 85	827,366 34	
			3,792 38		\$4,359 38
			164,847 88		188,930 92
			11,500 00		12,356 63
			26,002 65	593,214 91	
			82,362 80		150,444 52
			39,032 05		36,654 77
			\$24,940 47		\$1,246 34
			50 00	\$19,351 49	
			81,215 38		75,747 83
			3,245 68		4,739 00
	\$1,600 00	\$142 00	9,094 '09		7,309 16
			84,455 73	165,792 54	
				26,782 64	
				2,393 60	
			20,407 38	77,479 10	
			40,500 00		13,441 90
			3,294 82		
				13,467 40	
			2,750 00		5,033 11
			27,945 49		11,081 76
			39,700 00		7,910 56
			28,971 91		40,322 58
			4,190 00		1,188 49
			152 35	31,497 49	
	6,191 07		6,691 07	2,260 96	
	\$7,791 07	\$142 00	\$377,604 37	\$339,025 22	\$168,020 73
	\$38,000 00	\$10,838 31	\$9,327,318 17	\$11,467,330 60	
\$6,814 44	657,978 53		10,694,650 56	14,106,753 78	
			10,193,846 95	9,930,446 04	
			2,037,701 04	2,084,603 28	
			7,584 77		\$8,718 77
			943,565 71		361,547 01
			2,428,165 52	1,954,049 42	
		753,002 94	12,596,725 44	20,903,924 05	
			8,639,574 59	3,466,293 87	
			6,191,892 12	4,224,289 89	
			11,433,831 40	19,661,714 62	
			70,250 76		57,955 31
\$6,814 44	\$695,978 53	\$763,841 25	\$74,565,107 03	\$87,799,405 55	\$428,221 09

INCOME ACCOUNT,
DISPOSITION OF NET*Italic figures denote losses.*

NAME OF ROAD.	Dividends declared.			On receipts outstanding for installments
	On common stock.	On preferred stock.	On debenture stock.	
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western	\$2,445,502 03	\$481,044 60		
Chicago, Burlington & Quincy				
Chicago, Milwaukee & St. Paul				
Chicago, St. Paul, Minneapolis & O.	599,198 25	363,493 33		
Chicago, Harvard & Geneva Lake				
Duluth, South Shore & Atlantic				
Elgin, Joliet & Eastern				
Great Northern				
Illinois Central				
Minneapolis, St. Paul & Sault Ste. M.				
Northern Pacific				
Wisconsin & Michigan				
<i>b. Intrastate Roads.</i>				
Ahnapee & Western				
Ashland, Odanah & Marengo				
Bayfield Transfer				
Big Falls Ry. Co.				
Chippewa Valley & Northern				
Green Bay & Western	\$125,000 00			
Hazelhurst & Southeastern	18,000 00			
Iola & Northern				
Kewaunee, Green Bay & Western				
La Crosse & Southeastern				
Lake Superior Terminal & Transfer				
Marinette, Tomahawk & Western				
Mattoon R'y Co.				
Mineral Point & Northern				
Northwestern Coal R'y Co.				
Stanley, Merrill & Phillips				
Tomahawk & Eastern				
Wisconsin & Northern				
Wisconsin Northwestern				
Total	\$143,000 00			
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western	\$9,108,015 00	\$1,791,600 00		
Chicago, Burlington & Quincy	8,867,128 00			
Chicago, Milwaukee & St. Paul ²				
Chicago, St. Paul, Minneapolis & O.	1,298,934 00	787,976 00		
Chicago, Harvard & Geneva Lake				
Duluth, South Shore & Atlantic				
Elgin, Joliet & Eastern	400,000 00			
Great Northern	14,698,650 75			
Illinois Central				
Minneapolis, St. Paul & Sault Ste. M.				
Northern Pacific	17,357,788 00			\$112 00
Wisconsin & Michigan				
Total	\$51,730,515 75	\$2,579,576 00		\$112 00

¹Cash items balance.

1912—Concluded.
CORPORATE INCOME.

Appropriations for additions and betterments.		Appropriations for new lines or extensions.		Appropriations for other reserves.	Balance for year carried forward to profit and loss.
Expended during year.	Held in reserve.	Expended during year.	Held in reserve.		
		\$177,014 40			\$1,766,708 55
					135,325 24
					4,359 38
					188,930 92
					12,356 63
					150,444 52
					36,654 77
					\$1,246 34
					19,351 49
			\$48 19		75,796 02
					4,739 00
					7,309 16
					40,792 54
					8,782 64
					2,393 60
					77,479 10
					13,441 90
					13,467 40
					5,033 11
					11,081 76
					7,910 56
					40,322 58
					1,188 49
					31,497 49
					2,260 96
			\$48 19		\$27,956 30
					\$567,715 60
					1,295,409 70
\$3,944,216 08					9,930,446 04
					2,306 72
					8,718 77
					361,547 01
	\$3,502,000 00				1,554,049 42
					2,703,273 30
61,481 44					3,404,812 43
					4,224,289 89
					2,303,814 62
					57,955 31
\$4,005,697 52	\$3,502,000 00				\$25,553,283 19

²Dividend of \$15,071,993.08 paid out of surplus.

PROFIT AND LOSS ACCOUNT—ENTIRE

DEB

NAME OF ROAD.	Balance June 30, 1911.	Balance for year from income account.	Other properties —loss.	Appropri- ations for additions and bet- terments.
<i>a. Interstate Roads.</i>				
Chicago & North Western				
Chicago, Burlington & Quincy				
Chicago, Milwaukee & St. Paul			\$16,607 61	
Chicago, St. Paul, Minneapolis & Omaha		\$2,306 72		
Chicago, Harvard & Geneva Lake.....	\$40,964 52	8,718 77		
Duluth, South Shore & Atlantic.....	3,679,115 19	361,547 01		
Elgin, Joliet & Eastern				
Great Northern				
Illinois Central.....				
Minneapolis, St. Paul & S. S. Marie.....				
Northern Pacific.....				
Wisconsin & Michigan.....	148,670 04	57,955 31		
Total.....	\$3,868,749 75	\$430,527 81	\$16,607 61	
<i>b. Intrastate Roads.</i>				
Ahnapee & Western		\$1,246 34		
Ashland, Odanah & Western	\$899 78			
Bayfield Transfer.....	1,051,371 95	75,796 02		
Big Falls Ry. Co.....	1,618 71	4,739 00		
Chippewa Valley & Northern	8,968 24	7,309 16		
Green Bay & Western				
Hazelhurst & Southeastern				
Iola & Northern				
Kewaunee, Green Bay & Western				
La Crosse & Southeastern	74,205 90	13,441 90		
Lake Superior Terminal & Transfer				
Marquette, Tomahawk & Western				
Mattoon Ry. Co.....		5,033 11		
Mineral Point & Northern.....	111,974 49	11,081 76		
Northwestern Coal Ry. Co.....	299,130 29	7,910 56		
Stanley, Merrill & Phillips.....	44,370 39	40,322 58		
Tomahawk & Eastern		1,188 49		
Wisconsin & Northern.....				
Wisconsin Northwestern				
Total.....	\$1,592,589 75	\$168,068 92		

SYSTEM—YEAR ENDING JUNE 30, 1912.

IT.

Appropriations for other reserves.	Extinguishment of discounts on securities.	Deductions during year.	Dividends declared.	Balance credit June 30, 1912.	Total debit.
	\$1,125,000 00	\$1,251,052 95		\$34,186,372 05	\$36,562,425 00
		290,783 15		41,941,882 03	42,232,665 18
\$1,220,533 51		747,425 74	\$15,071,993 00	42,931,524 69	59,988,084 55
		258,179 82		4,626,822 32	4,887,308 86
		163 98			49,847 27
		51,232 69			4,091,894 89
		71,808 77		2,799,071 49	2,870,880 26
		3,048,982 85		57,182,134 37	60,231,117 22
	90,000 00	13,103 81	7,650,566 00	2,768,366 57	10,522,036 38
	12,556 18	50,964 39	2,417,037 00	11,707,346 06	14,187,903 63
		513,280 63		80,260,438 07	80,773,718 70
		50,756 69			257,382 04
\$1,220,533 51	\$1,227,556 18	\$6,347,735 47	\$25,139,596 00	\$278,403,957 65	\$316,655,263 98
		\$138 25		\$83,974 72	\$85,359 31
				18,459 98	19,359 76
					1,127,167 97
					6,357 71
					16,277 40
		24 00		250,461 35	250,485 35
				20,692 61	20,692 61
				17,168 67	17,168 67
		13 83		317,695 75	317,709 58
		3,672 07			91,319 87
				43,819 35	43,819 35
		54 62	\$2,956 01	1,399 05	9,442 79
					123,056 25
					307,090 85
					84,692 97
				682 97	1,871 46
				102,317 52	102,317 52
		\$3,902 77	\$2,956 01	\$856,671 97	\$2,624,189 42

PROFIT AND LOSS ACCOUNT.

CRED

NAME OF ROAD.	Balance June 30, 1911.	Balance for year from income account.
<i>a. Interstate Roads.</i>		
Chicago & North Western.....	\$33,066,463 22	\$567,715 60
Chicago, Burlington & Quincy.....	42,203,264 97	
Chicago, Milwaukee & St. Paul.....	49,278,507 91	9,930,446 04
Chicago, St. Paul, Minneapolis & Omaha.....	4,887,308 86	
Chicago, Harvard & Geneva Lake.....		
Duluth, South Shore & Atlantic.....		
Elgin, Joliet & Eastern.....	1,306,948 48	1,554,049 42
Great Northern.....	51,191,660 89	2,703,273 30
Illinois Central.....	6,783,964 69	3,404,812 43
Minneapolis, St. Paul & Sault Ste. Marie.....	9,957,910 52	4,224,289 89
Northern Pacific.....	78,074,261 88	2,303,814 62
Wisconsin & Michigan.....		
Total.....	\$276,750,291 42	\$24,688,401 30
<i>b. Intrastate Roads.</i>		
Ahnapee & Western.....	\$80,452 42	
Ashland, Odanah & Marengo.....		\$19,351 49
Bayfield Transfer.....		
Big Falls Ry. Co.....		
Chippewa Valley & Northern.....		
Green Bay & Western.....	187,988 12	40,792 54
Hazelhurst & Southeastern.....	11,909 97	8,782 84
Iola & Northern.....	14,775 07	2,393 60
Kewaunee, Green Bay & Western.....	235,589 83	77,479 10
La Crosse & Southeastern.....		
Lake Superior Terminal & Transfer.....		
Marquette, Tomahawk & Western.....	30,351 95	13,467 40
Mattoon Ry. Co.....	9,096 61	
Mineral Point & Northern.....		
Northwestern Coal Ry. Co.....		
Stanley, Merrill & Phillips.....		
Tomahawk & Eastern.....	1,871 46	
Wisconsin & Northern.....	70,820 03	31,497 49
Wisconsin Northwestern.....		
Total.....	\$642,855 46	\$193,764 26

ENTIRE SYSTEM—1912. Concluded.
IT.

Other prop- erties—profit.	Unextinguished premium on out- standing funded debt.	Additions for year.	Balance debit June 30, 1912.	Total credit.
		\$2,928,246 18		\$36,562,425 00
		29,400 21		42,232,665 18
		779,130 60		59,988,084 55
				4,887,308 86
			\$49,847 27	49,847 27
		544 62	4,091,350 27	4,091,894 89
		9,882 36		2,870,880 26
		6,336,183 03		60,231,117 22
		333,259 26		10,522,036 38
		5,703 22		14,187,903 63
		395,642 20		80,773,718 70
		1,592 40	255,789 64	257,382 04
		\$10,819,584 08	\$4,396,987 18	\$316,655,263 98
		\$4,906 89		\$85,359 31
		8 27		19,359 76
			\$1,127,167 97	1,127,167 97
			6,357 71	6,357 71
			16,277 40	16,277 40
		21,704 69		250,485 35
				20,692 61
		4,640 65		17,168 67
			91,319 87	317,709 58
				91,319 87
				43,819 35
		346 18		9,442 79
			123,056 25	123,056 25
			307,090 85	307,090 85
			84,692 97	84,692 97
				1,871 46
				102,317 52
		\$31,606 68	\$1,755,963 02	\$2,624,189 42

OPERATING REVENUES, YEAR

REVENUE FROM

Italic figures denote credits.

NAME OF ROAD.	Freight revenue.	Passenger service	
		Passenger revenue.	Excess baggage revenue.
A. WISCOASIN.			
<i>a. Interstate Roads.</i>			
Chicago, & North Western.....	\$14,883,467 36	\$5,362,090 53	\$75,287 12
Chicago, Burlington & Quincy.....	3,149,969 62	856,266 02	12,127 27
Chicago, Milwaukee & St. Paul.....	12,581,599 84	4,228,774 42	67,685 52
Chicago, St. Paul, Minneapolis & Omaha..	4,711,093 23	1,956,406 40	30,863 13
Chicago, Harvard & Geneva Lake.....	5,806 37	6,583 87	.....
Duluth, South Shore & Atlantic.....	281,920 02	122,076 30	765 63
Elgin, Joliet & Eastern.....	.....	.....	.....
Great Northern.....	1,740,069 99	103,061 61	1,211 23
Illinois Central.....	72,244 22	67,591 77	802 67
Minneapolis, St. Paul & Sault Ste. Marie..	7,725,204 05	1,897,415 56	21,901 22
Northern Pacific.....	247,506 07	190,837 84	2,576 26
Wisconsin & Michigan.....	83,073 10	12,638 82	31 21
Total.....	\$45,431,953 87	\$14,803,743 14	\$213,251 26
<i>b. Intrastate Roads.</i>			
Ahnapee & Western.....	\$44,349 83	\$43,346 28	\$689 66
Ashland, Odanah & Marengo.....	81,196 62	.....	.....
Bayfield Transfer.....	36,015 53	1,680 10	.....
Big Falls Ry. Co.....	7,806 67	333 65	.....
Chippewa Valley & Northern.....	16,846 18	864 65	.....
Green Bay & Western.....	495,303 23	168,724 23	4,610 74
Hazelhurst & Southeastern.....	41,462 46	.....	.....
Iola & Northern.....	6,961 24	1,910 64	93 12
Kewaunee, Green Bay & Western.....	128,012 33	41,845 43	598 74
La Crosse & Southeastern.....	32,486 71	39,282 21	.....
Lake Superior Terminal & Transfer.....	.....	.....	.....
Marinette, Tomahawk & Western.....	36,447 79	3,744 42	143 48
Mattoon R'y Co.....	17,570 75	2,599 60	65 05
Mineral Point & Northern.....	73,522 41	8,534 61	247 09
Northwestern Coal R'y Co.....	.....	.....	.....
Stanley, Merrill & Phillips.....	75,425 81	7,798 82	8 05
Tomahawk & Eastern.....	11,331 07	711 36	62 89
Wisconsin & Northern.....	57,336 15	17,209 13	92 34
Wisconsin Northwestern.....	30,676 88	534 66	.....
Total.....	\$1,192,751 66	\$339,209 79	\$6,611 16
B. ENTIRE SYSTEM.			
<i>Interstate Roads.</i>			
Chicago & North Western.....	\$46,601,540 41	\$19,555,567 15	\$238,944 59
Chicago, Burlington & Quincy.....	57,740,418 62	21,083,418 74	310,267 12
Chicago, Milwaukee & St. Paul.....	42,815,573 23	13,936,965 07	191,052 03
Chicago, St. Paul, Minneapolis & Omaha..	9,478,791 85	4,551,593 86	71,546 91
Chicago, Harvard & Geneva Lake.....	11,612 74	13,167 74	.....
Duluth, South Shore & Atlantic.....	2,061,096 00	929,692 48	10,412 10
Elgin, Joliet & Eastern.....	10,083,625 82	108 52	.....
Great Northern.....	47,877,369 06	13,623,008 91	160,638 08
Illinois Central.....	37,881,765 94	13,337,562 40	179,482 16
Minneapolis, St. Paul & Sault Ste. Marie..	19,044,283 51	5,702,247 31	57,254 26
Northern Pacific.....	43,793,521 58	15,343,752 05	208,407 89
Wisconsin & Michigan.....	119,674 18	21,652 31	75 87
Total.....	\$317,599,272 94	\$108,098,734 54	\$1,428,081 01

ENDING JUNE 30, 1912.

TRANSPORTATION.

train revenue.

Parlor and chair car revenue.	Mail revenue.	Express revenue.	Milk revenue (on passenger trains.)	Other passenger train revenue.	Total passenger service train revenue.
	\$336,452 52	\$699,493 48	\$79,566 54	\$33,563 13	\$6,586,453 32
	41,220 96	264,308 38	2,245 02	44 88	1,176,122 77
	638,246 82	462,820 36	114,734 29	3,967 68	5,516,229 09
	96,065 82	260,228 57	10,269 54	5,287 26	2,359,120 72
	196 15	483 04			7,263 06
	12,628 60	2,745 21		251 77	138,467 51
\$1,714 38	4,599 60	7,597 83		75 28	118,259 93
	6,573 96	10,853 26	1,305 63	11 89	87,139 18
	169,366 21	208,197 19	10,424 89	493 01	2,307,798 08
	6,739 85	14,775 02		173 80	215,102 77
	1,172 61	186 19	99 67		14,128 50
\$1,714 38	\$1,313,263 10	\$1,931,688 53	\$218,645 58	\$43,778 94	\$18,526,084 93
	\$3,197 34	\$4,569 24			\$51,802 52
	250 45				1,680 10
					584 10
					864 65
	16,119 54	10,365 25		\$1,711 75	201,531 51
	231 63	285 19			285 19
	3,781 96	112 15			2,347 54
	1,653 75	2,609 20			48,835 33
		1,200 00			42,135 96
	233 55				4,121 45
	396 11	419 12			3,479 88
	1,280 48	900 00			10,962 18
	1,373 06	104 29			9,284 22
	1,211 72	180 00			954 25
					18,603 19
					534 66
	\$29,729 59	\$20,744 44		\$1,711 75	\$398,006 73
	\$1,494,403 64	\$2,430,309 31	\$1,058,885 77	\$91,893 61	\$24,870,004 07
	2,368,447 34	2,578,810 37	370,713 84	10,275 83	26,721,933 24
	1,771,472 49	1,665,688 59	552,265 70	10,173 55	18,127,625 43
	274,910 39	447,872 12	23,899 14	12,394 24	5,392,216 66
	392 30	966 09			14,526 13
	65,818 18	31,374 04	423 31	7,088 95	1,044,809 06
		293 08			401 60
\$79,025 75	2,055,820 00	1,570,972 23		5,621 84	17,495,086 81
14,234 40	962,848 30	1,851,584 23	206,181 34	18,850 27	16,570,743 10
	517,067 94	496,500 99	76,843 44	1,982 32	6,851,896 26
	981,528 33	1,283,352 39		57,236 13	17,874,276 79
	2,276 91	452 59	242 25		24,699 93
\$93,260 15	\$10,404,985 82	\$12,358,186 03	\$2,289,454 79	\$215,516 74	\$134,978,219 08

Italic figures denote credits.

OPERATING REVENUES.

NAME OF ROAD.	REVENUE FROM TRANS	
	Switching revenue.	Special service train revenue.
A. WISCONSIN.		
<i>a. Interstate Roads.</i>		
Chicago & North Western.....	\$158,809 41	\$15,010 63
Chicago, Burlington & Quincy.....	15,884 75	<i>40 60</i>
Chicago, Milwaukee & St. Paul.....	405,891 74	13,108 26
Chicago, St. Paul, Minneapolis & Omaha.....	45,122 30	7,319 20
Chicago, Harvard & Geneva Lake.....		
Duluth, South Shore & Atlantic.....	2,325 67	408 08
Elgin, Joliet & Eastern.....	54,320 48	
Great Northern.....	42,387 96	107 40
Illinois Central.....	863 00	179 56
Minneapolis, St. Paul & Sault Ste. Marie.....	74,372 42	2,299 61
Northern Pacific.....	34,913 12	210 00
Wisconsin & Michigan.....	496 00	
Total.....	\$855,386 85	\$38,602 14
<i>b. Intrastate Roads.</i>		
Ahnapee & Western.....		\$292 50
Ashland, Odanah & Marengo.....		
Bayfield Transfer.....		
Big Falls R'y Co.....		
Chippewa Valley & Northern.....		
Green Bay & Western.....	\$21,790 35	\$600 00
Hazelhurst & Southeastern.....		
Iola & Northern.....		
Kewaunee, Green Bay & Western.....	5,423 25	
La Crosse & Southeastern.....	152 68	
Lake Superior Terminal & Transfer.....	141,315 32	
Marinette, Tomahawk & Western.....		
Mattoon R'y Co.....		
Mineral Point & Northern.....	2,679 00	
Northwestern Coal R'y Co.....	29,125 00	
Stanley, Merrill & Phillips.....		
Tomahawk & Eastern.....	960 50	86 00
Wisconsin & Northern.....		
Wisconsin Northwestern.....	278 80	
Total.....	\$201,724 90	\$978 50
B. ENTIRE SYSTEM.		
<i>Interstate Roads.</i>		
Chicago & North Western.....	\$1,365,930 99	\$55,850 95
Chicago, Burlington & Quincy.....	1,220,351 07	39,925 84
Chicago, Milwaukee & St. Paul.....	1,474,019 13	46,619 95
Chicago, St. Paul, Minneapolis & Omaha.....	150,019 96	13,193 36
Chicago, Harvard & Geneva Lake.....		
Duluth, South Shore & Atlantic.....	10,716 26	5,977 50
Elgin, Joliet & Eastern.....	493,386 32	367 83
Great Northern.....	420,282 52	30,790 46
Illinois Central.....	693,253 30	56,415 57
Minneapolis, St. Paul & Sault Ste. Marie.....	101,557 46	5,875 05
Northern Pacific.....	691,717 60	38,439 11
Wisconsin & Michigan.....	496 00	
Total.....	\$6,621,730 61	\$293,455 62

1912—Continued.

PORTATION—Concluded.		REVENUE FROM OPERATION OTHER THAN TRANSPORTATION.			
Miscellaneous transportation revenue.	Total revenue from transportation.	Station and train privileges.	Parcel-room receipts.	Storage-freight.	Storage-baggage.
\$11,343 92	\$21,655,084 64	\$9,444 66	\$1,133 10	\$1,049 49	\$3,313 48
981 87	4,342,918 41		62 15	6 04	213 25
9,767 05	18,526,595 98	15,158 93	720 60	1,815 00	2,704 60
9,938 64	7,132,594 09	2,941 14		445 52	173 14
	13,069 43	18 75			
139 65	373,260 93	103 16		1 42	
	54,320 48				
32 00	1,900,857 28	162 48		371 73	8 65
336 00	160,761 96	197 40	17 30		23 55
5,544 63	10,115,218 79	4,916 45	504 70	613 05	537 88
136 53	497,868 49			84 93	25 95
	97,697 60	4 19			
\$38,220 29	\$64,870,248 08	\$32,947 16	\$2,437 85	\$4,387 18	\$7,000 50
\$191 84	\$96,636 69				
546 00	81,742 62				
133 75	37,829 38				
	8,390 77				
	17,710 83				
	719,225 09	\$219 34	\$121 50		
	41,747 65				
	9,308 78				
	182,270 91				
	74,775 35	30 51			
	141,315 32				
	40,569 24				
	21,050 63				
	87,163 59				
	29,125 00				
47 35	85,803 88	25 00			
	12,285 32				
	76,218 14				
	31,211 54				
\$918 94	\$1,794,380 73	\$274 85	\$121 50		
\$39,037 48	\$73,022,363 90	\$38,012 83	\$35,146 30	\$22,128 83	\$17,814 13
79,748 07	85,802,376 84	8,573 40	7,565 97	40,278 08	17,459 80
40,367 04	62,504,204 78	42,737 70	2,618 95	17,678 42	8,247 15
15,387 21	15,039,609 04	7,133 50		10,300 89	1,030 44
	26,138 87	37 50			
3,254 40	3,125,853 22	600 00		112 25	23 75
18 00	10,577,799 57			291 62	
58,559 69	65,882,088 54	26,682 63	14,668 10	12,486 48	29,702 27
3,082,988 63	58,285,166 54	90,865 81	24,165 50	46,789 75	9,804 40
13,275 42	26,016,887 70	18,261 64	1,432 75	3,075 07	2,725 34
97,183 22	62,495,138 30	920 64		30,059 64	23,984 92
	144,870 11	6 67			
\$3,429,819 16	\$462,922,497 41	\$233,832 32	\$85,597 57	\$183,201 03	\$110,792 20

OPERATING

NAME OF ROAD.	REVENUE FROM OPERATION	
	Car service.	Telegraph and telephone service.
A. WISCONSIN.		
<i>a. Interstate Roads.</i>		
Chicago & North Western.....	\$96,658 20	
Chicago, Burlington & Quincy.....	1,474 00	\$1,999 49
Chicago, Milwaukee & St. Paul.....	75,655 60	12,587 79
Chicago, St. Paul, Minneapolis & Omaha.....	13,676 33	
Chicago, Harvard & Geneva Lake.....		1 20
Duluth, South Shore & Atlantic.....	223 50	10 58
Elgin, Joliet & Eastern.....	4,465 00	
Great Northern.....	3,673 75	81 33
Illinois Central.....	518 00	
Minneapolis, St. Paul & Sault Ste. Marie.....	33,017 99	5,185 32
Northern Pacific.....	1,880 50	2,640 00
Wisconsin & Michigan.....	18 00	
Total.....	\$231,260 87	\$22,505 71
<i>b. Intrastate Roads.</i>		
Ahnapee & Western.....	\$394 00	
Ashland, Odanah & Marengo.....		
Bayfield Transfer.....		
Pig Falls Ry. Co.....		
Chippewa Valley & Northern.....		
Green Bay & Western.....	860 15	
Hazelhurst & Southeastern.....		
Iola & Northern.....	52 00	
Kewaunee, Green Bay & Western.....	201 00	
La Crosse & Southeastern.....	16 00	
Lake Superior Terminal & Transfer.....		
Marquette, Tomahawk & Western.....		
Mattoon Ry. Co.....		\$24 95
Mineral Point & Northern.....	1,111 00	239 79
Northwestern Coal Ry. Co.....		
Stanley, Merrill & Phillips.....	51 00	123 35
Tomahawk & Eastern.....		
Wisconsin & Northern.....	273 25	978 18
Wisconsin Northwestern.....		
Total.....	\$2,958 40	\$1,366 27
B. ENTIRE SYSTEM.		
<i>Interstate Roads.</i>		
Chicago & North Western.....	\$255,345 87	
Chicago, Burlington & Quincy.....	250,408 52	\$205,186 98
Chicago, Milwaukee & St. Paul.....	235,700 52	47,670 09
Chicago, St. Paul, Minneapolis & Omaha.....	37,262 65	
Chicago, Harvard & Geneva Lake.....		2 40
Duluth, South Shore & Atlantic.....	3,785 60	620 72
Elgin, Joliet & Eastern.....	72,114 00	97 36
Great Northern.....	100,245 59	19,903 28
Illinois Central.....	166,419 93	
Minneapolis, St. Paul & Sault Ste. Marie.....	72,169 21	75,902 87
Northern Pacific.....	140,064 06	122,843 35
Wisconsin & Michigan.....	259 50	
Total.....	\$1,333,775 45	\$472,227 05

REVENUES, 1912—Concluded.

OTHER THAN TRANSPORTATION. Concl.			Joint facilities revenue—Dr.	Joint facilities revenue—Cr.	Total operating revenues.
Rents from buildings and other property.	Miscellaneous	Total revenues from operations other than transportation.			
\$25,275 64	\$38,791 30	\$175,665 87	\$10 50		\$21,830,740 01
3,267 57	2,593 78	9,616 28			4,352,534 69
47,315 04	4,931 18	160,888 74		\$126 84	18,687,611 56
7,716 14	3,895 61	28,847 88	4,859 85	10,282 73	7,166,864 85
		19 95			13,089 38
328 50	46 88	714 04		1,278 05	375,253 02
		4,465 00			58,785 48
764 43	2,293 45	7,355 82		23,033 90	1,931,247 00
		756 25			161,518 21
6,735 06	1,807 47	53,317 92		176 24	10,168,712 95
1,504 09	428 27	6,563 74	5,593 60	27,673 76	526,512 39
85 40	169 05	276 64			97,974 24
\$92,991 87	\$54,956 99	\$448,488 13	\$10,463 95	\$62,571 52	\$65,370,843 78
\$826 00		\$1,220 00			\$97,856 69
					81,742 62
					37,829 38
					8,390 77
					17,710 83
821 64	\$4,028 98	6,051 61			725,276 70
15 00		67 00			41,747 65
48 00	162 95	411 95			9,375 78
151 00	21 10	218 61			182,682 86
					74,993 96
				\$55,130 07	196,445 39
					40,569 24
					21,075 58
55 00	35 00	1,440 79			88,604 38
					29,125 00
	320 00	519 35			86,323 23
					12,285 32
8,824 26		10,075 69			86,293 83
	144 25	144 25			31,355 79
\$10,740 90	\$4,712 28	\$20,174 20		\$55,130 07	\$1,869,685 00
\$159,047 69	\$129,415 92	\$656,911 57	\$1,728 67	\$21,044 78	\$73,698,591 58
106,480 03	152,636 16	788,588 94	7,412 23	139,514 42	86,723,067 97
106,230 63	34,467 72	495,351 18	4,350 24	127,537 62	63,122,743 84
10,749 61	6,898 49	73,375 58	17,031 60	39,473 06	15,135,426 08
		39 90			26,178 77
8,967 05	4,618 26	18,727 63	24 00	7,918 18	3,152,475 03
4,059 79	66,889 44	142,952 21			10,720,751 78
11,452 70	43,931 14	259,072 19	30,070 71	49,532 50	66,160,622 52
46,611 69	64,296 52	448,953 60	27,349 65	20,501 68	58,727,272 17
53,012 27	4,351 40	230,930 55		16,178 05	26,263,996 80
188,934 94	223,852 30	730,659 85	8,107 27	206,255 74	63,423,946 62
235 40	410 91	912 48			145,782 59
\$695,781 80	\$731,268 26	\$3,846,475 68	\$96,074 37	\$627,956 03	\$467,800,854 75

OPERATING EXPENSES—INTERSTATE
MAINTENANCE OF WAY

Italic figures denote credits.

NAME OF ROAD.	Superin- tendence.	Ballast.	Ties.
A. WISCONSIN.			
Chicago & North Western.....	\$125,435 79	\$73,302 67	\$294,856 48
Chicago, Burlington & Quincy.....	22,856 03	8,385 78	46,256 53
Chicago, Milwaukee & St. Paul.....	67,888 90	36,437 27	465,105 57
Chicago, St. P. Mpls. & Omaha.....	42,708 32	14,630 61	85,668 37
Chicago, Harvard & Geneva Lake.....	239 50	130 61	633 43
Duluth, South Shore & Atlantic.....	4,079 00	15,113 86	13,542 53
Elgin, Joliet & Eastern.....			4,663 12
Great Northern.....	8,974 49	14 40	26,155 86
Illinois Central.....	2,459 63	2,105 61	7,394 85
Minneapolis, St. P. & Sault Ste. Marie.....	37,631 15	22,671 66	157,791 81
Northern Pacific.....	9,374 82	456 10	30,696 84
Wisconsin & Michigan.....	852 54		
Total.....	\$322,500 17	\$173,248 57	\$1,132,765 39
B. ENTIRE SYSTEM.			
Chicago & North Western.....	\$463,546 88	\$270,889 41	\$1,089,629 61
Chicago, Burlington & Quincy.....	744,834 33	353,327 61	1,956,640 41
Chicago, Milwaukee & St. Paul.....	301,326 49	97,709 94	1,669,001 99
Chicago, St. P., Minneapolis & Omaha.....	85,365 42	29,243 68	171,234 00
Chicago, Harvard Geneva & Lake.....	479 00	261 22	1,266 87
Duluth, South Shore & Atlantic.....	17,895 83	21,073 43	67,519 45
Elgin, Joliet & Eastern.....	41,578 22	3,856 81	142,870 68
Great Northern.....	526,736 25	122,703 07	1,038,494 87
Illinois Central.....	407,342 38	232,567 32	1,034,521 81
Minneapolis, St. P., & Sault Ste. Marie.....	87,417 52	40,479 85	369,610 15
Northern Pacific.....	469,185 08	150,745 96	1,350,886 82
Wisconsin & Michigan.....	1,268 29		
Total.....	\$3,146,975 69	\$1,322,858 30	\$8,891,686 66

ROADS—YEAR ENDING JUNE 30, 1912.
AND STRUCTURES.

Rails.	Other track material.	Roadway and track.	Removal of snow, sand and ice.	Tunnels.	Bridges, trestles and culverts.	Over and under grade crossings.
\$92,633 09	\$89,877 93	\$954,942 55	\$119,807 44	\$575 16	\$265,920 31	\$7,133 94
16,214 47	7,335 38	210,305 42	6,980 00	.....	79,345 74	56 39
143,857 89	106,393 14	807,692 42	97,066 17	359 75	136,824 00	4,075 70
54,450 32	48,468 95	329,582 26	31,540 12	496 24	64,598 00	971 85
57 89	62 46	784 51	163 65	.....	119 88	.....
5,656 36	6,771 97	64,825 49	2,357 16	.....	3,435 25	2 61
219 18	571 80	4,043 93	530 03	.....	1,286 56	.....
20,808 69	28,945 81	73,034 71	4,065 90	.....	5,488 34	375 79
20 55	657 84	22,524 11	1,865 31	518 17	17,413 61	37 74
7,018 24	48,098 30	512,280 05	22,766 27	.....	145,242 23	154 12
83 25	1,692 63	51,420 23	3,544 71	.....	20,849 38	50 32
.....	.....	13,267 03	.....	.....	5,033 62	.....
\$340,853 43	\$338,876 21	\$3,044,702 71	\$290,686 76	\$1,949 32	\$745,556 92	\$12,752 60
\$342,324 79	\$332,143 11	\$3,528,982 09	\$442,747 39	\$2,125 50	\$982,706 24	\$26,363 42
846,426 32	555,921 29	5,085,900 08	242,938 76	34,976 30	1,207,950 93	63,358 39
479,525 30	395,857 09	3,111,464 82	314,040 41	359 75	749,567 68	25,005 97
108,835 33	96,879 78	658,769 25	63,042 41	991 88	129,118 54	1,912 54
115 78	124 91	1,569 03	327 29	.....	239 76	.....
20,613 59	30,647 84	285,615 62	31,455 80	.....	14,815 90	37 05
33,747 61	109,499 58	291,074 29	48,579 43	.....	27,063 74	537 00
287,018 34	404,529 22	4,400,871 65	256,897 70	79,560 36	744,239 36	91,036 19
251,257 90	381,843 22	3,073,831 35	146,303 39	3,604 77	670,103 36	23,283 04
22,925 54	113,939 07	1,226,147 77	68,656 96	1,629 23	255,696 94	266 91
165,797 37	177,414 06	3,830,877 90	131,571 55	7,971 70	602,559 76	4,343 09
.....	.....	19,736 73	.....	.....	7,503 16	.....
\$2,558,587 90	\$2,598,799 17	\$25,516,840 58	\$1,746,561 09	\$131,219 49	\$5,391,565 37	\$236,173 60

OPERATING EXPENSES, INTERSTATE
MAINTENANCE OF WAY

NAME OF ROAD.	Grade crossings, fences, cattle guards and signs.	Snow and sand fences and snow sheds.	Signal and interlocking plants.
A. WISCONSIN.			
Chicago & North Western.....	\$52,604 68	\$2,210 01	\$85,200 50
Chicago, Burlington & Quincy.....	9,875 14	147 94	5,558 90
Chicago, Milwaukee & St. Paul.....	62,081 31	1,724 63	33,831 16
Chicago, St. Paul, Minneapolis & Omaha.....	21,673 73	488 50	4,625 34
Chicago, Harvard & Geneva Lake.....	46 02		
Duluth, South Shore & Atlantic.....	1,028 66	140 28	19 76
Elgin, Joliet & Eastern.....	31 01		
Great Northern.....	505 23	55 64	4,405 83
Illinois Central.....	2,194 74	228 89	134 67
Minneapolis, St. Paul & Sault Ste. Marie.....	18,181 93	157 53	7,342 28
Northern Pacific.....	1,159 20	182 98	456 81
Wisconsin & Michigan.....			
Total.....	\$169,381 65	\$5,336 40	\$141,575 25
B. ENTIRE SYSTEM.			
Chicago, & North Western.....	\$194,400 16	\$8,167 07	\$314,857 72
Chicago, Burlington & Quincy.....	322,524 93	6,353 11	143,155 61
Chicago, Milwaukee & St. Paul.....	195,570 02	14,601 08	126,645 90
Chicago, St. Paul, Minneapolis & Omaha.....	43,321 46	976 42	9,245 13
Chicago, Harvard & Geneva Lake.....	92 05		
Duluth, South Shore & Atlantic.....	7,366 04	766 72	259 26
Elgin, Joliet & Eastern.....	20,494 74	47 43	26,784 88
Great Northern.....	56,562 71	47,057 05	56,828 87
Illinois Central.....	165,006 34	3,386 96	215,533 49
Minneapolis, St. Paul & Sault Ste. Marie.....	36,412 31	4,708 47	11,241 98
Northern Pacific.....	121,932 34	21,062 07	72,141 33
Wisconsin & Michigan.....			
Total.....	\$1,163,683 10	\$107,126 38	\$976,694 17

¹ \$409.91 electric power transmission.

² \$819.81 electric power transmission.

ROADS. 1912--Continued.
AND STRUCTURES--Continued.

Telegraph and telephone lines.	Buildings, fixtures and grounds.	Docks and wharves.	Roadway, tools and supplies.	Injuries to persons.	Stationery and printing.	Other expenses.
\$15,836 16	\$264,383 99	\$35,312 68	\$25,134 68	\$15,286 03	\$6,082 11	\$337 55
9,711 92	26,388 32		6,917 02	5,318 95	674 49	57 50
15,466 41	211,191 52	5,463 15	30,576 19	17,107 02	2,676 56	32 10
9,899 61	85,322 69	7,329 94	8,204 78	5,866 39	2,008 10	5 70
3 87	42 87					1423 81
227 07	2,235 81		1,085 02	287 00	86 26	26 28
	417 03		2 42		19 82	8 11
4,678 20	21,273 15	570 94	5,552 20	1,439 20	252 06	88 03
174 92	6,634 91		846 66	762 52	136 72	19 09
14,977 21	74,129 55	38,515 85	17,094 34	16,036 55	722 82	7,529 40
1,354 73	5,857 19		904 05	391 90	238 85	162 88
	2,608 97					504 52
\$72,330 10	\$699,886 00	\$87,192 56	\$96,317 36	\$62,495 56	\$12,948 79	\$8,869 21
\$58,522 39	\$977,028 80	\$130,497 71	\$92,885 00	\$56,489 39	\$22,480 10	\$1,247 42
181,916 11	1,377,702 24	18,505 16	149,429 37	73,910 69	23,220 76	11,165 79
64,250 50	740,432 32	54,027 34	138,747 63	75,117 97	9,518 24	202 40
19,787 33	170,543 05	14,651 09	16,399 73	11,725 75	4,013 79	11 40
7 73	85 75					2847 61
2,586 40	23,463 00	44,036 56	5,887 25	714 65	468 03	142 61
9,582 79	66,356 29	4,226 07	15,237 27	10,282 16	1,759 93	690 57
138,359 26	580,241 20	47,795 68	109,699 62	78,158 92	14,166 78	10,960 55
81,247 64	883,587 37	28,977 12	125,301 78	28,394 76	24,986 04	9,460 31
46,509 33	212,864 81	52,575 55	40,596 54	35,239 24	1,977 82	15,653 60
115,854 81	579,988 51	19,021 14	79,804 15	116,945 06	14,483 48	4,383 97
	2,980 75					750 55
\$718,624 29	\$5,615,274 09	\$414,313 42	\$773,988 34	\$486,978 59	117,074 97	\$46,748 84

³ \$7,140.84 electric power transmission.

Italic figures denote credits.

OPERATING EXPENSES—INTERSTATE

NAME OF ROAD.	MAINTENANCE OF WAY AND STRUCTURES— Concluded.		
	Maintaining joint tracks, yards and other facilities—Dr.	Maintaining joint tracks, yards and other facilities—Cr.	Total maintenance of way and structures.
A. WISCONSIN:			
Chicago & North Western.....	\$35,246 86	\$26,945 66	\$2,535,175 95
Chicago, Burlington & Quincy.....	1,106 18	627 50	462,864 60
Chicago, Milwaukee & St. Paul.....	11,422 87	33,159 39	2,224,114 34
Chicago, St. Paul, Minneapolis & Omaha..	50,202 25	25,962 55	842,779 52
Chicago, Harvard & Geneva Lake.....			2,708 50
Duluth, South Shore & Atlantic.....	800 65		121,715 80
Elgin, Joliet & Eastern.....			11,793 01
Great Northern.....	14,522 68	157 73	221,049 42
Illinois Central.....		1 03	66,129 51
Minneapolis, St. Paul & Sault Ste. Marie..	30,273 19	3,383 47	1,175,231 01
Northern Pacific.....	12,422 95	7,568 07	133,188 85
Wisconsin & Michigan.....	1,758 76	878 05	22,547 39
Total.....	\$157,756 39	\$98,683 45	\$7,819,297 90
B. ENTIRE SYSTEM.			
Chicago & North Western.....	\$130,254 46	\$99,577 47	\$9,368,721 19
Chicago, Burlington & Quincy.....	365,528 56	224,656 36	13,541,030 39
Chicago, Milwaukee & St. Paul.....	350,902 62	101,661 23	8,812,314 23
Chicago, St. Paul, Minneapolis & Omaha..	100,344 30	51,893 97	1,684,548 31
Chicago, Harvard & Geneva Lake.....			5,417 00
Duluth, South Shore & Atlantic.....	11,612 36	11,211 28	575,766 11
Elgin, Joliet & Eastern.....	153,091 71	13,954 76	993,406 47
Great Northern.....	189,122 10	85,573 79	9,195,465 96
Illinois Central.....	216,026 33	317,352 13	7,691,214 55
Minneapolis, St. Paul & Sault Ste. Marie..	101,531 16	9,564 97	2,736,515 78
Northern Pacific.....	209,787 93	376,499 57	7,861,490 57
Wisconsin & Michigan.....	2,616 43	1,306 24	33,549 67
Total.....	\$1,830,817 96	\$1,293,151 77	\$62,499,440 23

¹ Entered in total only.

ROADS.—1912.—Continued.

MAINTENANCE OF EQUIPMENT.

Superintendence.	Steam locomotives repairs.	Steam locomotives, renewals.	Steam locomotives depreciation.	Electric locomotives repairs, renewals and depreciations.	Passenger-train cars—repairs.	Passenger-train cars—renewals.
\$84,106 73	\$1,045,685 36	\$2,571 82	\$79,598 86	.....	\$207,306 35	\$1,517 50
14,519 84	111,359 17	7,731 46	49,942 74	.....	42,147 80	251 60
52,312 36	1,149,699 62	.....	60,126 38	.....	200,473 04	245 82
29,248 55	361,154 81	83 54	30,922 34	.....	95,587 13	20 92
130 00	.....	.....	.....	\$658 77	145 55	.....
1,978 43	14,858 07	9 20	2,966 07	.....	4,985 28	.....
362 07	1,882 88	.....	1,630 56	.....	.....	.....
5,247 00	81,618 24	162 90	25,565 54	.....	3,795 06	1 37
1,190 37	13,690 71	170 86	1,673 02	.....	3,198 51	2 15
29,158 84	456,058 10	189 21	49,779 64	.....	110,491 77	1,157 54
2,926 75	33,700 89	210 66	4,648 92	.....	4,859 35	2 56
.....	4,993 74	.....	653 63	.....	1,205 59	.....
<u>\$221,180 94</u>	<u>\$3,274,701 59</u>	<u>\$10,382 53</u>	<u>\$307,507 70</u>	<u>\$658 77</u>	<u>\$674,195 43</u>	<u>\$3,149 76</u>
\$310,815 69	\$3,864,321 37	\$9,504 14	\$294,156 89	.....	\$766,098 86	\$5,607 91
329,259 36	3,544,834 26	156,706 46	1,337,667 05	.....	704,088 47	35,802 91
191,159 96	3,977,794 39	.....	217,126 62	.....	687,335 15	853 29
58,462 03	721,876 49	166,97	61,807 59	.....	191,059 63	41 83
260 00	.....	.....	.....	\$1,317 55	291 10	.....
11,389 93	95,287 24	55 05	18,518 76	.....	33,080 84	.....
31,517 49	394,953 41	949 30	87,098 97	.....	1,930 62	.....
186,429 71	2,540,789 17	5,254 99	789,029 81	22,653 88	557,109 50	11,349 09
314,094 83	4,341,754 62	32,568 65	329,042 25	.....	897,306 52	588 61
65,755 72	1,093,657 60	230 18	129,452 84	.....	288,933 12	8,734 91
207,958 08	2,684,056 91	14,937 80	387,070 55	.....	542,655 68	18,756 87
.....	7,428 89	.....	972 36	.....	1,793 48	.....
<u>\$1,707,102 80</u>	<u>\$23,266,754 35</u>	<u>\$179,987 96</u>	<u>\$3,651,943 69</u>	<u>\$23,971 43</u>	<u>\$4,671,682 97</u>	<u>\$81,651 76</u>

OPERATING EXPENSES,
MAINTENANCE OF*Italic figures denote credits.*

NAME OF ROAD.	Passenger- train cars— depreci- ation.	Freight- train cars— repairs.	Freight- train cars— renewals.
A. WISCONSIN.			
Chicago & North Western.....	\$36,780 76	\$810,433 68	\$35,350 77
Chicago, Burlington & Quincy.....	31,492 96	195,840 82	58,941 11
Chicago, Milwaukee & St. Paul.....	25,999 58	938,785 21	25,184 67
Chicago, St. Paul, Minneapolis & Omaha....	11,338 03	270,101 27	5,764 05
Chicago, Harvard & Geneva Lake.....	127 08	124 10	.....
Duluth, South Shore & Atlantic.....	1,032 07	18,274 29	7 92
Elgin, Joliet & Eastern.....	.....	4,892 22	.....
Great Northern.....	1,187 60	80,122 78	2,942 77
Illinois Central.....	394 51	9,187 52	243 74
Minneapolis, St. Paul & Sault Ste. Marie....	9,900 63	587,857 42	24,150 37
Northern Pacific.....	986 64	18,201 59	696 27
Wisconsin & Michigan.....	344 68	5,563 17	.....
Total.....	\$119,584 54	\$2,939,384 07	\$151,873 29
B. ENTIRE SYSTEM.			
Chicago & North Western.....	\$135,923 00	\$2,994,950 79	\$130,638 47
Chicago, Burlington & Quincy.....	504,388 38	2,848,250 83	1,083,588 40
Chicago, Milwaukee & St. Paul.....	92,908 23	3,541,965 81	94,746 81
Chicago, St. Paul, Minneapolis & Omaha....	22,662 46	539,878 67	11,521 16
Chicago, Harvard & Geneva Lake.....	254 16	248 20	.....
Duluth, South Shore & Atlantic.....	6,848 49	117,067 85	50 75
Elgin, Joliet & Eastern.....	936 72	855,750 31	11,797 47
Great Northern.....	173,758 84	2,124,562 60	16,516 94
Illinois Central.....	97,029 15	4,891,134 54	129,313 79
Minneapolis, St. Paul & Sault Ste. Marie....	31,531 62	1,216,568 78	57,625 51
Northern Pacific.....	110,149 88	2,369,660 54	58,270 54
Wisconsin & Michigan.....	512 76	8,276 00	.....
Total.....	\$1,176,903 69	\$21,508,314 92	\$1,593,968 34

¹Power plant equipment.

INTERSTATE ROADS, 1912—Continued.
EQUIPMENT—Continued.

Freight-train cars—depreciation.	Electric equipment of cars—repairs, etc.	Floating equipment—repairs, etc.	Work equipment—repairs and renewals.	Work equipment—depreciation.	Shop machinery and tools.	Injuries to persons.
\$172,926 68			\$22,576 06	\$4,335 63	\$65,477 42	\$18,618 43
188,056 10			10,846 90	5,905 98	11,901 08	537 00
112,157 98			41,746 29	3,136 90	43,387 69	27,912 97
56,510 14			11,176 35	1,776 59	15,649 20	5,821 20
10 26	\$206 06	\$148 67		30 00	5 89	
8,688 46			1,594 36	414 05	1,700 09	58
2,043 00						
39,585 43			3,809 59	946 83	1,302 67	904 64
2,168 48			887 23	91 65	531 51	95 04
120,448 44			22,237 63	6,515 75	23,698 12	5,185 74
4,172 15			588 55	500 96	1,218 87	485 55
2,571 65			81 00		651 23	
\$709,338 77	\$206 06	\$148 67	\$115,543 96	\$23,654 34	\$165,523 77	\$54,561 15
\$639,049 07			\$83,429 66	\$16,022 27	\$241,971 21	\$50,326 80
2,664,177 15		\$819 26	406,308 83	240,865 01	360,246 25	26,573 20
431,694 39			160,780 79	11,707 28	159,894 84	61,644 52
112,952 50			22,339 29	3,551 06	31,279 64	11,635 41
20 52	\$412 12	\$297 33		60 00	11 77	
55,659 55			8,650 86	2,246 59	9,524 34	348 94
417,320 80			5,603 81	2,493 66	17,709 15	6,548 22
1,049,977 75		\$3,984 55	168,016 29	49,157 96	109,196 88	36,840 28
1,129,326 64		82,021 82	113,884 51	15,325 33	293,147 64	41,963 71
294,779 58			47,928 16	10,092 98	75,395 26	11,262 41
516,024 60		11,267 71	124,188 08	21,279 16	100,356 18	39,179 73
3,825 69			120 50		974 12	
\$7,314,808 24	\$412 12	\$98,390 67	\$1,141,250 78	\$372,801 30	\$1,399,707 28	\$286,323 22

²Includes \$998.60 power plant equipment.

OPERATING EXPENSES.—INTER

Italic figures denote credits.

NAME OF ROAD.	MAINTENANCE OF		
	Stationery and printing.	Other expenses.	Maintaining joint equipment at terminals —Dr.
A. WISCONSIN.			
Chicago & North Western.....	\$5,671 69	\$727 24	\$1,537 09
Chicago, Burlington & Quincy.....	715 14	32 03	.....
Chicago, Milwaukee & St. Paul.....	3,866 98	49 73	186 96
Chicago, St. Paul, Minneapolis & Omaha.....	4,525 03	13 50	5,130 72
Chicago, Harvard & Geneva Lake.....	.....	.....	.....
Duluth, South Shore & Atlantic.....	161 53	1 07	625 79
Elgin, Joliet & Eastern.....	40 27	29 13	.....
Great Northern.....	133 33	155 80	12,561 84
Illinois Central.....	137 85	5,410 27	.....
Minneapolis, St. Paul & Sault Ste. Marie.....	3,126 82	280 13	948 10
Northern Pacific.....	121 54	10 65	13,355 38
Wisconsin & Michigan.....	65 46	402 41	.....
Total.....	\$15,565 64	\$7,111 96	\$34,345 88
B. ENTIRE SYSTEM.			
Chicago & North Western.....	\$20,959 70	\$2,687 50	\$5,680 29
Chicago, Burlington & Quincy.....	14,839 63	802 69	37,289 80
Chicago, Milwaukee & St. Paul.....	14,018 30	224 54	40,939 70
Chicago, St. Paul, Minneapolis & Omaha.....	3,048 22	26 99	10,255 29
Chicago, Harvard & Geneva Lake.....	.....	.....	.....
Duluth, South Shore & Atlantic.....	904 91	6 00	625 79
Elgin, Joliet & Eastern.....	3,507 59	2,427 67	19 82
Great Northern.....	8,692 11	9,980 78	23,278 01
Illinois Central.....	25,837 81	1,133,335 06	6,457 07
Minneapolis, St. Paul & Sault Ste. Marie.....	7,405 21	707 02	9,626 47
Northern Pacific.....	7,158 23	937 77	35,884 70
Wisconsin & Michigan.....	97 38	598 64	.....
Total.....	\$106,469 09	\$1,151,734 66	\$170,056 94

¹ Entered in total only.

STATE ROADS.—1912.—Continued.

EQUIPMENT—Concluded.		TRAFFIC EXPENSE.				
Maintain- ing joint equipment at terminals —Cr.	Total mainte- nance of equipment.	Superin- tendence.	Outside agencies.	Advertis- ing.	Traffic as- sociations.	Fast freight lines.
\$619 80	\$2,589,602 27	\$77,519 61	\$146,153 91	\$89,714 38	\$5,553 19	.....
.....	730,221 73	18,544 85	34,411 90	11,423 86	2,402 44	.....
.....	2,685,272 18	75,897 78	179,317 89	54,508 25	6,899 09	.....
2,895 40	898,886 13	40,952 39	77,648 89	20,145 05	1,789 87	.....
.....	1,586 38	112 50	.....	1 50	.....	.....
.....	57,281 42	6,561 03	10,855 09	843 86	55 04	\$89 16
.....	10,880 13	278 29	147 23	2 94	25 54	.....
.....	259,714 85	3,029 70	8,316 34	1,894 18	293 08	.....
.....	39,073 42	2,105 23	3,626 79	664 55	158 95	1 64
.....	1,451,184 25	49,773 88	155,491 33	28,869 56	3,056 61	789 47
2,642 36	82,225 94	2,566 00	6,387 56	2,875 56	159 13	.....
.....	16,532 56	1,549 07	594 56	98 78	.....	.....
\$6,157 56	\$8,822,461 26	\$278,890 33	\$622,951 49	\$211,042 47	\$20,392 94	\$880 27
\$2,290 47	\$9,569,853 15	\$286,473 06	\$540,110 52	\$331,538 71	\$20,521 76	.....
2,475 25	14,294,042 69	372,407 85	698,193 04	238,861 39	46,044 74	.....
3,523 28	9,681,271 34	275,664 62	647,866 05	197,657 42	25,047 77	.....
5,787 32	1,796,694 25	81,855 65	153,204 66	40,265 94	3,577 59	.....
.....	3,172 75	225 00	.....	3 00	.....	.....
.....	360,164 39	36,536 62	61,959 09	4,905 68	298 94	\$483 00
.....	1,840,565 01	24,278 01	12,806 67	261 50	2,207 17	.....
25,751 36	7,850,317 80	177,985 94	465,030 09	236,466 72	12,731 78	.....
16,583 89	13,857,548 66	365,068 97	615,242 43	164,933 44	28,560 74	304 74
381 50	3,349,305 87	111,825 46	295,651 79	71,253 61	6,425 17	6,703 42
12,200 92	7,207,716 49	209,070 21	534,537 17	261,460 19	12,347 77	.....
.....	24,599 82	2,304 46	884 50	146 95	.....	.....
\$68,993 99	\$69,835,242 22	\$1,943,695 85	\$4,027,486 01	\$1,547,754 55	\$157,763 48	\$7,491 16

OPERATING EXPENSES, INTERSTATE

NAME OF ROAD.	TRAFFIC EXPENSES—Con		
	Industrial and immigration bureaus.	Stationery and printing.	Other expenses.
A. WISCONSIN.			
Chicago & North Western.....	\$781 64	\$42,901 59	.....
Chicago, Burlington & Quincy.....	37 12	7,786 92	\$365 40
Chicago, Milwaukee & St. Paul.....	7,989 18	24,211 02	587 01
Chicago, St. Paul, Minneapolis & Omaha.....	.....	19,973 30	31 39
Chicago, Harvard & Geneva Lake.....	.....	.....	132 51
Duluth, South Shore & Atlantic.....	960 81	2,204 63	.....
Elgin, Joliet & Eastern.....	.....	142 10	25
Great Northern.....	1,571 29	1,614 41	20 08
Illinois Central.....	240 94	1,048 74	16 42
Minneapolis, St. P. & Sault Ste. Marie.....	9,180 29	19,133 02	34 42
Northern Pacific.....	1,078 59	1,129 57	57 41
Wisconsin & Michigan.....	.....	592 00	.....
Total.....	\$21,839 86	\$120,740 30	\$1,244 89
B. ENTIRE SYSTEM.			
Chicago & North Western.....	\$2,888 55	\$158,553 56	.....
Chicago, Burlington & Quincy.....	12,008 77	154,298 12	\$6,300 72
Chicago, Milwaukee & St. Paul.....	29,060 09	88,706 39	2,133 84
Chicago, St. Paul, Minneapolis & Omaha.....	.....	39,922 65	62 75
Chicago, Harvard & Geneva Lake.....	.....	.....	265 02
Duluth, South Shore & Atlantic.....	5,390 21	12,190 08	.....
Elgin, Joliet & Eastern.....	.....	12,504 57	20 00
Great Northern.....	106,831 75	89,130 03	1,534 17
Illinois Central.....	37,359 61	186,882 78	2,609 13
Minneapolis, St. P. & Sault Ste. Marie.....	25,438 18	46,185 15	94 00
Northern Pacific.....	89,179 93	90,840 55	4,856 83
Wisconsin & Michigan.....	.....	881 59	.....
Total.....	\$308,157 09	\$880,075 47	\$17,876 46

ROADS, 1912—Continued.

cluded.	TRANSPORTATION EXPENSES.					
	Total traffic expenses.	Superintendence.	Dispatching trains.	Station employes.	Weighing and car-service associations.	Coal and ore docks.	Station supplies and expenses.
\$362,627 32	\$114,339 24	\$67,395 97	\$1,119,673 26	\$21,846 28	\$32,469 85	\$116,056 99
74,972 49	31,114 11	30,169 39	84,738 04	1,181 03	.....	4,544 51
349,410 22	48,668 85	89,757 67	932,796 60	26,324 58	1,204 39	63,115 67
160,540 89	40,542 18	35,096 02	393,571 33	16,495 10	.....	29,027 51
246 51	187 50	90 00	66 00	76 40	.....	.....
21,569 62	3,348 23	2,662 92	14,838 80	301 24	.....	1,026 77
596 35	1,696 91	.....	2,910 90	.....	.....	4 95
16,739 08	7,653 76	2,726 69	108,788 54	2,457 04	.....	5,867 96
7,863 26	2,741 10	973 29	19,536 36	51 71	.....	1,653 73
266,328 58	77,268 62	58,225 95	363,992 08	11,448 83	26,420 65	34,966 67
14,253 82	5,545 67	2,662 87	31,452 40	2,121 15	.....	2,099 62
2,834 41	851 22	638 59	4,565 58	87 31	.....	568 39
\$1,277,982 55	\$333,957 39	\$290,399 36	\$3,076,929 89	\$82,390 67	\$60,094 89	\$258,932 77
\$1,340,086 16	\$422,539 70	\$249,061 25	\$4,137,743 00	\$80,732 76	\$119,992 04	\$428,887 63
1,528,114 63	676,558 05	520,692 20	3,984,442 24	84,727 30	.....	255,153 37
1,266,136 18	191,071 70	344,708 13	3,593,989 44	87,504 89	33,226 26	230,368 13
320,889 24	81,035 74	70,149 95	786,670 65	32,970 42	.....	58,020 21
493 02	375 00	180 00	132 00	152 79	.....	.....
121,763 62	18,757 60	16,404 40	150,350 89	1,631 87	41,669 47	10,402 90
52,077 92	69,571 36	17,032 72	248,739 03	30,580 94	.....	14,271 56
1,089,710 48	438,415 05	210,396 04	2,030,628 49	55,834 29	.....	169,324 48
1,400,941 84	519,780 30	242,498 42	3,891,338 60	65,965 69	.....	324,051 68
563,576 78	162,737 16	110,312 46	1,101,411 26	23,731 54	26,420 65	94,410 59
1,202,292 65	433,685 28	496,655 53	2,636,411 34	74,102 86	.....	187,474 61
4,217 50	1,266 31	950 00	6,791 95	129 89	.....	845 57
\$8,890,300 02	\$3,015,793 25	\$2,279,041 10	\$22,568,648 89	\$538,075 24	\$221,308 42	\$1,773,211 03

OPERATING EXPENSES, INTER
TRANSPORTATIO

NAME OF ROAD.	Yard- masters and their clerks.	Yard conductors and brakemen.	Yard, switch and signal tenders.
A. WISCONSIN.			
Chicago & North Western.....	\$102,642 12	\$404,010 68	\$23,791 46
Chicago, Burlington & Quincy.....	7,177 19	26,047 73	630 90
Chicago, Milwaukee & St. Paul.....	63,655 35	497,516 60	54,237 34
Chicago, St. Paul, Minneapolis & Omaha.....	25,618 35	161,439 54	2,881 25
Chicago, Harvard & Geneva Lake.....			
Duluth, South Shore & Atlantic.....			
Elgin, Joliet & Eastern.....	1,560 00	10,861 45	
Great Northern.....	33,032 84	108,679 37	6,873 08
Illinois Central.....			
Minneapolis, St. Paul & Sault Ste. Marie.....	28,272 63	117,533 44	3,139 97
Northern Pacific.....	7,460 53	17,482 17	1,720 46
Wisconsin & Michigan.....			
Total.....	\$269,419 01	\$1,343,620 98	\$93,274 46
B. ENTIRE SYSTEM.			
Chicago & North Western.....	\$379,313 06	\$1,493,018 03	\$87,921 15
Chicago, Burlington & Quincy.....	452,505 78	1,515,961 50	105,684 59
Chicago, Milwaukee & St. Paul.....	221,538 10	1,651,306 77	120,148 60
Chicago, St. Paul, Minneapolis & Omaha.....	51,205 97	322,685 46	5,759 05
Chicago, Harvard & Geneva Lake.....			
Duluth, South Shore & Atlantic.....	4,734 15	49,218 70	4,671 15
Elgin, Joliet & Eastern.....	94,018 25	520,629 58	6,743 95
Great Northern.....	229,341 71	638,798 00	43,966 81
Illinois Central.....	481,222 91	1,228,877 92	76,656 80
Minneapolis, St. Paul & Sault Ste. Marie.....	72,801 64	359,289 12	13,214 52
Northern Pacific.....	268,710 93	820,073 05	84,563 10
Wisconsin & Michigan.....			
Total.....	\$2,255,392 50	\$8,599,858 13	\$549,329 72

STATE ROADS 1912—Continued.

EXPENSES—Continued.

Yard supplies and expenses.	Yard enginemen.	Engine-house expenses—yard.	Fuel for yard locomotives.	Water for yard locomotives.	Lubricants for yard locomotives.	Other supplies for yard locomotives.
\$7,080 17	\$253,490 62	\$92,294 30	\$325,859 27	\$17,410 82	\$5,416 31	\$4,098 75
175 02	15,313 02	6,032 78	13,278 68	717 68	145 59	322 96
3,486 38	332,637 41	72,304 46	251,591 43	17,814 80	6,504 72	5,795 42
1,399 96	92,451 87	32,600 30	134,001 13	4,603 75	2,239 75	1,573 01
.....
2 10	8,804 70	1,383 47	4,335 77	116 64	172 18	62 46
1,309 65	66,647 22	19,455 32	89,183 11	1,330 66	1,420 72	1,704 85
.....
858 56	78,238 93	28,798 49	117,610 08	2,930 63	1,830 47	2,493 60
126 19	10,437 46	2,114 61	16,358 66	714 34	93 24	151 86
.....
\$14,437 13	\$858,021 23	\$254,983 73	\$952,218 13	45,639 32	\$17,822 98	\$16,202 91
.....
\$26,164 71	\$936,772 44	\$341,072 79	\$1,204,210 16	\$64,341 54	\$20,015 92	\$15,146 90
23,626 93	897,023 36	289,641 17	861,150 06	78,380 06	11,058 66	16,809 14
13,467 91	1,010,299 61	253,217 13	758,157 05	51,459 94	22,259 40	20,643 15
2,796 44	184,792 87	65,161 51	267,841 55	9,201 97	4,476 82	3,144 14
.....
1,034 65	32,270 85	13,664 42	28,685 42	1,264 39	314 71	618 41
10,949 36	339,927 49	71,215 60	254,153 96	10,323 84	5,293 56	7,058 76
7,204 78	415,127 76	130,745 35	611,316 74	19,068 49	9,995 57	9,270 44
17,520 50	734,208 70	346,212 22	552,425 05	40,237 26	16,719 91	19,716 03
2,442 66	232,543 78	76,145 86	277,434 74	11,430 54	4,528 14	5,820 70
.....
8,265 32	489,985 81	184,454 59	813,689 31	29,503 10	6,443 87	6,819 95
.....
\$113,464 26	\$5,272,952 67	\$1,771,530 64	\$5,629,058 04	\$315,211 13	\$101,106 56	\$105,047 62

OPERATING EXPENSES—INTER

Italic figures denote credits.

TRANSPORTATION

NAME OF ROAD.	Operating joint yards and terminals—Dr.	Operating joint yards and terminals—Cr.	Road enginem.
A. WISCONSIN.			
Chicago & North Western.....	\$96,357 24	\$32,953 53	\$1,031,719 33
Chicago, Burlington & Quincy.....	.....	961 45	146,854 63
Chicago, Milwaukee & St. Paul.....	15,115 18	32,400 05	9,6,654 63
Chicago, St. Paul, Minneapolis & Omaha.....	97,676 68	127,171 67	406,808 00
Chicago, Harvard & Geneva Lake.....	.....	.....	1,410 00
Duluth, South Shore & Atlantic.....	4,541 11	.....	29,885 05
Elgin, Joliet & Eastern.....	.....	.....	.....
Great Northern.....	51,442 07	540 21	33,353 70
Illinois Central.....	.....	.....	15,494 29
Minneapolis, St. Paul & Sault Ste. Marie.....	31,805 80	3,557 21	488,665 31
Northern Pacific.....	64,043 35	11,450 11	28,599 35
Wisconsin & Michigan.....	2,308 75	337 14	6,268 45
Total.....	\$363,290 18	\$209,371 37	\$3,115,642 79
B. ENTIRE SYSTEM.			
Chicago & North Western.....	\$356,087 36	\$121,779 59	\$3,812,710 01
Chicago, Burlington & Quincy.....	736,530 77	97,125 71	3,461,832 28
Chicago, Milwaukee & St. Paul.....	548,997 11	132,507 90	3,176,974 97
Chicago, St. Paul, Minneapolis & Omaha.....	195,236 21	254,190 82	813,128 13
Chicago, Harvard & Geneva Lake.....	.....	.....	12,820 00
Duluth, South Shore & Atlantic.....	27,378 31	11,861 01	172,257 65
Elgin, Joliet & Eastern.....	254 03	.....	272,177 59
Great Northern.....	292,223 11	225,791 34	2,292,093 30
Illinois Central.....	214,357 58	425,813 32	2,971,419 43
Minneapolis, St. Paul & Sault Ste. Marie.....	219,273 75	15,945 07	1,090,200 66
Northern Pacific.....	373,097 59	319,714 94	2,432,218 05
Wisconsin & Michigan.....	3,434 59	501 54	9,325 20
Total.....	\$2,966,870 41	\$1,605,231 15	\$20,507,762 27

¹ Motormen.

STATE ROADS, 1912.—Continued.

EXPENSES—Continued.

Engine-house expenses—road.	Fuel for road locomotives.	Water for road locomotives.	Lubricants for road locomotives.	Other supplies for road locomotive.	Operating power plants.	Purchased power.
\$330,210 72	\$1,834,025 24	\$102,509 56	\$33,565 19	\$26,721 67		
27,314 09	286,979 94	8,296 95	3,580 94	4,158 50		
262,341 01	1,765,370 32	59,209 84	35,602 90	34,183 55		
111,738 72	839,380 49	29,686 98	10,788 03	6,142 27		
					\$4,623 35	
7,370 06	56,051 85	2,408 28	502 47	696 31		
7,079 42	92,311 27	4,435 35	844 41	1,481 25		
5,514 88	18,016 18	1,167 26	393 89	331 20		
95,963 40	921,463 57	38,816 37	14,426 97	15,941 35		\$40 00
6,353 29	58,258 71	2,402 98	529 65	567 88		
1,640 55	12,612 37	543 99	305 98	151 07		
\$855,526 14	\$5,884,469 94	\$249,477 56	\$100,540 43	\$90,375 05	\$4,623 35	\$40 00
\$1,220,290 90	\$6,777,624 68	\$378,823 20	\$124,039 88	\$98,749 69		
944,756 28	6,035,207 89	284,256 33	85,440 97	84,794 95		
1,051,535 11	6,202,682 02	258,104 56	122,489 73	116,308 50		
223,343 42	1,677,754 30	59,338 36	21,563 13	12,277 18		
					\$9,246 70	
42,429 79	320,124 00	13,754 16	2,869 74	3,976 77		
51,754 31	437,823 67	16,564 58	5,779 10	7,568 24		
509,169 12	4,839,502 76	172,821 19	57,639 55	65,826 34	11,565 08	
1,079,750 66	3,681,841 06	236,765 15	114,343 37	81,443 04		
318,587 39	2,081,884 63	96,794 71	32,754 51	43,630 76		
598,211 51	5,568,954 11	211,758 38	54,258 78	37,272 31		
2,440 55	19,276 99	809 26	442 14	224 74		
\$6,042,269 04	\$37,642,676 11	\$1,729,729 88	\$621,620 90	\$552,072 52	\$20,811 78	

² Correction entry.

OPERATING EXPENSES.—INTER
TRANSPORTATION

NAME OF ROAD.	Road trainmen.	Train supplies and expenses.	Interlocking and block and other signals— operation.
A. WISCONSIN:			
Chicago & North Western	\$1,122,114 44	\$273,491 20	\$87,994 13
Chicago, Burlington & Quincy	152,174 91	66,425 60	4,115 43
Chicago, Milwaukee & St. Paul	1,012,051 28	180,950 87	31,898 44
Chicago, St. Paul, Minneapolis & Omaha	435,452 92	115,519 72	5,851 15
Chicago, Harvard & Geneva Lake	1,150 44	68 16	.....
Duluth, South Shore & Atlantic	37,475 99	5,365 46	1,200 00
Elgin, Joliet & Eastern .....	.....	.....	2 27
Great Northern	35,421 33	12,660 13	15,176 30
Illinois Central	17,922 88	3,638 22	.....
Minneapolis, St. Paul & Sault Ste. Marie	516,958 70	131,321 66	10,594 39
Northern Pacific	39,298 80	6,185 04	59 00
Wisconsin & Michigan	7,806 20	1,264 02	656 23
Total	\$3,377,827 89	\$796,890 08	\$157,547 34
B. ENTIRE SYSTEM:			
Chicago & North Western	\$4,146,764 39	\$1,010,684 44	\$325,181 54
Chicago, Burlington & Quincy	3,398,814 23	1,320,692 43	92,247 96
Chicago, Milwaukee & St. Paul	3,394,881 15	702,728 53	133,598 17
Chicago, St. Paul, Minneapolis & Omaha	870,383 63	230,900 90	11,695 29
Chicago, Harvard & Geneva Lake	2,300 88	136 31	.....
Duluth, South Shore & Atlantic	207,374 84	30,708 41	1,225 52
Elgin, Joliet & Eastern	279,034 73	34,832 88	30,510 10
Great Northern	2,309,916 44	717,542 39	99,546 50
Illinois Central	3,131,959 51	1,105,828 28	145,130 22
Minneapolis, St. Paul & Sault Ste. Marie	1,140,421 77	314,799 36	28,269 10
Northern Pacific	2,574,228 00	698,862 13	57,632 90
Wisconsin & Michigan	11,612 83	1,880 41	976 24
Total	\$21,467,692 40	\$6,169,596 47	\$926,013 54

STATE ROADS.—1912.—Continued.
EXPENSES.—Continued.

Crossing flagmen and gatemen.	Drawbridge operation.	Clearing wrecks.	Telegraph and telephone operation.	Floating equip- ment.	Stationery and printing.	Other expenses.
\$77,012 67	\$6,423 29	\$35,350 79	\$15,713 21	.....	\$48,253 79	\$11,530 14
1,308 11	1,354 86	1,538 10	10,938 55	.....	9,315 92	203 19
75,535 43	15,755 57	33,272 44	4,313 99	.....	48,895 88	6,230 30
8,524 72	2,144 09	8,405 03	15,758 21	.....	28,855 63	2,534 26
.....	.....	.....	.....	.....	2 37	210 62
480 00	.....	374 11	.....	.....	2,079 27	121 08
1,098 00	.....	.....	.....	.....	342 19	55 75
.....	.....	2,494 24	7,153 75	.....	1,494 80	602 96
.....	.....	272 31	268 34	.....	1,056 52	107 76
16,984 87	3,951 57	13,854 19	8,662 05	.....	34,572 57	5,885 34
855 00	6,547 02	446 09	1,595 97	.....	1,849 48	86 13
.....	.....	2 18	.....	.....	753 06	251 46
\$181,798 80	\$36,176 40	\$96,009 48	\$64,404 07	.....	\$177,471 48	\$27,818 99
24 4 599 67	\$23,737 22	\$130,638 53	\$58,068 03	.....	\$178,321 48	\$42,609 54
120,240 07	10,083 26	89,840 71	308,875 61	\$10,181 75	177,774 47	23,453 46
208,439 42	28,803 12	99,096 66	26,507 73	.....	169,495 78	93,664 46
17,039 21	4,285 61	16,799 99	31,497 53	.....	57,676 65	5,065 48
.....	.....	.....	.....	.....	4 75	421 24
9,197 83	.....	2,933 32	143 32	.....	11,648 55	660 88
15,118 00	2,745 29	16,971 05	11,133 32	.....	27,727 51	4,746 43
25,700 61	9,399 54	70,446 90	214,932 42	17,743 21	88,989 41	58,406 92
111,401 61	14,329 73	120,264 11	102,523 30	24,814 26	229,195 00	301,117 57
24,355 15	4,949 77	29,740 87	28,518 63	.....	66,411 61	16,434 54
63,398 94	31,760 86	81,817 95	141,077 94	1,441 15	110,401 24	35,645 28
.....	.....	3 25	.....	.....	1,120 29	374 09
\$879,490 51	\$130,094 40	\$658,553 34	\$923,277 83	\$54,180 37	\$1,118,766 74	\$592,599 89

OPERATING EXPENSES—INTER

Italic figures denote credits.

NAME OF ROAD.	TRANSPORTATION EXP		
	Loss and damage freight.	Loss and damage baggage.	Damage to property.
A. WISCONSIN.			
Chicago & North Western.....	\$251,539 82	\$1,448 45	\$42,788 27
Chicago, Burlington & Quincy.....	53,859 58	140 34	6,855 27
Chicago, Milwaukee & St. Paul.....	292,784 35	3,887 96	14,119 47
Chicago, St. Paul, Minneapolis & Omaha.....	73,709 05	1,036 09	16,153 45
Chicago, Harvard & Geneva Lake ¹	8 60		
Duluth, South Shore & Atlantic.....	1,376 53	24 10	25 70
Elgin, Joliet & Eastern.....			
Great Northern.....	9,308 18	3 14	752 46
Illinois Central.....	4,337 86		337 60
Minneapolis, St. Paul & Sault Ste. Marie.....	114,490 31	289 13	28,334 15
Northern Pacific.....	4,220 18	54 61	3,244 18
Wisconsin & Michigan.....	148,82		
Total.....	\$805,783 28	6,877 54	\$112,610 55
B. ENTIRE SYSTEM.			
Chicago & North Western.....	\$929,563 29	\$5,352 75	\$158,123 68
Chicago, Burlington & Quincy.....	1,108,299 88	7,793 78	201,214 00
Chicago, Milwaukee & St. Paul.....	1,042,984 72	7,456 98	89,802 27
Chicago, St. Paul, Minneapolis & Omaha.....	147,329 70	2,070 94	32,287 52
Chicago, Harvard & Geneva Lake.....	17 22		
Duluth, South Shore & Atlantic.....	7,456 82	215 76	614 68
Elgin, Joliet & Eastern.....	18,826 75		7,318 57
Great Northern.....	508,611 36	4,937 78	260,495 34
Illinois Central.....	1,074,727 77	5,366 77	161,177 35
Minneapolis, St. Paul & Sault Ste. Marie.....	243,291 56	1,720 99	47,422 06
Northern Pacific.....	539,788 01	12,095 84	151,873 03
Wisconsin & Michigan.....	221 39		
Total.....	\$5,621,118 47	\$47,011 59	\$1,110,328 50

¹ Entered in total only.

STATE ROADS, 1912.—Continued.

PENSES.—Concluded.					GENERAL EXPENSES.	
Damage to stock on right of way.	Injuries to persons.	Operating joint tracks and facilities —Dr.	Operating joint tracks and facilities —Cr.	Total transportation expenses.	Salaries and expenses of general officers.	Salaries and expenses of clerks and attendants.
\$11,128 83	\$247,972 16	\$20,297 86	\$14,802 26	\$8,368,288 30	\$65,478 30	\$150,071 65
1,785 34	15,400 54	2,935 38	672 90	1,025,490 50	11,361 72	51,380 07
5,446 94	272,854 83	12,057 74	24,859 52	7,518 685 02	59,160 59	141,729 42
5,726 12	63,858 74	30,190 77	18,700 69	3,143,608 91	47,814 58	69,841 70
.....	.....	.....	.....	7,893 44	.....	436 95
92 79	584 70	320 05	1,414 98	171,737 89	4,655 12	6,740 20
.....	.....	.....	.....	33,409 74	432 31	770 28
327 99	32,185 78	10,033 44	.....	775,146 29	2,617 12	6,504 15
898 85	3,663 76	.....	448 21	97,929 78	687 12	3,950 94
7,982 55	112,792 74	14,333 26	3,233 90	3,575,418 74	49,167 09	76,505 33
1,102 70	4,529.44	1,171 27	7,997 20	313,024 04	2,058 68	5,663 14
122 51	386 91	.....	.....	41,596 50	4,742 83	1,669 64
\$34,614 62	\$754,229 60	\$91,339 77	\$72,129 66	\$25,072,229 15	\$248,115 46	\$515,263 47
\$41,126 49	\$916,379 01	\$75,010 57	\$54,701 63	\$30,924,938 30	\$241,974 50	\$554,588 51
86,279 62	714,509 35	142,809 15	101,834 39	29,020,384 11	249,548 62	1,033,309 80
38,522 69	829,132 92	127,317 87	98,331 53	26,842,051 25	214,384 37	514,136 99
11,445 38	127,640 89	60,345 32	37,378 96	6,283,447 74	95,571 81	139,599 67
.....	.....	.....	.....	15,786 89	.....	873 90
612 89	9,543 68	1,777 90	5,308 67	1,225,429 12	26,079 09	37,760 25
1,388 40	62,624 30	101,441 28	12,423 90	3,094,427 19	37,601 30	67,092 60
102,618 90	600,440 53	81,822 82	28,946 75	18,177,686 43	170,941 56	375,650 31
150,425 28	545,492 03	121,276 27	203,258 84	23,653,249 18	117,229 39	751,771 07
23,368 13	237,245 95	43,075 40	9,405 18	8,682,476 71	117,776 10	189,664 51
117,972 46	618,141 24	183,871 69	160,516 35	20,756,386 75	172,013 17	460,610 10
182 25	575 59	.....	.....	62,381 99	6,570 42	2,483 84
\$573,942 49	\$4,661,726 09	\$938,748 27	\$712,106 20	\$168,738,645 66	\$1,449,690 33	\$4,127,541 55

OPERATING EXPENSES, INTER

Italic figures denote credits.

GENERAL EXPEN

NAME OF ROAD.	General office supplies and expenses.	Law expenses.	Insurance.
A. WISCONSIN.			
Chicago & North Western.....	\$26,913 46	\$54,921 48	\$6,440 64
Chicago, Burlington & Quincy.....	3,179 79	12,461 09	14,259 48
Chicago, Milwaukee & St. Paul.....	14,963 83	54,835 80	10,591 85
Chicago, St. Paul, Minneapolis & Omaha.....	10,379 13	21,524 45	10,002 04
Chicago, Harvard & Geneva Lake.....	17 63		157 34
Duluth, South Shore & Atlantic.....	589 18	1,564 26	968 21
Elgin, Joliet & Eastern.....	143 79	175 04	306 38
Great Northern.....	408 01	6,837 52	9,582 77
Illinois Central.....	400 74	1,422 13	366 69
Minneapolis, St. Paul & Sault Ste. Marie.....	14,309 48	31,135 30	21,217 73
Northern Pacific.....	344 25	3,964 82	10 99
Wisconsin & Michigan.....	336 52	306 86	1,006 80
Total.....	\$71,985 81	\$189,148 75	\$74,910 92
B. ENTIRE SYSTEM.			
Chicago & North Western.....	\$99,458 48	\$202,961 86	\$23,801 34
Chicago, Burlington & Quincy.....	56,398 00	265,367 75	394,362 53
Chicago, Milwaukee & St. Paul.....	54,181 89	198,805 70	30,347 11
Chicago, St. Paul, Minneapolis & Omaha.....	20,745 81	43,023 08	19,992 09
Chicago, Harvard & Geneva Lake.....	35 26		314 68
Duluth, South Shore & Atlantic.....	3,300 75	27,846 70	6,967 43
Elgin, Joliet & Eastern.....	12,517 01	15,557 88	26,794 08
Great Northern.....	25,362 07	339,859 95	260,447 03
Illinois Central.....	68,453 58	258,240 22	60,255 94
Minneapolis, St. Paul & Sault Ste. Marie.....	26,598 21	71,457 45	60,089 50
Northern Pacific.....	26,968 68	159,689 62	2,557 97
Wisconsin & Michigan.....	500 62	456 50	1,497 77
Total.....	\$394,520 36	\$1,583,266 71	\$887,427 47

¹ Entered in total only.

STATE ROADS, 1912.—Concluded.

SES.—Concluded.

Relief department expenses, pensions.	Stationery and printing.	Other expenses.	General administration, joint tracks, yards and terminals—Dr.	General administration, joint tracks, yards and terminals—Cr.	Total general expense.
\$59,378 55	\$22,809 92	\$18,584 38	\$826 61	\$0 03	\$405,424 96
2,978 71	3,658 44	4,494 63	121 47		103,895 40
.....	13,495 47	16,633 20	124 48		311,474 64
13,459 31	9,920 05	5,264 68	2,389 68	162 96	190,432 66
.....	9 15	150 00			771 07
83 89	1,041 18	559 29	222 41		16,423 74
.....	102 46	275 01			2,205 27
17 50	550 64	1,245 41	2,481 86	66	30,244 32
168 28	528 29	354 58			7,878 77
3,414 52	13,008 91	16,162 16	57 70	1 73	224,976 49
.....	569 06	2,057 64	2,688 36	473 02	16,883 92
.....	537 25	56 34			8,656 24
\$79,500 76	\$66,230 82	\$65,837 32	\$8,912 57	\$638 40	\$1,319,267 48
\$219,432 91	\$84,293 85	\$68,678 42	\$3,054 73	\$0 10	\$1,498,244 50
85,553 78	66,557 58	91,761 37	23,675 90	3,147 99	2,263,387 34
.....	49,019 34	57,286 49	23,221 65		1,141,383 54
26,902 47	19,828 21	10,523 03	4,776 50	325 72	380,636 95
.....	18 29	300 00			1,542 13
470 00	5,832 96	3,244 56	535 80		112,037 54
.....	8,813 67	22,232 61	155 62		190,764 77
1,140 00	32,545 51	84,631 67	10,157 11	3,346 49	1,297,388 72
98,001 03	86,372 47	69,389 18	11,594 31	2,794 88	1,518,512 31
5,751 76	35,068 17	42,384 04	2,069 91	6 89	550,852 76
.....	46,719 93	258,450 72	16,849 48	13,229 11	1,130,630 56
.....	799 23	83 82			12,392 20
\$437,251 95	\$435,869 21	\$708,965 91	\$96,091 01	\$22,851 18	\$10,097,773 32

OPERATING EXPENSES.—INTRASTATE ROADS.—CONDENSED

MAINTENANCE OF

Italic figures denote credits.

NAME OF COMPANY.	Superintendence.	Maintenance of roadway and track.	Maintenance of track structures.
Ahnapee & Western.....	\$300 00	\$25,810 76	\$4,066 31
Ashland, Odanah & Marengo.....		10,102 52	365 22
Bayfield Transfer.....		7,936 82	2,053 48
Big Falls Ry. Co.....			3,815 82
Chippewa Valley & Northern.....			
Green Bay & Western.....	768 05	105,077 75	30,041 04
Hazelhurst & Southeastern.....		1,247 65	
Iola & Northern.....		476 92	91 90
Kewaunee, Green Bay & Western.....	304 00	9,610 42	2,514 99
La Crosse & Southeastern.....		9,293 87	
Lake Superior Terminal & Transfer.....	969 46	17,805 23	3,107 98
Marinette, Tomahawk & Western.....	596 28	3,881 81	415 63
Mattoon R'y Co.....	900 00	5,527 42	
Mineral Point & Northern.....	200 00	1,734 31	5,248 12
Northwestern Coal R'y Co.....		1,140 89	2,822 06
Stanley, Merrill & Phillips.....	1,140 85	23,320 43	3,799 04
Tomahawk & Eastern.....	198 72	1,871 62	10 40
Wisconsin & Northern.....	65 00	7,157 50	862 08
Wisconsin Northwestern.....			
Total.....	\$5,442 36	\$231,995 92	\$59,283 97

MAINTENANCE OF

NAME OF COMPANY.	Superintendence.	Locomotives—repairs.	Car repairs.
Ahnapee & Western.....	\$420 00	\$1,439 85	\$3,842 00
Ashland, Odanah & Marengo.....		7,218 33	2,935 96
Bayfield Transfer.....		1,532 70	3,185 93
Big Falls Ry. Co.....			
Chippewa Valley & Northern.....		893 37	985 87
Green Bay & Western.....	1,983 10	24,538 64	33,305 24
Hazelhurst & Southeastern.....		916 23	1,135 34
Iola & Northern.....		283 85	150 53
Kewaunee, Green Bay & Western.....	600 00	5,043 94	9,267 08
La Crosse & Southeastern.....		1,507 52	1,368 01
Lake Superior Terminal & Transfer.....	951 96	18,754 60	4,539 27
Marinette, Tomahawk & Western.....	603 03	2,207 35	1,515 45
Mattoon R'y Co.....	310 84	1,370 14	
Mineral Point & Northern.....	1,230 88	5,763 86	1,551 40
Northwestern Coal R'y Co.....		1,304 11	
Stanley, Merrill & Phillips.....	1,098 90	4,151 71	7,892 08
Tomahawk & Eastern.....	200 97	771 58	455 34
Wisconsin & Northern.....	65 50	5,732 31	2,377 18
Wisconsin Northwestern.....			
Total.....	\$7,465 18	\$83,430 09	\$74,506 68

¹Details not reported.

FORM OF REPORT, YEAR ENDING JUNE 30, 1912.

WAY AND STRUCTURES.

Maintenance of buildings, docks and wharves.	Injuries to persons.	Other maintenance of way and structures expenses.	Maintaining joint tracks, yards and other facilities—Dr.	Maintaining joint tracks, yards and other facilities—Cr.	Total maintenance of way and structures.
\$1,348 10		\$140 01			\$31,665 18
557 78		8,717 49			19,743 01
					9,990 30
844 78		23 24			12,975 59
					4,683 84
7,186 22		647 32	\$3,216 13	\$141 95	146,794 56
		6 15			1,253 80
		2 31			571 13
381 93		163 02	6,375 37	3,104 18	16,545 60
158 56		57 89			9,510 32
2,421 02	\$38 00	254 33	399 32	251 07	24,744 22
1,291 61		359 63			6,544 96
113 11		35 00			5,675 53
756 90	8 17	101 09	2,976 44		11,725 03
35 85		199 93			4,468 73
1,209 50		253 49	10 71		29,734 02
33 50		100 99			2,215 23
264 22		69 70			8,418 50
					6,328 92
\$16,903 13	\$45 17	\$11,131 64	\$12,977 97	\$3,497 20	\$343,588 47

EQUIPMENT.

Work equipment repairs.	Equipment—renewals.	Equipment—depreciation.	Injuries to persons.	Other maintenance of equipment expenses.	Total maintenance of equipment.
	\$40 59	\$1,247 45			\$6,908 71
		3,376 20		\$1,095 12	14,625 61
		824 52			5,543 15
					11,094 17
		854 31			2,733 55
\$851 89	468 13	20,598 07	\$2,654 80	2,023 33	85,466 94
	90 90				2,142 47
		90 00			524 38
	80 28	5,222 51	2 00		20,055 25
		1,965 00			4,840 53
		6,528 06	186 50	1,071 64	32,033 03
	1,583 33	420 00		106 12	6,435 28
418 79				376 38	2,476 15
72 60		2,953 35	1 00	290 54	11,863 63
		842 82		46 00	2,192 93
275 69	215 50	14,184 58		138 26	27,956 72
				32 21	1,460 10
	162 36	1,180 08		43 50	9,560 93
					13,690 78
\$1,618 97	\$1,463 09	\$60,286 95	\$2,844 30	\$5,223 10	\$241,623 31

OPERATING EXPENSES--INTERSTATE ROADS

Italic figures denote credits.

NAME OF COMPANY.	TOTAL TRAFFIC EXPENSES.	TRANSPORTATION	
		Superintendence and dispatching trains.	Station service.
Ahnapee & Western.....	\$972 17	\$1,754 47	\$5,053 73
Ashland, Odanah & Marengo.....	49 10	1,565 98	472 38
Bayfield Transfer.....			716 10
Big Falls Ry. Co.....			
Chippewa Valley & Northern.....	103 08		
Green Bay & Western.....	5,285 68	6,241 58	30,844 37
Hazelhurst & Southeastern.....	119 71	1,110 00	1,613 40
Iola & Northern.....	40		891 98
Kewaunee, Green Bay & Western.....	1,104 19	2,024 00	6,236 99
La Crosse & Southeastern.....	1,760 42	2,585 81	3,656 07
Lake Superior Terminal & Transfer.....		957 33	11,512 36
Marinette, Tomahawk & Western.....	1,065 76	601 16	1,686 37
Mattoon R'y Co.....		310 00	945 57
Mineral Point & Northern.....	2,022 67	975 50	3,391 36
Northwestern Coal R'y Co.....			703 05
Stanley, Merrill & Phillips.....	2,338 15	1,996 61	1,729 70
Tomahawk & Eastern.....	349 44	198 72	434 84
Wisconsin & Northern.....	301 80		5,713 93
Wisconsin Northwestern.....			
Total.....	\$15,472 57	\$20,321 16	\$75,602 70

TRANSPORTATION

NAME OF COMPANY.	Road engine-men and mortormen.	Fuel for road locomotives.	Other road locomotive supplies and expenses.
Ahnapee & Western.....	\$3,703 13	\$9,472 65	\$882 68
Ashland, Odanah & Marengo.....	5,108 69	7,781 61	2,537 60
Bayfield Transfer.....	3,135 67	5,043 48	1,121 77
Big Falls Ry. Co.....			
Chippewa Valley & Northern.....	2,612 05	2,607 41	308 69
Green Bay & Western.....	31,820 19	67,460 46	12,273 07
Hazelhurst & Southeastern.....	1,699 33	3,127 57	229 19
Iola & Northern.....	1,077 44	1,597 20	727 41
Kewaunee, Green Bay & Western.....	6,164 44	10,136 40	1,493 58
La Crosse & Southeastern.....	4,266 98	8,671 56	1,736 46
Lake Superior Terminal & Transfer.....			
Marinette, Tomahawk & Western.....	2,916 70	3,942 91	1,149 21
Mattoon R'y Co.....	2,884 00	3,204 80	738 02
Mineral Point & Northern.....	3,732 42	12,380 94	2,723 21
Northwestern Coal R'y Co.....			
Stanley, Merrill & Phillips.....	3,483 10	8,068 77	2,224 09
Tomahawk & Eastern.....	867 35	1,792 15	405 46
Wisconsin & Northern.....	4,121 82	8,241 81	1,732 36
Wisconsin Northwestern.....		5,202 22	
Total.....	\$77,593 31	\$158,731 94	\$30,282 80

CONDENSED FORM OF REPORT, 1912—Continued.

EXPENSES.

Yard en- ginemen.	Other yard employees.	Fuel for yard locomotives.	All other yard expenses.	Operating joint yards and term- inals.—Dr.	Operating joint yards and term- inals.—Cr.
\$3,916 01	\$5,069 06	\$6,937 90	\$1,374 41	\$1,752 46	\$1,143 95
1,538 10	2,149 24	4,425 23	147 61		
26,337 99	52,317 14	32,126 73	8,499 81	1,311 77	360 00
2,166 33	4,594 86	2,520 57	932 56	2,377 71	
1,518 91	1,786 01	3,458 04	958 92		
\$35,477 34	\$65,916 31	\$49,468 47	\$11,913 31	\$5,441 94	\$1,503 95

EXPENSES—Continued.

Road train- men.	Train sup- plies and expenses.	Injuries to persons.	Loss and damage.	Other casualties.	All other transpor- tation expenses.
\$3,323 46	\$1,336 46	\$538 18	\$387 47	\$191 54	\$1,266 70
3,954 28	769 44	1 00		45 00	60 74
2,259 24	67 14				79 70
840 58					3 75
28,183 94	7,018 50	4,181 50	2,792 81	473 80	5,302 14
2,510 20	42 43			87 73	65 91
1,080 00	90 73			107 50	90 00
5,710 04	1,437 57	169 50	1,235 91	528 46	519 81
2,840 84	823 46	117 10	9 77		394 33
		1,999 97	159 09	189 67	1,120 60
1,679 06	138 05		270 33	64 08	163 15
2,687 22	174 50		26 04	80 50	
4,514 56	728 89	801 40	96 95	982 01	539 46
				106 82	38 40
3,259 05	164 48	158 25	50 09	317 47	199 44
487 20	66 22		21 94	160 18	43 24
4,151 69	333 29	44 40	111 01	35 50	673 90
2,282 36					
\$69,763 72	\$13,191 16	\$8,011 30	\$5,161 41	\$3,370 26	\$10,561 27

OPERATING EXPENSES.—INTRASTATE ROADS.—

Italic figures denote credits.

TRANSPORTATION EXPENSES.—Concluded.

NAME OF COMPANY.	Operating joint tracks and facilities. —Dr.	Operating joint tracks and facilities. —Cr.	Total trans- portation expenses.
Ahnapee & Western			\$27,910 47
Ashland, Odanah & Marengo.....			22,297 22
Bayfield Transfer.....			12,423 10
Big Falls Ry. Co. ¹			14,478 29
Chippewa Valley & Northern.....			6,372 48
Green Bay & Western.....	\$2,742 88	\$31 93	217,209 20
Hazelhurst & Southeastern.....			10,485 76
Iola & Northern.....			5,662 26
Kewaunee, Green Bay & Western.....	514 26	110 86	44,320 28
La Crosse & Southeastern.....			25,102 38
Lake Superior Terminal & Transfer			136,172 46
Marinette, Tomahawk & Western.....			12,611 02
Mattoon Ry. Co.			11,050 65
Mineral Point & Northern.....	325 89		33,570 30
Northwestern Coal Ry. Co.			11,062 59
Stanley, Merrill & Phillips.....	611 11		29,984 04
Tomahawk & Eastern.....			4,477 30
Wisconsin & Northern.....			25,159 71
Wisconsin Northwestern ¹			7,484 58
Total.....	\$4,194 14	\$142 79	\$647,834 09

¹ Entered in total only.

CONDENSED FORM OF REPORT.—1912.—Concluded.

GENERAL EXPENSES.

Adminis- tration.	Insurance.	Other general expense.	General ad- ministration, joint tracks, yards and terminals —Dr.	General ad- ministration, joint tracks, yards and terminals —Cr.	Total general expense.
\$4,362 91	\$200 56	\$207 46			\$4,770 93
2,540 49	1,620 33	120 09			4,280 91
2,755 00	322 00	876 75			3,953 75
1,512 04	70 00				1,957 79
21,670 76	3,376 47	828 20	\$139 83		26,015 26
40 53	250 97	9 75			301 25
452 15	45 75	79 86			577 76
7,674 85	771 47	145 36			8,591 68
2,915 89	272 27	209 63			3,397 79
5,809 01	427 35	381 45			6,617 81
2,918 59	789 93	18 00			3,726 52
2,750 00		571 36			3,321 36
7,642 30	1,090 15	500 52			9,232 97
1,591 38	1,240 87	124 82			2,957 07
4,048 54	1,543 50	282 59			5,874 63
600 13	176 31	5 30			781 74
3,720 69	1,495 20	268 46			5,484 35
\$73,005 26	\$13,693 13	\$4,629 60	\$139 83		\$96,216 41

OPERATING EXPENSES.
RECAPITULATION

NAME OF ROAD.	AMOUNT.			
	Maintenance of way and structures.	Maintenance of equipment.	Traffic expenses.	Transportation expenses.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	\$2,535,175 95	\$2,589,602 27	\$362,627 32	\$8,368,283 30
Chicago, Burlington & Q.....	462,864 60	730,221 73	74,972 49	1,025,490 50
Chic., Milwaukee & St. P.....	2,224,114 34	2,685,272 18	349,510 22	7,518,685 02
Chic., St. P., Minneap. & O....	842,779 52	898,886 13	160,540 89	3,143,605 91
Chic., Harvard & Geneva L....	2,708 50	1,586 38	246 51	7,893 44
Duluth, S. Shore & Atlantic..	121,715 80	57,281 42	21,569 62	171,737 89
Elgin, Joliet & Eastern.....	11,793 01	10,880 13	596 35	33,409 74
Great Northern.....	221,049 42	259,714 85	16,739 08	775,146 29
Illinois Central.....	66,129 51	39,073 42	7,865 26	97,929 78
Mpls., St. P. & Sault Ste. M....	1,175,231 01	1,451,184 25	266,328 58	3,575,418 74
Northern Pacific.....	133,188 85	82,225 94	14,253 82	313,024 04
Wisconsin & Michigan.....	22,547 39	16,532 56	2,834 41	41,596 50
Total.....	\$7,819,297 90	\$8,822,461 26	\$1,277,982 55	\$25,072,229 15
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	\$31,665 18	\$6,908 71	\$972 17	\$27,910 47
Ashland, Odanah & Marengo.	19,743 01	14,625 61	.....	22,297 22
Bayfield Transfer.....	9,930 30	5,543 15	49 10	12,423 10
Big Falls Ry. Co.....	2,975 59	1,094 17	.....	4,478 29
Chippewa Valley & Northern	4,683 84	2,733 55	103 08	6,372 48
Green Bay & Western.....	146,794 56	85,486 94	5,285 68	217,209 20
Hazelhurst & Southeastern...	1,253 80	2,142 47	119 71	10,485 76
Iola & Northern.....	571 13	524 38	40	5,662 26
Kewaunee, Green Bay & W....	16,545 60	20,055 25	1,104 19	44,320 28
La Crosse & Southeastern....	9,510 32	4,840 53	1,760 42	25,102 38
Lake Superior Term. & T.....	24,744 22	32,032 03	.....	136,172 46
Marquette, Tomahawk & W....	6,544 96	6,435 28	1,065 76	12,611 02
Mattoon Ry. Co.....	5,675 53	2,476 15	.....	11,050 65
Mineral Point & Northern....	11,725 03	11,863 63	2,022 67	33,570 30
Northwestern Coal Ry Co.....	4,468 73	2,192 93	.....	11,062 59
Stanley, Merrill & Phillips...	29,734 02	27,956 72	2,338 15	29,984 04
Tomahawk & Eastern.....	2,215 23	1,460 10	349 44	4,477 30
Wisconsin & Northern.....	8,418 50	9,560 93	301 80	25,159 71
Wisconsin Northwestern.....	6,328 92	3,690 78	.....	7,484 58
Total.....	\$343,588 47	\$241,623 31	\$15,472 57	\$647,834 09
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western....	\$9,368,721 19	\$9,569,853 15	\$1,340,086 16	\$30,924,938 30
Chicago, Burlington & Q.....	13,541,030 39	14,294,032 69	1,528,114 63	29,020,384 11
Chicago, Milw. & St. Paul....	8,812,314 23	9,681,271 34	1,266,136 18	26,842,051 25
Chicago, St. P., M. & Omaha.	1,684,548 31	1,796,694 25	320,889 24	6,283,447 74
Chic. Harvard & Geneva L....	5,417 00	3,172 75	493 02	15,786 89
Duluth, S. Shore & Atlantic.	575,766 11	360,164 39	121,763 62	1,225,429 12
Elgin, Joliet & Eastern.....	993,406 47	1,840,565 01	52,077 92	3,094,427 19
Great Northern.....	9,195,465 96	7,850,317 80	1,089,710 48	18,177,686 43
Illinois Central.....	7,691,214 55	13,857,548 66	1,400,941 84	23,653,249 18
Minneapolis, St. P. & S. S. M.	2,736,515 78	3,349,305 87	563,576 78	8,682,476 71
Northern Pacific.....	7,861,490 57	7,207,716 49	1,202,292 65	20,756,386 75
Wisconsin & Michigan.....	33,549 67	24,599 82	4,217 50	62,381 99
Total.....	\$62,499,440 23	\$69,835,242 22	\$8,890,300 02	\$168,738,645 66

ALL ROADS, 1912—YEAR ENDING JUNE 30, 1912.
OF EXPENSES.

General expenses.	Total.	RATIO TO TOTAL OPERATING EXPENSES. (per cent.)						RATIO OF OPERATING EXPENSES TO OPERATING REVENUES. (Percent.)
		Maintenance of way and structures.	Maintenance of equipment.	Traffic expenses.	Transportation expenses.	General expenses.	Total.	
\$405,424 96	\$14,261,118 80	17.78	18.16	2.54	58.68	2.84	100.00	65.33
103,895 40	2,397,444 72	19.31	30.46	3.13	42.77	4.33	100.00	55.08
311,474 64	13,088,956 40	16.99	20.52	2.67	57.44	2.38	100.00	70.04
190,432 86	5,236,248 11	16.09	17.17	3.07	60.03	3.64	100.00	73.61
771 07	13,205 90	20.51	12.01	1.87	59.77	5.84	100.00	100.88
16,423 74	388,728 47	31.31	14.74	5.55	44.18	4.22	100.00	103.59
2,205 27	58,884 50	20.03	18.48	1.01	56.74	3.74	100.00	100.17
30,244 32	1,302,893 96	16.97	19.93	1.28	59.50	2.32	100.00	67.46
7,878 77	218,874 74	30.21	17.85	3.59	44.75	3.60	100.00	135.51
224,976 49	6,693,139 07	17.56	21.68	3.98	53.42	3.36	100.00	65.82
16,883 92	559,576 57	23.80	14.69	2.55	55.94	3.02	100.00	106.28
8,656 24	92,167 10	24.46	17.94	3.08	45.13	9.39	100.00	94.07
\$1,319,267 48	\$44,311,238 34	17.65	19.91	2.88	56.58	2.98	100.00	67.78
\$4,770 93	\$72,227 46	43.84	9.56	1.35	38.64	6.61	100.00	73.81
4,280 91	60,946 75	32.40	23.99	0.00	36.59	7.02	100.00	74.56
3,953 75	31,959 40	31.26	17.35	.15	38.87	12.37	100.00	84.48
957 79	9,505 84	31.30	11.52	0.00	47.11	10.07	100.00	113.29
1,582 04	15,474 99	30.27	17.66	.67	41.18	10.22	100.00	87.38
26,015 26	480,791 64	30.53	17.78	1.10	45.18	5.41	100.00	66.29
301 25	14,302 99	8.77	14.98	.84	73.30	2.11	100.00	34.26
577 76	7,335 93	7.78	7.15	.01	77.18	7.88	100.00	78.24
8,591 68	90,617 00	18.26	22.13	1.22	48.91	9.48	101.00	49.60
3,397 79	44,611 44	21.31	10.85	3.94	56.26	7.64	100.00	60.82
6,617 81	199,566 52	12.40	16.05	0.00	68.23	3.32	100.00	101.59
3,726 52	30,383 54	21.54	21.18	3.51	41.51	12.26	100.00	74.89
3,321 36	22,523 69	25.20	11.00	0.00	49.06	14.74	100.00	106.87
9,232 97	68,414 60	17.14	17.34	2.95	49.08	13.49	100.00	77.21
2,957 07	20,681 32	21.60	10.61	0.00	53.49	14.30	100.00	71.01
5,874 63	95,887 56	31.01	29.15	2.44	31.27	6.13	100.00	111.08
781 74	9,283 81	23.86	15.73	3.76	48.23	8.42	100.00	75.57
5,484 35	48,925 29	17.21	19.54	.62	51.42	11.21	100.00	56.69
3,790 80	21,295 08	29.72	17.33	0.00	35.15	17.80	100.00	68.23
\$96,216 41	\$1,344,734 85	25.55	17.97	1.14	48.18	7.16	100.00	71.92
\$1,498,244 50	\$52,701,843 30	17.78	18.16	2.54	58.68	2.84	100.00	71.51
2,263,387 34	60,646,949 16	22.33	23.57	2.52	47.85	3.73	100.00	55.08
1,141,383 54	47,743,156 54	18.46	20.28	2.65	56.22	2.39	100.00	75.64
380,636 95	10,466,216 49	16.10	17.17	3.06	60.04	3.63	100.00	69.15
1,542 13	26,411 79	20.51	12.01	1.87	59.77	5.84	100.00	100.88
112,037 54	2,395,160 78	24.04	15.04	5.08	51.16	4.68	100.00	75.98
190,764 77	6,171,241 36	16.10	29.83	.84	50.14	3.09	100.00	57.56
1,297,388 72	37,610,569 39	24.45	20.87	2.90	48.33	3.45	100.00	56.85
1,518,512 31	48,121,466 54	15.98	28.80	2.91	49.15	3.16	100.00	81.94
559,852 76	15,882,727 90	17.23	21.09	3.55	54.66	3.47	100.00	60.47
1,130,630 56	38,158,517 02	20.60	18.89	3.15	54.39	2.97	100.00	60.16
12,392 20	137,141 18	24.46	17.94	3.07	45.49	9.04	100.00	94.07
\$10,097,773 32	\$320,061,401 45	19.53	21.82	2.78	52.72	3.15	100.00	68.49

GENERAL BALANCE SHEET,

Italic figures denote credits.

As

NAME OF ROAD.	Property			
	Investment to June 30, 1907.		Investment since	
	Road.	Equipment.	Road.	Equipment.
<i>a. Interstate Roads.</i>				
Chicago & North Western...	\$237,705,203 67		\$75,890,926 08	\$10,982,754 41
Chi., Burlington & Quincy...	296,437,146 87	\$48,844,353 13	40,457,641 65	13,550,111 95
Chi., Milwaukee & St. Paul...	210,540,735 04	47,600,579 97	30,816,485 19	10,352,409 69
Chi., St. P. Mpls. & Omaha...	62,408,611 00		3,711,447 38	1,749,986 62
Chi., Harv. & Geneva Lake...	304,659 41	28,345 32	7,932 23	3,800 05
Duluth, So. Sh. & Atlantic...	43,381,913 37	3,242,983 02	308,290 48	237,979 71
Elgin, Joliet & Eastern...	13,739,682 47	2,842,067 57	1,438,186 28	378,681 33
Great Northern...	230,947,770 98	44,084,373 57	47,197,968 07	17,112,519 29
Illinois Central...	52,540,382 83	42,657,646 04	23,221,317 64	10,081,283 56
Mpls., St. P. & S. Ste. Marie...	62,090,905 86	13,887,941 26	20,508,862 18	2,837,060 59
Northern Pacific...	2315,838,961 80	37,295,670 07	45,935,417 21	11,983,502 77
Wisconsin & Michigan...	3,750,565 52	452,350 57	787,582 32	250,360 20
Total.....	\$1,529,686,538 82	\$240,936,311 12	\$290,291,136 71	\$79,012,129 67
<i>b. Intrastate Roads</i>				
Ahnapee & Western...	\$841,000 00	\$23,500 00	\$5,150 00	\$4,512 00
Ashland, Odanah & Mar'ngo	65,643 34	22,850 00	4,660 16	5,285 06
Bayfield Transfer	3,406,509 80	16,522 96		
Big Falls Ry. Co.		7,390 00		
Chippewa Valley & North'n	168,274 16	13,115 87	11,241 80	2,500 00
Green Bay & Western...	9,467,087 50	20,000 00	163,700 00	70,929 08
Hazelhurst & Southeastern...	80,912 63	22,850 15		2,067 50
Iola & Northern	98,000 00	3,000 00		
Kewaunee, Green Bay & W.	991,725 00	130,000 00		31,071 40
LaCrosse & Southeastern...	1,211,975 56	41,256 13	9,644 46	1,982 30
Lake Superior Term. & Tr.	300,726 35	54,073 46	36,660 07	90,297 52
Mar., Tomahawk & West'rn	510,710 32	22,879 80	1,000 00	1,500 56
Mattoon Ry. Co.	37,500 00	11,700 00	633 82	8,659 44
Mineral Point & Northern	961,651 60	9,259 26	2,633 51	
Northwestern Coal Ry. Co.				
Stanley, Merrill & Phillips...	221,193 27	17,050 68	8,442 16	800 00
Tomahawk & Eastern	479,457 95	121,447 93	23,306 15	143 24
Wisconsin & Northern	946,610 49	17,380 00	422,221 31	56,265 40
Wisconsin Northwestern			295,454 23	45,138 19
Total.....	\$19,788,977 97	\$1,134,276 24	\$655,344 67	\$312,165 61

¹Includes equipment.²Northern Pacific estate.

ENTIRE SYSTEM, JUNE 30, 1912.

sets.

Investment.			Securities.		
June 30, 1907	Reserve for accrued depreciation—Cr.	Total.	Securities of proprietary, affiliated and controlled companies—pledged.	Securities issued or assumed—pledged.	Securities of proprietary, affiliated and controlled companies—unpledged.
General expenditures					
\$28,780 60	\$3,375,862 22	\$321,240,802 54		\$31,492,000 00	\$1,489,113 15
1,521,601 39	17,898,321 92	382,972,533 07	\$19,363,139 38	31,000 00	8,206,363 46
58,805 76	5,350,291 98	294,018,723 67			131,542,651 50
76,551 51	1,069,073 94	66,877,522 57			196,000 00
3,510 00		340,706 91			
11,420 00	420,217 42	46,762,309 16	71,050 00		1,029,866 70
	979,232 85	17,419,384 80			
1,200,498 63	21,552,809 78	318,990,320 76	31,850,538 12	14,106,000 00	1,704,102 46
5,211 79	4,245,590 13	124,260,332 33	27,664,070 67		18,471,116 39
759,830 66	1,461,476 80	98,623,123 75			5,417,448 24
^a 4,555,034 63	11,201,799 33	404,406,787 15			46,619,949 46
	2,155 60	4,737,982 61	138,180 00		363,800 00
\$8,221,244 97	\$67,496,831 97	\$2,080,650,529 32	\$79,086,978 17	\$45,629,000 00	\$215,040,411 36
	\$6,264 99	\$867,897 01			
	14,344 20	81,094 36			
	4,122 60	3,418,910 16			
		7,390 00			
\$7,731 03	2,231 63	200,631 23		\$10,000 00	
	127,853 98	9,846,462 60			\$97,577 63
	5,100 00	96,595 28			
	760 00	100,240 00			
	34,881 76	1,117,914 64			
	10,169 36	1,250,721 49			
	47,056 14	434,701 26			
	2,143 21	531,947 47			
	1,065 51	56,527 75			
	15,533 35	958,011 02			
	4,868 60	242,617 51			
	26,156 46	597,912 33			
231,312 54	4,946 17	1,668,843 57			
		340,592 42			
\$239,043 57	\$307,497 96	\$21,822,310 10		\$10,060 00	\$97,577 63

^aIncludes land department current assets.

GENERAL BALANCE SHEET,
ASSETS.

NAME OF ROAD.	Securities, Concluded.	Other Investments.		
	Total.	Advances to proprietary, affiliated, and controlled companies for construc- tion, etc.	Miscellane- ous invest- ments.	Total.
<i>a. Interstate Roads.</i>				
Chicago & North Western..	\$32,981,113 15	\$15,177,454 18	\$1,031,101 39	\$16,208,555 57
Chi., Burlington & Quincy..	27,600,502 84	402,259 91	2,976,743 04	3,379,002 95
Chicago, Milw. & St. Paul.	131,542,651 50	48,457,494 19	2,552,211 75	51,009,705 94
C. St. Paul, Mpls. & Omaha.	196,000 00	8,300 00	184,595 82	192,895 82
Chi., Harvard & Geneva L.				
Duluth, S. S. & Atlantic.....	1,100,916 70	21,279 86	93,903 67	115,183 53
Elgin, Joliet & Eastern.....				
Great Northern.....	47,660,640 58	1,646,759 34	144,943,291 73	146,590,051 07
Illinois Central.....	46,135,187 06	61,365,397 91	37,070,305 60	98,435,703 51
Mpls., St. P. & S. Ste. Marie.	5,417,448 24	5,547,598 44	269,833 16	5,817,431 60
Northern Pacific.....	46,619,949 46	22,665,562 57	112,983,609 74	185,649,172 31
Wisconsin & Michigan.....	501,980 00	276,078 91		276,078 91
Total.....	\$339,756,389 53	\$155,568,185 31	\$302,105,595 90	\$457,673,781 21
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....				
Ashland, Odanah & Marengo.....				
Bayfield Transfer.....				
Big Falls Ry. Co.....				
Chp. Valley & Northern....	\$10,000 00			
Green Bay & Western.....	97,577 63			
Hazelhurst & Southeastern.....				
Iola & Northern.....				
Kewaunee, G. B. & Western.....				
La Crosse & Southeastern.....				
Lake Sup. Ter. & Transfer.....				
Marinette, Tomahawk & W.				
Mattoon R'y Co.....				
Mineral Point & Northern..				
Northwestern Coal R'y Co..			\$450,273 98	\$450,273 98
Stanley, Merrill & Phillips..				
Tomahawk & Eastern.....				
Wisconsin & Northern.....				
Wisconsin Northwestern.....				
Total.....	\$107,577 63		\$450,273 98	\$450,273 98

¹Due from solvent companies and individuals.

ENTIRE SYSTEM.—1912, Continued.
Continued.

Working Assets.

Cash.	Securities issued or assumed—held in treasury.	Marketable securities.	Loans and bills receivable.	Traffic and car balances due from other companies.	Net balance due from agents and conductors.
\$15,273,686 53	\$8,723,261 71	\$14,247,728 22	\$511,931 77	\$71,730 46	\$3,208,860 18
8,733,764 82	10,625,800 00	824,972 12	2,895,531 14	692,578 58	2,247,678 16
22,183,141 30	41,513,200 00	.....	2,539,681 36	319,521 59	1,703,892 26
3,938,340 82	4,282,174 32	259,655 20	1,955 83	113,473 17	408,971 32
.....
149,193 34	.....	198,754 61	.....	139,567 40	102,164 01
2,497,562 70	.....	1,400 00	.....	267,732 20	1,458,589 13
12,829,135 16	16,832,250 00	24,980,872 94	6,453,342 78	529,811 42	3,509,156 42
2,327,341 14	26,751,080 00	16,865,789 67	814,640 40	394,570 94	2,699,457 63
5,271,256 27	10,000 00	8,700 00	13,112 04	573,376 94	1,287,878 12
.....
5,566,568 25	17,434,500 00	14,959,510 96	3,706,813 26	1,148,770 06	816,827 11
4,090 02	.....	.....	396,223 39	10,380 55	4,056 88
\$78,774,080 35	\$126,172,266 03	\$72,347,583 72	\$17,333,232 97	\$4,251,513 31	\$17,447,531 22
.....
\$68,118 09	.....	.....	.....	\$2,154 68	\$2,192 85
.....	.....	.....	\$35,139 69	.....	.....
8,555 11	\$1,324,600 00	.....	.....	.....	.....
.....
372 00	.....	.....	12,207 00	.....	.....
.....
313,700 94	.....	.....	.....	.....	.....
1,851 72	.....	.....	29,693 52	22,049 61	14,683 82
19,702 83	.....	.....	.....	3,303 43	.....
285,972 21	.....	.....	.....	65 24	146 76
4,803 82	745,000 00	.....	.....	4,355 70	1,567 84
.....	.....	.....	.....	2,816 34	2,726 58
26,690 10	.....	.....	.....	.....	400 00
12,108 29	.....	.....	.....	1,301 17	748 98
.....	.....	.....	.....	95 25	3 07
7,074 95	17,400 00	\$30 00	.....	476 82	2,232 71
4,343 78	.....	.....	.....	6,828 00	.....
.....
1,587 80	.....	.....	.....	1,353 82	802 87
2,170 78	.....	.....	.....	.....	.....
19,320 61	.....	.....	.....	3,330 11	3,429 11
3,315 71	.....	.....	16,909 07	3,747 00	.....
.....
\$779,688 74	\$2,087,000 00	\$30 00	\$83,949 28	\$51,877 17	\$28,734 59

BALANCE SHEET. ENTIRE
ASSETS.

NAME OF ROAD.	Working Assets,—Concluded.			
	Miscellaneous accounts receivable.	Materials and supplies.	Other working assets.	Total.
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	\$2,372,162 10	\$4,473,324 18	\$172,623 00	\$49,055,308 15
Chicago, Burlington & Quincy..	4,166,193 95	6,806,179 77	49,309 43	37,042,007 97
Chicago, Milwaukee & St. Paul..	2,096,055 55	5,491,451 69	249,833 48	76,096,777 23
Chi., St. Paul, Minn. & Omaha...	419,885 52	1,135,156 36		10,559,612 54
Chi., Harvard & Geneva Lake ..	56 93			56 93
Duluth, South Shore & Atlantic.	217,297 89	342,563 35		1,149,540 60
Elgin, Joliet & Eastern.....	1,708,496 99	559,101 32	99,035 22	6,591,918 56
Great Northern.....	1,973,258 45	5,442,941 42	65,573 98	72,616,342 57
Illinois Central.....	4,609,572 80	3,830,794 79		58,283,247 37
Minn., St. P. & Sault Ste. Marie..	807,874 59	2,523,212 55	137,189 14	10,632,599 65
Northern Pacific.....	4,358,516 86	6,411,113 37		54,402,619 87
Wisconsin & Michigan.....	6,975 09	7,658 56		429,384 49
Total.....	\$22,736,346 72	\$37,023,497 36	\$773,564 25	\$376,859,415 93
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	\$773 63	\$8,854 18	10,488 30	\$92,581 73
Ashland, Odanah & Marengo....		1,286 25		36,425 94
Bayfield Transfer.....				1,333,155 11
Big Falls Ry. Co.....				2,207 00
Chippewa Valley & Northern....		1,441 02		1,813 02
Green Bay & Western.....	1,944 56	56,792 74	1,468 61	440,333 80
Hazelhurst & Southeastern....	18,948 70			24,103 85
Iola & Northern.....	26 02	212 75		20,153 60
Kewaunee G. Bay & Western....	490 36	2,126 86		294,312 97
La Crosse & Southeastern.....	1,605 49	1,642 57	1,200 00	759,794 80
Lake Sup. Term. & Transfer....	1,143 77	9,245 18		37,479 05
Marinette, Tomahawk & West'n.	536 12	12,176 38		26,870 94
Mattoon R'y Co.....		3,285 42		3,383 74
Mineral Point & Northern....	3,805 06	317 34		31,336 88
Northwestern Coal R'y Co.....	70,544 03	350 13		82,065 94
Stanley, Merrill & Phillips....	427 84	3,611 74		7,784 07
Tomahawk & Eastern.....	112 19			2,282 97
Wisconsin & Northern.....	4,819 66	38,116 92		69,016 41
Wisconsin Northwestern.....			23,622 38	47,594 16
Total.....	\$105,177 43	\$139,459 48	\$36,779 29	\$3,312,695 98

SYSTEM, 1912.—Continued.
Continued.

<i>Accrued Assets.</i>	<i>Deferred Debit Items.</i>			
Unmatured interest, dividends, and rents receivable.	Temporary advances made to affiliated companies, etc.	Rents and insurance paid in advance.	Taxes paid in advance.	Unextinguished discounts on securities.
	\$2,447,044 70	\$43,305 94		
	1,303,000 08	147,722 62		\$311,198 76
\$2,630,749 94	46,536 28		\$412,277 72	
	7,258 16			
	8,300 00	797 50		
406,686 67	2,541,950 76	11,952 15		
1,086,132 78	7,805,897 28	9,119 98		
123,506 52	1,851,250 37	48,073 31		\$13,269 54
596,268 50	65,486 31			
	727 41	331 96		
\$4,843,324 41	\$16,077,451 35	\$261,353 46	\$412,277 72	\$624,468 30
	\$10,562 57			
		\$572 78		
			\$470 46	
		772 03		
		1,318 30		
	\$10,562 57	\$2,663 11	\$470 46	

GENERAL BALANCE SHEET

ASSETS

NAME OF ROAD.	Deferred Debit		
	Property abandoned chargeable to operating income.	Special deposits.	Cash and securities in sinking and other funds.
<i>a. Interstate Roads.</i>			
Chicago & North Western.....			\$4,006,529 61
Chicago, Burlington & Quincy.....			18,281,800 61
Chicago, Milwaukee & St. Paul.....	\$2,296,885 67		431,564 76
Chicago, St. Paul, Minneapolis & Omaha.....			
Chicago, Harvard & Geneva Lake.....			
Duluth, South Shore & Atlantic.....		1,500 00	26,853 33
Elgin, Joliet & Eastern.....	4,029,251 98		
Great Northern.....		41,850 00	4,289 63
Illinois Central.....			
Minneapolis, St. Paul & Sault Ste. Marie.....	\$1,254,560 84		
Northern Pacific.....		633,478 54	203,876 91
Wisconsin & Michigan.....			
Total.....	\$1,254,560 84	\$7,002,966 19	\$22,954,914 85
<i>b. Intrastate Roads.</i>			
Ahnapee & Western.....			
Ashland, Odanah & Marengo.....			
Bayfield Transfer.....			
Big Falls Ry. Co.....			
Chippewa Valley & Northern.....			
Green Bay & Western.....		\$100 00	
Hazelhurst & Southeastern.....			
Iola & Northern.....			
Kewaunee, Green Bay & Western.....			
La Crosse & Southeastern.....			
Lake Superior Terminal & Transfer.....			
Marquette, Tomahawk & Western.....			
Mattoon Ry. Co.....			
Mineral Point & Northern.....			
Northwestern Coal Ry. Co.....			\$833,700 00
Stanley, Merrill & Phillips.....			
Tomahawk & Eastern.....			
Wisconsin & Northern.....			
Wisconsin Northwestern.....			
Total.....		\$100 00	\$833,700 00

ENTIRE SYSTEM, 1912.—Continued.

—Concluded.

Items.—Concluded.					
Cash and securities in insurance and other reserve funds.	Cash and securities in provident funds.	Other deferred debit items.	Total.	Profit and loss, balance.	Total assets.
		\$915,576 18	\$7,412,456 43		\$426,898,235 84
	\$496,538 89	2,217,234 35	22,757,495 31		473,751,542 14
\$2,801,100 00		1,993,187 09	7,981,551 52		563,280,159 80
		311,191 76	318,449 92		78,144,480 85
				\$49,847 27	390,611 11
			37,450 83	4,091,350 27	53,256,751 09
52,624 53			4,081,876 51		28,093,179 87
		980,126 96	3,538,319 50		589,802,341 15
2,086,259 39	250,000 00	472,806 58	10,665,933 23		338,866,536 28
			3,467,154 06		124,081,263 82
5,542,517 10			6,445,358 86		648,120,156 15
	156,000 00		157,109 37	255,789 64	6,358,325 02
\$10,482,501 02	\$902,538 89	\$6,890,122 92	\$66,863,155 54	\$4,396,987 18	\$3,331,043,583 12
		\$696 55	\$696 55		\$961,175 29
					120,520 30
				\$1,127,167 97	5,879,233 24
				6,357 71	15,954 71
				16,277 40	228,721 65
		9,590 98	20,253 55		10,404,627 58
					120,699 13
		1,452 85	1,452 85		120,393 60
				91,319 87	1,413,680 46
					2,101,836 16
		35,188 22	35,188 22		507,368 53
					558,818 41
			572 78		60,784 27
		1,408 39	1,408 39	123,056 25	1,113,812 54
			834,170 46	307,090 85	1,916,218 74
		25 00	797 03	84,692 97	691,186 40
					2,282 97
			1,318 30		1,739,178 28
					388,186 58
		\$48,361 99	\$895,858 13	\$1,755,963 02	\$28,344,678 84

GENERAL BALANCE SHEET,
LIABIL

NAME OF ROAD.	Capital		
	Common stock.	Preferred stock.	Debenture stock.
<i>a. Interstate Roads.</i>			
Chicago & North Western.....	\$132,455,530 97	\$22,398,954 56	.....
Chicago, Burlington & Quincy.....	110,839,100 00		.....
Chicago, Milwaukee & St. Paul.....	116,348,200 00	116,274,900 00	.....
Chicago, St. Paul, Minneapolis & Omaha.....	21,400,473 33	12,643,721 66	.....
Chicago, Harvard & Geneva Lake.....	150,000 00		.....
Duluth, South Shore & Atlantic.....	12,000,000 00	10,000,000 00	.....
Elgin, Joliet & Eastern.....	10,000,000 00		.....
Great Northern.....		209,990,670 00	.....
Illinois Central.....	109,294,500 00	9,989,700 00	.....
Minneapolis, St. Paul & S. Ste. Marie.....	37,810,200 00		.....
Northern Pacific.....	247,998,400 00		.....
Wisconsin & Michigan.....	1,500,000 00		.....
Total.....	\$799,796,404 30	\$381,297,946 22	.....
<i>b. Intrastate Roads.</i>			
Ahnapee & Western.....	\$439,500 00		.....
Ashland, Odanah & Marengo.....	100,000 00		.....
Bayfield Transfer.....	3,000,000 00		.....
Big Falls Ry. Co.....	1,000 00		.....
Chippewa Valley & Northern.....	58,000 00		.....
Green Bay & Western.....	2,500,000 00		.....
Hazelhurst & Southeastern.....	100,000 00		.....
Iola & Northern.....	71,400 00		.....
Kewaunee, Green Bay & Western.....	465,750 00	\$199,200 00	.....
La Crosse & Southeastern.....	1,000,000 00		.....
Lake Superior Terminal & Transfer.....	410,400 00		.....
Marquette, Tomahawk & Western.....	161,500 00		.....
Mattoon R'y Co.....	4,000 00		.....
Mineral Point & Northern.....	550,000 00		.....
Northwestern Coal R'y Co.....	1,000,000 00		.....
Stanley, Merrill & Phillips.....	100,000 00		.....
Tomahawk & Eastern.....	1,000 00		.....
Wisconsin & Northern.....	1,339,900 00		.....
Wisconsin Northwestern.....	300,000 00		.....
Total.....	\$11,602,450 00	\$199,200 00	.....

ENTIRE SYSTEM, 1912.—Continued.
ITIES.

Stock.				Mortgage, Bonded and Secured Debt.	
Receipts outstanding for installments paid.	Stock liability for conversion of outstanding securities of constituent companies.	Premium realized on capital stock.	Total.	Mortgage bonds.	Collateral trust bonds.
		\$29,657 75	\$154,884,143 28	\$172,251,000 00	\$30,000,000 00
			110,839,100 00	191,713,800 00	7,310,200 00
			232,623,100 00	157,257,000 00	
	\$5,931 63		34,050,126 62	30,098,046 02	
			150,000 00	125,000 00	
			22,000,000 00	20,000,000 00	
			10,000,000 00	10,000,000 00	
\$80 00			209,990,750 00	174,686,909 09	107,613,500 00
1,500 00			119,285,700 00	137,364,000 00	48,266,000 00
			37,810,200 00	64,215,000 00	
1,600 00			248,007,000 00	191,365,500 00	107,613,500 00
			1,500,000 00	2,751,000 00	
\$3,180 00	\$5,931 63	\$29,657 75	\$1,181,133,119 90	\$1,151,827,255 11	\$300,809,200 00
			\$439,500 00	\$425,000 00	
			100,000 00		
			3,000,000 00	1,500,000 00	
			1,000 00	12,428 00	
			58,000 00	157,000 00	
			2,500,000 00		
			100,000 00		
			71,400 00		
			664,950 00	408,000 00	
			1,000,000 00	1,000,000 00	
			410,400 00		
			161,500 00		
			4,000 00		
			550,000 00	450,000 00	
			1,000,000 00	794,000 00	
			100,000 00	500,000 00	
			1,000 00		
			1,339,900 00		
			300,000 00		
			\$11,801,650 00	\$5,246,428 00	

GENERAL BALANCE SHEET

LIABILITIES

NAME OF ROAD.	Mortgage, Bonded, and,			
	Plain bonds, debentures and notes.	Income bonds.	Equipment trust obligations.	Miscellane- ous funded obligations.
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	\$19,695,000 00			
Chicago, Burlington & Quincy ...	10,829,000 00			
Chicago, Milwaukee & St. Paul...	111,109,154 66			
Chi., St. Paul, Minn. & Omaha...	5,000,000 00			
Chicago, Harvard & Geneva Lake				
Duluth, South Shore & Atlantic..		\$3,000,000 00	\$212,000 00	
Elgin, Joliet & Eastern.....				
Great Northern.....				
Illinois Central.....		6,000 00		\$100,000 00
Minn., St. Paul & Sault Ste. Marie			4,051,000 00	
Northern Pacific.....				
Wisconsin & Michigan		1,117,245 17		
Total.....	\$146,633,154 66	\$4,123,245 17	\$4,263,000 00	\$100,000 00
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....				
Ashland Odanah & Marengo.....				
Bayfield Transfer.....				
Big Falls Ry. Co.....				
Chippewa Valley & Northern....				
Green Bay & Western.....		\$7,600,000 00		
Hazelhurst & Southeastern.....				
Iola & Northern.....				\$30,000 00
Kewaunee, Green Bay & Western				
La Crosse & Southeastern.....				
Lake Sup'r. Terminal & Transfer				
Marquette, Tomahawk & Western				
Mattoon R'y Co.....				
Mineral Point & Northern.....				
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....				
Tomahawk & Eastern.....				
Wisconsin & Northern.....				19,050 63
Wisconsin Northwestern.....				
Total.....		\$7,600,000 00		\$49,050 63

ENTIRE SYSTEM, 1912.—Continued.

Continued.

Secured Debt.—Concluded.				Working Liabilities.	
Receipts outstanding for funded debt.	Receivers' certificates.	Obligations for advances received for construction, etc.	Total.	Loans and bills payable.	Traffic and car-service balances due to other companies.
			\$221,952,000 00		\$1,596,347 31
			209,853,000 00		1,669,784 79
			268,366,154 66		1,131,065 97
			35,098,046 02		351,950 84
			125,000 00		30,355 86
			23,212,000 00		149,861 34
			10,000,000 00		1,465,076 61
			282,300,409 09	\$5,589,656 11	571,543 22
			185,736,000 00	5,900,000 00	819,732 11
			68,266,000 00		204,819 46
			298,979,000 00		887,486 76
			3,868,245 17	187,815 97	753 23
			\$1,607,755,854 94	\$11,677,472 08	\$8,878,777 50
			\$425,000 00		\$5,758 13
			1,500 000 00	\$49,897 00	
			12,428 00		
			157,000 00	12,783 93	
			7,600,000 00		8,657 80
			30,000 00		1,433 56
			408,000 00		5,317 60
			1,000,000 00	88,608 06	1,857 71
		\$49,800 00	49,800 00		
				337,598 45	10,292 55
				50,000 00	
			450,000 00	192,389 32	8,541 47
			794,000 00		
			500,000 00	83,000 00	87 47
			19,050 63	246,008 40	1,662 44
					129 86
		\$49,800 00	\$12,945,278 63	\$960,285 16	\$43,738 59

GENERAL BALANCE SHEET,
LIABILITIES

NAME OF ROAD.	Working		
	Audited vouchers and wages unpaid.	Miscellaneous accounts payable.	Matured interest dividends and rents unpaid.
<i>a. Interstate Roads.</i>			
Chicago & North Western.....	\$4,630,032 17	\$226,038 35	\$3,110,150 04
Chicago, Burlington & Quincy.....	7,955,601 59	404,694 04	2,182,398 00
Chicago, Milwaukee & St. Paul.....	6,534,394 00	150,647 32	5,102,070 17
Chicago, St. P. Minneapolis & O.....	1,440,282 23	85,565 78	88,043 00
Chicago, Harvard & Geneva Lake....	11,317 36	2,062 92	71,874 97
Duluth, South Shore & Atlantic.....	483,770 81	3,006 58	6,825,075 18
Elgin, Joliet & Eastern.....	672,005 58	219,036 17	7,840 00
Great Northern.....	5,478,898 27	4,144,938 73	2,768,642 03
Illinois Central.....	6,582,328 15	7,209,177 49	1,448,261 55
Minneapolis, St. P. & S.Ste. Marie....	3,488,714 32	378,984 53	1,242,745 50
Northern Pacific.....	5,830,039 93	280,833 26	1,159,944 50
Wisconsin & Michigan.....	14,516 46	56,382 48	710,812 48
Total.....	\$43,121,900 87	\$13,161,367 65	\$24,717,857 42
<i>b. Intrastate Roads</i>			
Ahnapee & Western.....	\$3,332 55	\$609 89	.....
Ashland, Odanah & Marengo.....	2,060 32	.....	.....
Bayfield Transfer.....	1,416 80	167,726 52	\$1,160,192 92
Big Falls Ry. Co. ....	.....	.....	.....
Chippewa Valley & Northern.....	.....	.....	.....
Green Bay & Western.....	36,182 02	3,326 41	.....
Hazelhurst & Southeastern.....	.....	6 52	.....
Iola & Northern.....	391 37	.....	.....
Kewaunee, Green Bay & West'n....	4,758 81	.....	1,025 00
LaCrosse & Southeastern.....	1,995 39	.....	.....
Lake Superior Terminal & Trans.....	3,611 13	.....	.....
Marinette, Tomahawk & West'n....	1,974 03	3,634 03	.....
Mattoon Ry. Co. ....	.....	.....	.....
Mineral Point & Northern.....	8,583 44	.....	.....
Northwestern Coal Ry. Co. ....	.....	115,602 07	.....
Stanley, Merrill & Phillips.....	3,828 81	.....	.....
Tomahawk & Eastern.....	.....	600 00	.....
Wisconsin & Northern.....	5,730 49	.....	.....
Wisconsin Northwestern.....	701 16	.....	.....
Total.....	\$74,566 32	\$291,505 44	\$1,161,217 92

¹Working advances due to other companies.

ENTIRE SYSTEM, 1912—Continued.

— Continued.

<i>Liabilities—Concluded.</i>			<i>Accrued liabilities, not Due.</i>		
<i>Matured mortgage, bonded, and secured debt unpaid.</i>	<i>Other working liabilities.</i>	<i>Total.</i>	<i>Unmatured interest, dividends and rents payable.</i>	<i>Taxes accrued.</i>	<i>Total.</i>
\$17,500 00	\$139,251 94	\$9,719,319 81	\$1,861,420 84	\$60,000 00	\$1,921,420 84
6,000 00	42,635 76	12,261,114 18	1,493,729 13	72,000 00	1,565,729 13
11,000 00	455,423 51	13,384,600 97	453,167 71	1,350,992 98	1,804,160 69
.....	17,022 82	1,982,864 67	1,350,930 83	465,903 86	1,816,834 69
.....	.....	115,611 11	.....	.....	.....
186,213 19	.....	7,647,927 10	270,458 33	107,000 00	377,458 33
.....	284,968 65	2,648,927 01	520,635 84	118,400 00	639,035 84
5,224 00	333,137 38	18,892,039 74	146,004 16	1,520,487 81	1,666,491 97
9,331 97	184,898 72	22,153,729 99	5,395,175 95	330,386 60	5,725,562 55
.....	109,090 36	5,424,354 17	142,492 00	458,091 38	600,583 38
.....
.....	187,062 78	8,345,367 23	4,845,924 34	1,955,645 01	6,801,569 35
.....	5,900 10	976,180 72	.....	13,899 13	13,899 13
.....
\$235,269 16	\$1,759,392 02	\$103,552,036 70	\$16,479,939 13	\$6,452,806 77	\$22,932,745 90
.....
.....	.....	\$9,700 57	.....	.....	.....
.....	.....	2,060 32	.....	.....	.....
.....	.....	1,379,233 24	.....	.....	.....
.....	\$2,526 71	2,526 71	.....	.....	.....
.....	937 72	13,721 65	.....	.....	.....
.....
.....	.....	48,166 23	.....	.....	.....
.....	.....	6 52	.....	.....	.....
.....	.....	1,824 93	.....	.....	.....
.....	150 00	11,251 41	.....	.....	.....
.....	.....	92,461 16	\$9,375 00	.....	\$9,375 00
.....
.....	8,200 00	11,811 13	.....	.....	.....
.....	.....	353,499 06	.....	.....	.....
.....	5,385 22	55,385 22	.....	.....	.....
.....	.....	109,514 23	3,750 00	.....	3,750 00
.....	.....	115,602 07	6,616 67	.....	6,616 67
.....
.....	.....	86,916 28	4,166 67	.....	4,166 67
.....	.....	600 00	.....	.....	.....
.....	15,000 00	268,401 33	9,508 80	.....	9,508 80
.....	.....	831 02	.....	.....	.....
.....
.....	\$32,199 65	\$2,563,513 08	\$33,417 14	.....	\$33,417 14

GENERAL BALANCE SHEET,

LIABILITIES

NAME OF ROAD.	Defered Credit Items.			
	Unextinguished premiums on outstanding funded debt.	Operating reserves.	Liability on account of provident funds.	Other deferred credit items.
<i>a. Interstate Roads.</i>				
Chicago & North Western.....				\$246,458 43
Chicago, Burlington & Quincy.....		\$1,388,829 20	\$496,538 89	329,512 94
Chicago, Milwaukee & S. Paul.....		2,714,687 37		234,243 91
Chicago, St. P., Mpls. & Oma.....	\$216,727 56			155,708 94
Chicago, Harv'd & Gen. Lake.....				
Duluth, So. Shore & Atlantic.....				19,365 66
Elgin, Joliet & Eastern.....		85,980 14		1,196,405 02
Great Northern.....		956,116 27		154,209 16
Illinois Central.....		349,972 43	258,476 43	276,140 25
Minneapolis, St. P. & S. S. M.....		31,649 61		
Northern Pacific.....				191,264 40
Wisconsin & Michigan.....				
Total.....	\$216,727 56	\$5,527,235 02	\$755,015 32	\$2,803,308 71
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....				\$3,000 00
Ashland, Odanah & Marengo.....				
Bayfield Transfer.....				
Big Falls Ry. Co.....				
Chippewa Valley & Northern.....				
Green Bay & Western.....				6,000 00
Hazelhurst & Southeastern.....				
Iola & Northern.....				11,783 30
Kewaunee, Green Bay & Wn.....				
La Crosse & Southeastern.....				
Lake Superior Ter. & Trans.....				35,357 40
Marinette, Tomahawk & Wn.....				
Mattoon Ry. Co.....				
Mineral Point & Northern.....		\$548 31		
Northwestern Coal Ry. Co.....				
Stanley Merrill & Phillips.....				103 45
Tomahawk & Eastern.....				
Wisconsin & Northern.....				
Wisconsin Northwestern.....				
Total.....		\$548 31		\$56,244 15

¹ Income account of \$46,230,662.67 included.

² Includes \$435,941 47 additions prior to June 30, 1907.

ENTIRE SYSTEM, 1912.—Concluded.

—Concluded.

Total.	Appropriated Surplus.			Profit and loss—balance.	Total liabilities.
	Additions to property since June 30, 1907, through income.	Reserves from income or surplus.	Total.		
\$246,458 43		\$3,988,521 43	\$3,988,521 43	\$34,186,372 05	\$426,898,235 84
2,214,881 03	\$17,523,473 03	77,552,362 74	95,075,835 77	41,941,882 03	473,751,542 14
2,948,931 28		1,221,687 51	1,221,687 51	42,931,524 69	563,280,159 80
372,436 50	197,350 03		197,350 03	4,626,822 32	78,144,480 85
					390,611 11
19,365 66					53,256,751 09
1,282,385 16	618,760 37	105,000 00	723,760 37	2,799,071 49	28,093,179 87
1,110,325 43	11,862,129 02	6,798,061 53	18,660,190 55	57,182,134 37	589,802,341 15
884,589 11	226,328 67	2,086,259 39	2,312,588 06	2,768,366 57	338,866,536 28
31,649 61		241,124 60	241,124 60	11,707,352 06	124,081,263 82
191,264 40		5,542,517 10	5,542,517 10	80,260,438 07	648,120,156 15
					6,358,325 02
\$9,302,286 61	\$30,428,041 12	\$97,535,534 30	\$127,963,575 42	\$278,408,963 65	\$3,331,043,583 12
\$3,000 00				\$83,974 72	\$961,175 29
				18,459 98	120,520 30
					5,879,233 24
					15,954 71
					228,721 65
6,000 00				250,461 35	10,404,627 58
				20,692 61	120,699 13
11,783 30				17,168 67	120,393 60
				317,695 75	1,413,680 46
					2,101,836 16
35,357 40					507,368 53
				43,819 35	558,818 41
548 31				1,399 05	60,784 27
					1,113,812 54
					1,916,218 74
103 45					691,186 40
				682 97	2,282 97
				102,317 52	1,739,178 28
		\$87,355 56	\$87,355 56		388,186 58
\$56,792 46		\$87,355 56	\$87,355 56	\$856,671 97	\$28,344,678 84

^a Includes \$35,883.81 in sinking fund and \$51,471.75 in surplus.

MISCELLANEOUS LOGGING AND MINOR ROADS

Italic figures denote deficits or losses.

CONDENSED STATEMENT OF

NAME OF ROAD.	Operating revenues.	Operating expenses.	Net operating revenue.
Cazenovia & Sauk City.....	\$8,820 47	\$8,274 48	\$545 99
Chicago & Lake Superior.....	5,858 15	10,323 09	<i>4,464 94</i>
Dunbar & Wausaukee.....	23,339 62	15,497 77	7,841 85
Fairchild & Northeastern.....	31,133 36	27,586 15	3,547 21
Hillsboro & Northeastern.....	17,138 85	12,645 95	4,492 90
Laona & Northern.....	12,710 33	24,244 05	<i>11,533 72</i>
Marathon County.....	15,424 00	14,456 81	967 19
Robbins Railroad Company.....	11,796 80	15,731 38	<i>3,934 58</i>
Roddis Lumber & Veneer Co.....	9,942 78	9,942 78	.....
Superior & Southeastern.....	27,813 67	26,087 93	1,725 69
Waupaca & Green Bay.....	24,951 23	17,168 82	7,782 41
Whitcomb & Morris.....	3,366 82	2,779 12	587 70
Total.....	\$192,301 08	\$184,768 38	\$7,532 70

NAME OF ROAD.	Net corporate income.	DISPOSITION OF NET CORPORATE INCOME.	
		Dividends declared.	Other disposition.
Cazenovia & Sauk City.....	\$389 33	.....	\$1,016 95
Chicago & Lake Superior.....	<i>4,543 00</i>	.....	.....
Dunbar & Wausaukee.....	7,368 04	.....	.....
Fairchild & Northeastern.....	2,388 53	.....	.....
Hillsboro & Northeastern.....	4,150 53	\$3,948 00	4,634 41
Laona & Northern.....	<i>11,533 72</i>	.....	.....
Marathon County.....	<i>2,464 55</i>	.....	.....
Robbins Railroad Company.....	<i>4,408 16</i>	.....	.....
Roddis Lumber & Veneer Co.....	.....	.....	.....
Superior & Southeastern.....	626 18	.....	.....
Waupaca & Green Bay.....	2,375 58	.....	2,025 80
Whitcomb & Morris.....	461 96	.....	.....
Total.....	\$5,189 28	\$3,948 00	\$7,677 16

ENTIRE SYSTEM. YEAR ENDING JUNE 30, 1912.

FINANCIAL OPERATING DATA.

OUTSIDE OPERATIONS		Total net revenue.	Taxes accrued.	Operating income.	Other income.	Deductions from income.
Revenues.	Expenses.					
		\$545 99	\$156 66	\$389 33		
		4,464 94	78 06	4,543 00		
		7,841 85	973 81	6,868 04	\$500 00	
		3,547 21	1,108 68	2,438 53		\$50 00
		4,492 90		4,492 90		342 37
		11,533 72		11,533 72		
		967 19	443 47	523 72		2,988 27
		3,964 58	443 58	4,408 16		
		1,730 69	1,104 51	626 18		
		7,782 41	453 97	7,328 44		4,952 86
		587 70	125 74	461 96		
		\$7,532 70	\$4,888 48	\$2,644 22	\$500 00	\$8,333 50

Balance for year.	Cost of road and equipment.	Capital stock.	Funded debt.	Miles of road owned.	Miles of road operated.
\$627 62	\$58,415 57	\$24,000 00	\$45,000 00	6.29	6.29
4,543 00		18,000 00		3.24	3.24
7,368 04	95,283 02	120,000 00		16.44	16.44
2,388 53	330,576 60	500 00		40.00	40.00
4,431 88		65,800 00		5.75	5.75
11,533 72		50,000 00		20.00	20.00
2,434 55	50,462 74	40,000 00		21.50	21.50
4,408 16		30,000 00		22.25	22.25
				16.50	16.50
626 18		50,000 00	122,000 00	45.00	45.00
349 78	127,005 10	54,500 00	54,993 52	10.29	10.29
461 96	14,107 26	10,000 00		7.08	7.08
\$16,814 44	\$675,850 29	\$462,800 00	\$221,993 52	214.34	214.34

LEASED ROADS—
CAPITALIZATION, DIVIDENDS

NAME OF ROAD.	Number of shares authorized.		Par value of one share.
	Common.	Preferred.	
Chicago, Lake Shore & Eastern.....	90,000	.....	\$100
Milwaukee, Bay View & Chicago.....	1,000	.....	100
Oshkosh Transportation Co.....	700	.....	100
Winona Bridge Ry.....	4,000	.....	100
Wisconsin Central.....	175,000	125,000	100
Total.....	270,700	125,000	.....

NAME OF ROAD.	Dividends declared during year.			
	Rate, per cent.	Common.	Rate, per cent.	Preferred.
Chicago, Lake Shore & Eastern.....	7	\$630,000 00	.....	.....
Milwaukee, Bay View & Chicago.....	11½	11,500 00	.....	.....
Oshkosh Transportation Co.....	11½	7,800 00	.....	.....
Winona Bridge Ry.....	.....	.....	.....	.....
Wisconsin Central.....	.....	.....	2	\$225,344 00
Total.....	.....	\$649,300 00	.....	\$225,344 00

INCOME ACCOUNT,

NAME OF ROAD.	Income from lease of road.	Other	
		Joint facilities.	Miscellaneous rents.
Chicago, Lake Shore & Eastern.....	\$1,091,779 40	.....	.....
Milwaukee, Bay View & Chicago.....	11,500 00	.....	.....
Oshkosh Transportation Co.....	12,787 00	.....	.....
Winona Bridge Ry.....	.....	\$57,168 89	\$15 00
Wisconsin Central.....	2,918,600 71	.....	40,263 08
Total.....	\$4,034,687 11	\$57,168 89	\$40,278 08

NAME OF ROAD.	Deductions from		
	Rents accrued from lease of other roads.	Interest accrued on funded debt.	Other interest.
Chicago, Lake Shore & Eastern.....	.....	\$405,000 00	.....
Milwaukee, Bay View & Chicago.....	.....	.....	.....
Oshkosh Transportation Co.....	.....	.....	.....
Winona Bridge Ry.....	.....	19,200 00	.....
Wisconsin Central.....	\$438,681 98	\$1,574,302 08	\$18,886 50
Total.....	\$438,681 98	\$1,998,502 08	\$18,886 50

ENTIRE SYSTEM.
AND INTEREST, JUNE 30, 1912.

Total par value authorized.		Total par value outstanding.			Total par value held by respondent.	
Common	Preferred.	Common.	Preferred.	Total.	Common.	Preferred.
\$9,000,000		\$9,000,000		\$9,000,000		
100,000		100,000		100,000		
70,000		70,000		70,000		
400,000		400,000		400,000		
17,500,000	\$12,500,000	17,500,000	\$12,500,000	30,000,000	\$1,353,600	\$1,232,800
\$27,070,000	\$12,500,000	\$27,070,000	\$12,500,000	\$39,570,000	\$1,353,600	\$1,232,800

Funded debt.			Interest.	
Mortgage bonds.	Equipm't trust obligations.	Total.	Amount accrued during year.	Amount paid during year.
\$9,000,000		\$9,000,000	\$405,000 00	\$405,000 00
334,000		384,000	19,200 00	19,225 00
38,711,000	\$1,496,903	\$40,207,903	1,574,302 08	1,588,731 45
\$48,095,000	\$1,496,903	\$49,591,903	\$1,998,502 08	\$2,012,956 45

YEAR ENDING JUNE 30, 1912.

<i>income.</i>					Gross corporate income.
Dividends declared on stocks owned or controlled.	Interest accrued on funded debt owned or controlled.	Interest on other securities, loans and accounts.	Miscellaneous income.	Total other income.	
\$160,000 00		\$2,390 88		\$162,390 88	\$1,254,170 28
					11,500 00
					12,787 00
	\$520 00			37,183 89	37,183 89
				40,783 08	2,959,383 79
\$160,000 00	\$520 00	\$2,390 88		\$240,357 85	\$4,275,024 96

<i>gross incorporate income.</i>				
Taxes accrued.	Other deductions.	Total deductions from gross corporate income.	Dividends declared.	Balance carried forward to profit and loss.
	100 00	\$405,100 00	\$11,500 00	\$849,070 28
\$1,046 70	3,716 17	4,762 87	7,800 00	224 13
2,142 57		21,342 57		15,841 32
418,780 98	4,082 72	2,454,734 26		504,649 53
\$421,970 25	\$7,898 89	\$2,885,935 70	\$19,300 00	\$1,369,785 26

LEASED ROADS
PROFIT AND LOSS

NAME OF ROAD.	<i>Debit</i>			
	Balance for year from income account.	Deductions for year.	Dividends declared.	Balance credit June 30, 1912.
Chicago, Lake Shore & Eastern.....		\$3 07	\$630,000 00	\$1,086,745 80
Milwaukee, Bay View & Chicago.....	2,294 09			
Oshkosh Transportation Co.....				72,775 86
Winona Bridge Ry.....		537,755 74	225,344 00	1,364,770 17
Wisconsin Central.....				
Total.....	\$2,294 09	\$537,758 81	\$855,344 00	\$2,524,291 83

GENERAL BALANCE

As

NAME OF ROAD.	Property	
	Investment to June 30, 1907.	
	Road.	Equipment.
Chicago, Lake Shore & Eastern.....	\$2,301,943 72	\$2,204,901 69
Milwaukee, Bay View & Chicago.....	100,000 00	
Oshkosh Transportation Co.....	70,000 00	
Winona Bridge Ry.....	789,304 66	
Wisconsin Central.....	54,019,413 55	4,284,294 18
Total.....	\$57,280,661 93	\$6,489,195 87

Assets—

NAME OF ROAD.	Securities of proprietary, affiliated, and controlled companies unpledged.	Miscellaneous investments.	Working	
			Cash.	Securities issued or assumed—held in treasury.
Chicago, Lake Shore & Eastern.....	\$4,000,000 00		\$200,493 36	
Milwaukee, Bay View & Chicago.....			225 22	
Oshkosh Transportation Co.....			59,845 77	
Winona Bridge Ry.....			1,808,987 84	\$2,586,400 00
Wisconsin Central.....	150,000 00	\$425,724 16		
Total.....	\$4,150,000 00	\$425,724 16	\$2,069,552 19	\$2,586,400 00

¹Include \$2,070.09 balance June 30, 1911.

ENTIRE SYSTEM—Continued.
ACCOUNT, JUNE 30, 1912.

Total debit.	Credit.				
	Balance June 30, 1911.	Balance for year from income account.	Additions for year.	Balance debits June 30, 1912.	Total credit.
\$1,716,748 87	\$866,499 18	\$849,070 28	\$1,179 41		\$1,716,748 87
2,294 09				\$2,294 09	2,294 09
72,775 86	56,934 54	15,841 52			72,775 86
2,127,869 91	1,485,950 54	504,649 53	137,269 84		2,127,869 91
\$3,919,688 73	\$2,409,384 26	\$1,369,561 13	\$138,449 25	\$2,294 09	\$3,919,688 73

SHEET, JUNE 30, 1912.

sets.

Investment.

Investment since June 30, 1907.				Reserve for accrued depreciation—Cr.	Total.
Road.	Equipment.	General expenditures.			
\$5,713,633 24	\$10,629,089 02				\$20,849,567 67
					100,000 00
2,038 57					70,000 00
4,832,602 38	3,229,701 84	\$1,216,815 06	\$1,100,108 45		791,343 23
\$10,548,274 19	\$13,858,790 86	\$1,216,815 06	\$1,100,108 45		\$88,293,629 46

Continued.

Assets.				Unmatured interest, dividends and rents receivable.
Loans and bills receivable.	Miscellaneous accounts receivable.	Materials and supplies.	Total.	
	\$424 25		\$200,917 61	\$443,242 50
			225 22	2,069 00
	5,946 57		65,792 34	
\$10,900 00	225,367 05	\$2,809 00	4,634,463 89	216 66
\$10,900 00	\$231,737 87	2,809 00	\$4,901,399 06	\$445,528 16

LEASED ROADS—

Assets—

NAME OF ROAD.	Deferred		
	Temporary advances made to affiliated companies.	Taxes paid in advance.	Cash and securities in sinking and other funds.
Chicago, Lake Shore & Eastern.....			
Milwaukee, Bay View & Chicago.....			
Oshkosh Transportation Co.....			
Winona Bridge Ry.....			
Wisconsin Central.....	\$109,852 14	\$23,899 83	\$2,380 29
Total.....	\$109,852 14	\$23,899 83	\$2,380 29

Liabil-

NAME OF ROAD.	Capital Stock.		
	Common stock.	Preferred stock.	Total.
Chicago, Lake Shore & Eastern.....	\$9,000,000 00		\$9,000,000 00
Milwaukee, Bay View & Chicago.....	100,000 00		100,000 00
Oshkosh Transportation Co.....	70,000 00		70,000 00
Winona Bridge Ry.....	400,000 00		400,000 00
Wisconsin Central.....	17,500,000 00	\$12,500,000 00	30,000,000 00
Total.....	\$27,070,000 00	\$12,500,000 00	\$39,570,000 00

Liabilities—

NAME OF ROAD.	Unmatured interest, dividends, and rents payable.	Deferred Credit Items.		
		Operating reserves.	Liability on account of provident funds.	Total.
Chicago, Lake Shore & Eastern...	\$33,750 00	\$1,742,655 66	\$4,000,000 00	\$5,742,655 66
Milwaukee, Bay View & Chicago.....				
Oshkosh Transportation Co.....				
Winona Bridge Ry.....				
Wisconsin Central.....	143,606 75			
Total.....	\$177,356 75	\$1,742,655 66	\$4,000,000 00	\$5,742,655 66

ENTIRE SYSTEM—Concluded.

Concluded.

Debit Items.					Total assets.
Cash and securities in insurance and other reserve funds.	Cash and securities in provident funds.	Special deposits.	Other deferred debit items.	Total.	
\$27,119 01		\$1,283,907 63	\$195,228 22	\$1,506,254 86	\$26,999,982 64
					100,000 00
					72,294 22
					857,135 57
			\$628,574 54	764,706 80	72,457,830 07
\$27,119 01		\$1,283,907 63	\$823,802 76	\$2,270,961 66	\$100,487,242 50

ities.

Mortgage, Bonded, and Secured Debt.			Working Liabilities.			
Mortgage bonds.	Equipment trust obligations.	Total.	Audited vouchers and miscellaneous accounts payable.	Matured interest, dividends, and rents unpaid.	Advances due to other companies.	Total.
\$9,000,000 00		\$9,000,000 00	\$1,224,314 42	\$5,940 00		\$1,230,254 42
384,000 00		384,000 00	359 71			359 71
38,711,000 00	\$1,496,902 80	40,207,902 80	221,101 55	516,638 00		737,739 55
\$48,095,000 00	\$1,496,902 80	\$49,591,902 80	\$1,445,775 68	\$522,578 00		\$1,968,353 68

Concluded.

Appropriated Surplus.			Profit and loss—Balance.	Total liabilities.
Additions to property since June 30, 1907, through income.	Not specifically invested.	Total.		
\$906,576 76		\$906,576 76	\$1,086,745 80	\$26,999,982 64
				100,000 00
				72,294 22
				857,135 57
	\$3,810 80	3,810 80	1,364,770 17	72,457,830 07
\$906,576 76	\$3,810 80	\$910,387 56	\$2,526,586 05	\$100,487,242 50

EMPLOYES AND SALARIES.

NAME OF ROAD.	General Officers.			
	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western				
Chicago, Burlington & Quincy	4	1,460	\$10,646 40	\$7 29
Chicago, Milwaukee & St. Paul	4	1,425	22,375 00	15 70
Chicago, St. Paul, Minneapolis & Omaha ..	4	1,098	12,361 62	11 26
Chicago, Harvard & Geneva Lake	2	75	300 00	4 00
Duluth, South Shore & Atlantic				
Elgin, Joliet & Eastern	6	10	186 30	18 63
Great Northern				
Illinois Central				
Minneapolis, St. Paul & Sault Ste. Marie ..	7	2,620	60,955 12	23 27
Northern Pacific		25	900 00	36 00
Wisconsin & Michigan				
Total	27	6,713	\$137,724 44	\$16 05
<i>b. Intrastate Roads.</i>				
Ahnapee & Western	6	243	\$2,700 00	\$11 11
Ashland, Odanah & Marengo	3	937	3,267 77	3 49
Bayfield Transfer	1	313	1,800 00	5 75
Big Falls Ry. Co.	2	600		
Chippewa Valley & Northern	4	200	1,500 00	7 50
Green Bay & Western	6	1,188	13,200 00	11 11
Hazelhurst & Southeastern	6	90		
Iola & Northern	6			
Kewaunee, Green Bay Western	6	440	4,900 00	11 14
LaCrosse & Southeastern	7	936	4,500 00	4 80
Lake Superior Terminal & Transfer	4	1,460	3,728 30	2 55
Marquette, Tomahawk & Western	14	117	1,432 00	12 24
Mattoon Ry. Co.	3	864	1,100 00	1 27
Mineral Point & Northern	3	1,068	4,275 00	4 00
Northwestern Coal Ry. Co.	1	150	900 00	6 00
Stanley, Merrill & Phillips	4	312	2,400 00	7 69
Tomahawk & Eastern	4	45	547 44	12 39
Wisconsin & Northern	3	248	3,300 00	13 30
Wisconsin Northwestern	1	312	1,250 00	4 01
Total	74	9,523	\$50,800 51	\$285 69
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western	34	10,218	\$438,515 66	\$42 92
Chicago, Burlington & Quincy	141	51,100	767,256 37	15 01
Chicago, Milwaukee & St. Paul	26	9,212	250,596 95	27 20
Chicago, St. Paul, Minneapolis & Omaha ..	40	14,274	197,137 46	13 81
Chicago, Harvard & Geneva Lake	4	150	600 00	4 00
Duluth, South Shore & Atlantic	11	2,879	30,950 33	10 75
Elgin, Joliet & Eastern	6	1,872	34,884 84	18 63
Great Northern	26	9,533	270,945 17	28 42
Illinois Central	84	30,713	389,367 98	12 68
Minneapolis, St. Paul & S. Ste. Marie	23	7,480	174,008 33	23 26
Northern Pacific	64	23,816	500,370 08	21 01
Wisconsin & Michigan	3	1,020	6,552 00	6 33
Total	462	162,267	\$3,061,205 17	\$18 87

¹One serving without compensation.

YEAR ENDING JUNE 30, 1912.

Other officers.				General office clerks.			
Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
6	1,872	\$26,599 92	\$14 21	22	6,396	\$16,685 54	\$2 61
20	7,200	73,800 00	10 25	13	4,069	10,318 63	2 54
				175	65,722	150,396 12	2 29
				18	5,490	16,054 86	2 92
				1	210	541 38	2 58
1	360	900 00	2 50	193	357	953 19	2 67
5	1,817	16,887 20	9 29	13	2,350	7,392 90	3 15
3	1,098	4,119 96	3 75	5	1,894	5,851 00	3 09
13	4,568	43,315 57	9 48	242	71,043	155,805 40	2 19
	16	270 00	16 88	3	718	1,478 96	2 06
48	16,931	\$165,892 65	\$9 80	685	158,249	\$365,477 98	\$2 31
1	30	\$120 00	4 00	17	888	\$2,220 00	\$2 50
1	313	955 00	3 05	1	300	300 00	1 00
1	210	840 00	4 00	17	2,496	6,240 50	1 85
2	730	1,110 00	1 52	1	217	435 00	2 00
1	60	240 00	4 00	17	1,392	3,480 00	2 50
				2	624	1,200 00	1 92
1	365	1,800 00	4 93	2	730	1,020 00	1 40
1	234	1,800 00	7 69	3	506	1,136 00	2 25
				2	576	1,650 60	2 87
2	732	2,550 00	3 48	4	1,464	2,090 00	1 43
1	40	200 00	5 00	2	300	671 50	2 24
4	1,177	5,670 00	4 84	1	312	1,380 00	4 42
1	78	600 00	7 69	3	110	247 56	2 25
				4	252	732 00	2 90
				1	312	600 00	1 92
16	3,969	\$15,885 00	\$4 00	77	10,479	\$23,402 56	\$2 23
80	25,456	\$337,003 74	\$13 24	1,333	411,008	\$1,020,475 86	\$2 48
77	27,430	362,338 35	13 21	2,256	688,287	1,703,939 71	2 48
				1,133	384,767	830,682 58	2 16
				296	108,336	235,381 89	2 17
				2	420	1,082 76	2 58
8	3,019	23,410 00	7 75	93	32,161	67,591 26	2 10
10	3,552	29,770 00	8 38	193	64,889	172,995 65	2 67
115	41,394	329,004 97	7 95	1,165	400,419	886,960 39	2 22
202	96,229	486,366 30	5 05	2,361	698,556	1,691,741 86	2 42
36	13,872	124,822 13	9 33	633	200,689	444,777 05	2 22
67	25,123	239,510 09	9 53	1,401	506,655	1,175,241 41	2 32
2	870	3,720 00	4 28	5	1,690	3,840 00	2 27
657	236,445	\$1,935,945 58	\$8 19	10,871	3,497,877	\$8,234,710 42	\$2 35

*Hazelhurst & Southeastern and Big Falls Ry. excluded.

EMPLOYES AND

NAME OF ROAD.	Station agents.			
	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western	305	90,610	\$217,376 94	\$2 40
Chicago, Burlington & Quincy	29	10,220	24,073 03	2 35
Chicago, Milwaukee & St. Paul	285	102,419	224,231 69	2 19
Chicago, St. Paul, Minneapolis & Omaha ..	88	27,857	71,650 71	2 57
Chicago, Harvard & Geneva Lake	1	45	90 00	2 00
Duluth, South Shore & Atlantic	8	2,958	7,744 00	2 62
Elgin, Joliet & Eastern	1	360	1,320 00	3 67
Great Northern	6	1,959	6,738 13	3 44
Illinois Central	15	5,846	11,458 94	1 96
Minneapolis, St. Paul & Sault Ste. Marie ..	217	60,366	123,743 23	2 05
Northern Pacific	8	2,938	8,730 78	2 97
Wisconsin & Michigan ¹				
Total	962 ¹	305,578	\$697,157 45	\$2 28
<i>b. Intrastate Roads.</i>				
Ahnapee & Western	5	1,537	\$2,844 00	\$1 85
Ashland, Odanah & Marengo				
Bayfield Transfer				
Big Falls Ry. Co.				
Chippewa Valley & Northern				
Green Bay & Western	30	9,496	17,568 00	1 85
Hazelhurst & Southeastern	3	608	1,613 40	2 65
Iola & Northern	1	168	420 00	2 50
Kewaunee, Green Bay & Western	4	1,265	2,340 00	1 85
La Crosse & Southeastern	6	2,160	3,300 00	1 52
Lake Superior Terminal & Transfer	1	365	1,320 00	3 62
Marquette, Tomahawk & Western	3	510	972 00	1 91
Mattoon Ry. Co.	1	313	1,200 00	3 83
Mineral Point & Northern	3	1,098	2,044 17	1 86
Northwestern Coal Ry. Co.				
Stanley, Merrill & Phillips	1	327	937 50	2 87
Tomahawk & Eastern	1	102	195 00	1 91
Wisconsin & Northern	7	2,191	5,100 00	2 33
Wisconsin Northwestern				
Total	66	20,140	\$39,854 07	\$1 98
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western	1,114	344,032	\$855,847 61	\$2 49
Chicago, Burlington & Quincy	1,164	415,735	899,897 99	2 16
Chicago, Milwaukee & St. Paul	950	354,819	768,564 66	2 16
Chicago, St. Paul, Minneapolis & Omaha ..	213	68,982	176,437 65	2 63
Chicago, Harvard & Geneva Lake	1	90	180 00	2 00
Duluth, South Shore & Atlantic	48	17,298	41,954 80	2 43
Elgin, Joliet & Eastern	42	14,986	35,868 85	2 40
Great Northern	714	235,437	543,358 07	2 31
Illinois Central	963	339,376	721,808 08	2 13
Minneapolis, St. Paul & Sault St. Marie ..	466	151,787	320,404 16	2 11
Northern Pacific	583	212,897	543,236 42	2 55
Wisconsin & Michigan	10	3,720	5,440 00	1 47
Total	6,268	2,157,139	\$4,912,998 39	\$2 28

¹ No figures compiled.

SALARIES, 1912.—Continued.

Other station men.				Enginemen.			
Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
1,040	316,680	\$586,232 67	\$1 85	473	189,098	\$869,850 24	\$4 60
30	9,077	15,692 90	1 73	74	27,010	137,434 54	5 09
694	236,186	408,448 18	1 73	453	173,709	817,177 63	4 70
155	45,072	91,637 87	2 03	164	53,836	295,862 89	5 50
					180	540 00	3 00
11	3,346	6,361 75	1 90	12	4,779	21,974 71	4 60
2	677	1,541 99	2 28	6	1,736	7,812 10	4 50
100	23,895	60,453 34	2 53	41	6,624	33,880 44	5 11
13	4,934	6,903 09	1 40	6	1,011	6,461 55	6 39
238	73,499	128,121 85	1 74	211	83,177	349,544 79	4 20
28	11,414	22,639 97	1 98	13	5,201	27,010 25	5 19
2,311	724,780	\$1,328,033 61	\$1 83	1,453	546,361	\$2,567,549 14	\$4 70
5	1,392	\$1,740 00	\$1 25	3	704	\$2,641 20	\$3 75
	247	472 88	1 92	2	881	3,167 33	3 59
1	220	660 00	3 00	2	610	2,111 34	3 46
				1	300	900 00	3 00
				1	323	1,081 05	3 35
30	8,560	12,840 20	1 50	16	5,674	21,276 72	3 75
				1	338	1,046 65	3 10
2	450	471 98	1 05	1	332	1,077 44	3 25
10	2,684	4,026 00	1 50	5	1,243	4,662 56	3 75
				2	720	2,160 00	3 00
11	3,869	8,735 00	2 26	6	3,908	16,609 65	4 25
1	240	444 00	1 85	2	609	1,832 32	3 00
				1	421	1,203 00	3 00
2	1,038	526 71	51	1	809	2,393 96	2 96
1	376	658 05	1 75	2	551	2,126 79	3 86
1	312	572 50	1 83	3	1,047	3,279 05	3 13
1	80	148 00	1 85	1	186	559 05	3 00
1	365	540 00	1 48	2	626	3,000 00	4 79
				1	265	798 20	3 00
66	19,833	\$31,835 32	\$1 61	53	19,547	\$71,986 31	\$3 68
4,424	1,270,516	\$2,603,590 85	\$2 05	1,649	598,576	\$3,052,738 99	\$5 10
3,668	1,119,288	2,350,939 25	2 10	1,613	528,155	2,478,381 56	4 69
3,778	1,200,137	2,122,482 55	1 77	1,591	586,891	2,703,582 61	4 61
731	213,466	452,054 33	2 12	345	113,306	620,412 77	5 48
				1	360	1,080 00	3 00
177	42,895	78,307 90	1 83	89	30,285	139,256 72	4 60
277	98,909	194,304 03	2 19	288	89,835	416,889 17	4 64
2,083	444,328	887,042 79	2 00	1,273	304,686	1,496,945 99	4 91
6,082	1,801,910	3,513,124 30	1 95	1,519	503,817	2,403,450 96	4 77
914	302,919	565,428 77	1 87	499	177,629	847,368 78	4 77
2,657	816,025	1,743,676 12	2 14	948	341,093	1,900,910 53	5 57
3	830	870 00	1 05	3	1,428	5,813 38	4 07
24,794	7,311,223	\$14,508,820 59	\$1 98	9,818	3,276,061	\$16,066,831 46	\$4 90

EMPLOYES AND

NAME OF ROAD.	Firemen.			
	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
A. WISCONSIN:				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	501	197,149	\$597,361 74	\$3 03
Chicago, Burlington & Quincy.....	80	27,010	86,104 09	3 19
Chicago, Milwaukee & St. Paul.....	458	173,718	508,250 52	2 93
Chicago, St. Paul, Minneapolis & Omaha.....	185	53,210	186,767 81	3 51
Chicago, Harvard & Geneva Lake.....	†	195	390 70	2 00
Duluth, South Shore & Atlantic.....	12	4,719	13,287 34	2 82
Elgin, Joliet & Eastern.....	3	966	2,442 20	2 53
Great Northern.....	46	6,546	21,732 84	3 32
Illinois Central.....	6	1,011	3,857 53	3 82
Minneapolis, St. Paul & Sault Ste. Marie.....	211	83,177	226,045 70	2 72
Northern Pacific.....	13	5,201	17,248 32	3 32
Wisconsin & Michigan ¹				
Total.....	1,515[‡]	552,902	\$1,663,488 79	\$3 01
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	3	712	\$1,600 92	\$2 25
Ashland, Odanah & Marengo.....	2	954	2,034 43	2 13
Bayfield Transfer ²	2	549	1,447 27	2 64
Big Fall Ry. Co.....	1	300	525 00	1 75
Chippewa Valley & Northern.....	1	319	875 00	2 74
Green Bay & Western.....	17	5,413	12,178 32	2 25
Hazelhurst & Southeastern.....	1	328	770 91	2 35
Iola & Northern.....	1	360	540 00	1 50
Kewaunee, Green Bay & Western.....	5	1,281	2,883 00	2 25
La Crosse & Southeastern.....	2	720	1,440 00	2 00
Lake Superior Terminal & Transfer.....	6	3,908	9,768 84	2 50
Marinette, Tomahawk & Western.....	2	584	1,168 13	2 00
Mattoon R'y Co.....	1	397	833 70	2 10
Mineral Point & Northern.....	1	795	1,587 30	2 00
Northwestern Coal R'y Co.....	1	321	802 46	2 50
Stanley, Merrill & Phillips.....	3	1,026	2,204 74	2 15
Tomahawk & Eastern.....	1	175	350 65	2 00
Wisconsin & Northern.....	2	626	1,953 00	3 12
Wisconsin Northwestern.....	1	265	528 36	2 00
Total.....	53	19,033	\$43,492 03	\$223
B. ENTIRE SYSTEM:				
<i>Interstate Roads.</i>				
Chicago & North Western.....	1,708	640,163	\$2,016,513 41	\$3 15
Chicago, Burlington & Quincy.....	1,537	502,970	1,485,974 80	2 95
Chicago, Milwaukee & St. Paul.....	1,545	579,638	1,630,523 22	2 81
Chicago, St. Paul, Minneapolis & Omaha.....	383	112,367	389,806 02	3 47
Chicago, Harvard & Geneva Lake.....	1	391	781 40	2 00
Duluth, South Shore & Atlantic.....	89	29,908	84,203 68	2 82
Elgin, Joliet & Eastern.....	282	87,971	250,051 24	2 84
Great Northern.....	1,364	306,114	996,974 13	3 26
Illinois Central.....	1,602	507,371	1,526,220 10	3 01
Minneapolis, St. Paul & Sault Ste. Marie.....	499	177,629	544,744 18	3 06
Northern Pacific.....	948	341,093	1,224,574 94	3 59
Wisconsin & Michigan.....	3	2,058	4,504 94	2 19
Total.....	9,961	3,287,673	\$10,154,872 06	\$3 09

¹ No figures compiled.

SALARIES, 1912—Continued.

Conductors.				Other trainmen.			
Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
326	114,486	\$551,822 92	\$4 82	1,053	360,842	\$1,143,868 67	\$3 17
58	20,440	75,038 79	3 67	98	34,675	101,927 80	2 94
322	105,081	467,169 37	4 45	1,279	383,558	1,160,704 47	3 03
113	34,430	184,418 89	5 36	419	105,794	365,145 05	3 45
2	480	1,155 00	2 40	3	643	1,405 44	2 18
14	4,588	20,365 97	4 44	41	12,703	34,409 36	2 71
86	16,177	66,811 85	4 13	11	3,357	12,421 45	3 72
6	1,014	5,756 09	5 68	148	31,986	103,637 45	3 24
132	50,819	239,751 31	4 72	12	2,041	6,491 91	3 18
11	3,910	17,688 76	4 52	374	140,940	428,314 02	3 04
1,070	351,425	\$1,629,978 95	\$4 64	32	11,899	38,974 65	3 28
3	626	\$1,878 12	\$3 00	3	675	\$1,621 08	\$2 40
2	829	2,048 75	2 47	.....	916	1,958 37	2 14
2	816	2,527 93	3 11	.....	.....	.....	.....
1	300	675 00	2 25	.....	.....	.....	.....
1	313	840 58	2 68	1	326	651 00	2 00
14	4,806	14,416 68	3 00	25	7,542	18,099 84	2 40
1	340	1,418 39	4 17	2	485	1,091 81	2 25
1	144	360 00	2 50	1	320	720 00	2 25
4	1,184	3,551 16	3 00	7	1,986	4,766 64	2 40
2	720	1,660 00	2 33	2	720	1,440 00	2 00
.....	.....	.....	.....	22	12,814	47,632 02	3 72
2	563	1,690 16	3 00	.....	.....	.....	.....
1	378	945 00	2 50	6	801	1,746 18	2 18
1	803	2,467 64	3 07	2	1,156	2,385 24	2 06
1	309	1,173 77	3 80	2	615	2,157 92	3 51
3	1,009	2,521 83	2 50	3	1,273	2,696 24	2 12
1	166	497 70	3 00	.....	.....	.....	.....
2	626	2,389 40	3 82	2	626	1,450 80	2 32
1	253	760 19	3 00	2	598	1,195 61	2 00
43	14,135	\$41,842 30	\$2 95	80	30,853	\$89,612 75	\$2 90
1,073	404,951	\$1,927,568 17	\$4 76	3,629	1,299,265	\$4,092,685 47	\$3 15
1,422	467,200	1,881,024 38	4 03	2,904	956,665	2,602,638 04	2 72
1,054	372,315	1,644,230 56	4 41	3,956	1,264,387	3,844,584 45	3 05
243	67,295	362,681 01	5 39	979	251,652	894,059 58	3 55
4	960	2,310 00	2 41	6	1,285	2,810 88	2 19
77	24,905	110,564 43	4 44	230	68,962	186,804 35	2 71
84	26,064	113,721 06	4 36	742	233,917	834,116 76	3 57
1,524	263,914	1,181,027 34	4 48	3,352	637,951	1,684,410 42	2 64
1,370	456,205	1,971,922 97	4 32	3,137	983,621	2,718,906 90	2 76
306	116,713	550,634 01	4 72	1,035	373,178	1,073,882 30	2 88
703	247,841	1,194,920 73	4 82	2,309	768,256	2,538,459 10	3 30
3	1,386	4,709 28	3 40	11	3,935	8,606 72	2 05
7,863	2,449,749	\$10,945,313 94	\$4 47	22,290	6,843,074	\$20,481,964 97	\$2 99

² Includes trainmen.

NAME OF ROAD.	Machinists.			
	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	208	49,504	\$153,779 97	\$3 11
Chicago, Burlington & Quincy.....	40	12,207	33,935 15	2 78
Chicago, Milwaukee & St. Paul.....	433	154,875	607,849 14	3 93
Chicago, St. Paul, Minneapolis & Omaha..	114	37,560	96,002 88	2 56
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....				
Great Northern.....	43	11,592	48,685 34	4 20
Illinois Central.....				
Minneapolis, St. Paul & Sault Ste. Marie..	190	52,779	148,065 29	2 81
Northern Pacific.....				
Wisconsin & Michigan ¹				
Total.....	1,028	318,517	\$1,088,317 77	\$3 42
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....				
Ashland, Odanah & Marengo.....	2	731	\$2,833 51	\$3 88
Bayfield Transfer.....				
Big Falls Ry. Co.....				
Chippewa Valley & Northern.....				
Green Bay & Western.....	27	6,458	15,176 16	2 35
Hazelhurst & Southeastern.....				
Iola & Northern.....				
Kewaunee, Green Bay & Western.....				
La Crosse & Southeastern.....				
Lake Superior Terminal & Transfer.....	5	1,619	6,122 25	3 78
Marinette, Tomahawk & Western.....	1	246	657 09	2 67
Mattoon R'y Co.....				
Mineral Point & Northern.....	2	960	2,563 94	2 67
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....	1	312	873 60	2 80
Tomahawk & Eastern.....	1	72	192 91	2 68
Wisconsin & Northern.....				
Wisconsin Northwestern.....	1	172	516 00	3 00
Total.....	40	10,570	\$28,935 46	\$2 71
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	1,434	341,484	\$1,019,248 74	\$2 98
Chicago, Burlington & Quincy.....	952	290,151	991,338 71	3 42
Chicago, Milwaukee & St. Paul.....	750	309,755	1,216,881 02	3 93
Chicago, St. Paul, Minneapolis & Omaha..	729	222,543	566,608 07	2 55
Chicago Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....	24	6,520	22,188 16	3 40
Elgin, Joliet & Eastern.....	181	56,500	143,972 55	2 55
Great Northern.....	547	143,892	612,045 81	4 25
Illinois Central.....	1,899	409,348	1,502,812 17	3 67
Minneapolis, St. Paul & Sault Ste. Marie..	511	151,876	452,173 29	2 98
Northern Pacific.....	1,150	307,097	990,125 82	3 22
Wisconsin & Michigan.....	9	2,714	7,166 08	2 64
Total.....	8,186	2,241,880	\$7,524,560 42	\$3 36

¹ No figures compiled.

STATISTICS—STEAM RAILROADS.

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SALARIES, 1912—Continued.

Carpenters.				Other shopmen.			
Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
333	93,392	\$211,033 81	\$2 26	1,229	396,390	\$865,238 21	\$2 18
107	32,552	86,118 37	2 65	158	47,889	107,812 43	2 26
1,002	321,094	766,239 16	2 39	3,117	1,062,009	2,522,314 92	2 38
310	102,664	236,187 09	2 30	134	41,003	92,595 50	2 26
.....	.....	.....	.....	1 ¹	330	810 00	2 45
3	1,291	3,092 75	2 40	8	2,599	5,266 85	2 03
3	926	2,283 70	2 47	4	1,543	2,928 25	1 90
62	7,397	20,119 48	2 72	714	135,151	297,331 73	2 20
.....	.....	.....	.....	5	2,014	3,659 71	1 82
398	104,218	250,620 80	2 40	180	56,032	143,856 83	2 57
.....
20	2,042	5,200 58	2 55	17	5,575	12,999 40	2 33
.....
2,238	665,576	\$1,580,895 74	\$2 38	5,567 ¹	1,751,035	\$4,054,813 83	\$2 32
.....
.....	.....	.....	.....	3	938	\$1,500 00	\$1 60
.....	.....	.....	.....	4	1,528	3,809 73	2 48
1	300	\$525 00	\$1 75	2	975	2,736 03	2 80
.....
5	1,396	3,489 72	2 50	83	24,379	43,881 34	1 80
.....
.....	.....	.....	.....	4	743	1,710 00	2 30
.....	.....	.....	.....	1	312	720 00	2 30
.....
1	319	715 73	2 24	14	5,072	11,488 97	2 27
.....
.....
1	312	780 00	2 50	7	2,533	5,455 42	2 15
1	71	158 73	2 23	.....	.....	.....	.....
3	939	2,105 05	2 24	.....	.....	.....	.....
2	528	1,187 62	2 25	.....	.....	.....	.....
.....
14	3,865	\$8,961 85	\$2 32	118	36,480	\$71,301 49	\$1 95
.....
1,474	448,552	\$1,060,618 29	\$2 36	7,548	2,399,098	\$5,155,598 76	\$2 15
2,002	609,098	1,618,786 82	2 66	6,828	1,973,465	4,976,715 22	2 52
2,490	768,394	1,823,578 89	2 37	5,435	1,874,244	4,387,439 64	2 34
757	231,620	551,531 07	2 38	364	109,863	252,303 31	2 30
.....	.....	.....	.....	3	660	1,620 00	2 45
.....
26	9,151	21,923 22	2 40	379	108,299	218,277 81	2 02
59	18,323	44,423 94	2 42	963	314,247	688,735 14	2 19
848	245,039	675,314 21	2 76	6,706	1,470,049	3,303,528 81	2 25
1,427	366,461	1,010,673 17	2 76	13,312	3,678,982	7,923,303 31	2 15
780	226,097	554,030 30	2 45	472	143,763	386,847 71	2 70
.....
1,428	436,904	1,150,944 55	2 63	4,030	1,111,373	2,834,810 20	2 55
7	1,971	4,000 92	2 03	17	5,247	9,707 70	1 85
.....
11,298	3,361,610	\$8,515,825 38	\$2 53	46,057	13,189,290	\$30,138,792 90	\$2 29

² Includes car repairs.

EMPLOYES AND SALARIES.

NAME OF ROAD.	Section foremen.			
	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
A. WISCONSIN:				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	397	118,378	\$257,975 65	\$2 18
Chicago, Burlington & Quincy.....	56	19,710	42,994 53	2 19
Chicago, Milwaukee & St. Paul.....	281	99,889	176,202 03	1 76
Chicago, St. Paul, Minneapolis & Omaha..	134	41,629	101,872 90	2 45
Chicago, Harvard & Geneva Lake.....	1	150	330 00	2 40
Duluth, South Shore & Atlantic.....	23	8,032	16,121 65	2 01
Elgin, Joliet & Eastern.....				
Great Northern.....	14	4,625	10,154 64	2 20
Illinois Central.....	12	4,392	7,920 00	1 80
Minneapolis, St. Paul & Sault Ste. Marie..	249	90,051	159,477 38	1 77
Northern Pacific.....	21	7,656	16,428 92	2 15
Wisconsin & Michigan.....				
Total.....	1,187 ¹	394,512	\$789,507 70	\$2 00
<i>b. Intrastate Roads</i>				
Ahnapee & Western.....	5	1,557	\$2,880 00	\$1 85
Ashland, Odanah & Menango.....	4	980	2,198 44	2 25
Bayfield Transfer.....	1	347	923 17	2 66
Big Falls Ry. Co.....	1	300	525 00	1 75
Chippewa Valley & Northern.....	1	315	792 00	2 50
Green Bay & Western.....	37	12,035	22,265 50	1 85
Hazelhurst & Southeastern.....	1	313	626 00	2 00
Iola & Northern.....	1	189	282 89	1 50
Kewaunee, Green Bay Western.....	6	1,881	3,480 00	1 85
La Crosse & Southeastern.....	6	2,160	3,300 00	1 52
Lake Superior Terminal & Transfer.....	2	730	1,740 00	2 38
Marinette, Tomahawk & Western.....	2	523	1,082 00	2 07
Mattoon R'y Co.....	1	293	565 49	1 93
Mineral Point & Northern.....	4	1,446	2,803 15	1 94
Northwestern Coal R'y Co.....	1	175	432 50	2 47
Stanley, Merrill & Phillips.....	6	1,683	3,367 60	2 00
Tomahawk & Eastern.....	1	228	469 67	2 06
Wisconsin & Northern.....	3	939	2,100 00	2 23
Wisconsin Northwestern.....	1	507	589 40	1 92
Total.....	84	26,401	\$50,423 41	\$1 91
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	1,463	444,418	\$959,927 32	\$2 16
Chicago, Burlington & Quincy.....	1,572	562,100	1,152,506 98	2 05
Chicago, Milwaukee & St. Paul.....	1,030	366,110	660,522 73	1 80
Chicago, St. Paul, Minneapolis & Omaha..	293	93,900	224,819 27	2 39
Chicago, Harvard & Geneva Lake.....	1	300	720 00	2 40
Duluth, South Shore & Atlantic.....	131	44,884	80,923 35	2 00
Elgin, Joliet & Eastern.....	79	28,551	60,379 61	2 11
Great Northern.....	1,138	368,613	782,284 56	2 12
Illinois Central.....	1,059	367,774	744,892 59	2 03
Minneapolis, St. Paul & Sault Ste. Marie..	637	216,359	415,360 89	1 92
Northern Pacific.....	1,058	357,794	804,256 07	2 25
Wisconsin & Michigan.....	10	3,343	6,352 04	1 90
Total.....	8,471	2,854,146	\$5,902,545 41	\$2 07

¹ One added to make total check.

STATISTICS—STEAM RAILROADS.

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1912—Continued.

Other trackmen.				Switch-tenders, crossing-tenders, and watchmen.			
Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
2,419	589,922	\$895,727 44	\$1 52	286	102,000	\$123,560 29	\$1 21
982	252,278	383,718 71	1 52	25	8,760	10,801 36	1 23
2,991	522,208	876,739 21	1 68	241	97,327	147,138 02	1 51
517	246,957	395,816 61	1 60	16	5,321	8,308 50	1 56
24	812	1,299 91	1 60				
150	31,236	51,563 90	1 65	6	2,166	3,460 11	1 60
9	2,827	5,030 80	1 78	2	728	1,098 00	1 51
521	80,177	123,472 24	1 54	77	15,976	34,261 48	2 14
42	12,101	18,263 82	1 51				
1,121	281,510	434,537 20	1 54	59	20,873	26,681 36	1 28
134	24,196	37,046 77	1 53	2	650	853 34	1 31
8,888 1/2	2,044,224	\$3,223,216 61	\$1 58	714	253,801	\$356,162 46	\$1 40
10	3,039	\$4,103 22	\$1 35	2	558	\$769 75	\$1 38
35	8,089	14,040 80	1 73	2	969	1,728 10	1 79
9	2,210	4,538 56	2 05	1	365	600 00	1 63
2	600	960 00	1 60				
5	1,518	2,501 06	1 65				
80	23,545	31,785 96	1 35	5	1,050	1,260 00	1 20
1	284	539 89	1 90				
16	4,385	5,919 72	1 35	1	225	450 00	2 00
10	2,880	3,567 56	1 24	2	720	1,080 00	1 50
13	3,549	5,845 72	1 65	8	2,832	5,381 96	1 90
9	1,866	2,834 42	1 52				
4	1,628	2,604 80	1 60	1	344	791 20	2 30
5	1,892	3,752 10	1 98				
2	310	495 36	1 60	2	619	1,218 84	1 97
40	6,573	10,619 15	1 62				
4	899	1,368 15	1 52				
10	2,504	3,485 30	1 40	2	730	1,080 00	1 48
14	3,948	6,237 84	1 58	1	347	607 25	1 75
269	60,719	\$105,199 61	\$1 51	27	8,759	\$14,967 10	\$1 71
8,318	2,102,836	\$3,195,471 46	\$1 52	903	310,650	\$421,539 41	\$1 36
14,515	3,801,072	5,763,557 90	1 52	495	205,130	306,091 11	1 49
11,324	1,906,012	3,178,317 65	1 67	604	252,794	379,716 51	1 50
968	430,688	680,757 37	1 58	51	15,337	24,662 82	1 61
5	1,624	2,599 82	1 60				
699	155,042	249,562 70	1 61	46	14,547	21,369 30	1 47
771	241,093	387,927 52	1 61	88	31,356	50,839 62	1 62
12,981	3,854,500	6,012,192 51	1 56	538	155,434	284,723 92	1 83
9,655	2,338,600	3,291,168 20	1 41	432	152,912	226,405 99	1 48
2,941	673,046	1,011,297 67	1 50	121	43,583	63,785 98	1 46
9,927	2,112,029	3,281,296 57	1 55	309	106,072	177,862 55	1 68
34	7,082	10,622 30	1 50	1	365	540 00	1 48
72,138	17,623,624	\$27,064,771 87	\$1 54	3,588	1,288,180	\$1,957,537 21	\$1 52

EMPLOYES AND

NAME OF ROAD.	Telegraph operators and dispatchers.			
	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	346	113,010	\$256,930 86	\$2 27
Chicago, Burlington & Quincy.....	103	36,135	85,769 70	2 37
Chicago, Milwaukee & St. Paul.....	284	97,786	230,311 23	2 35
Chicago, St. Paul, Minneapolis & Omaha..	138	46,324	120,136 64	2 59
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....	7	2,506	4,935 05	1 97
Elgin, Joliet & Eastern.....				
Great Northern.....	18	5,186	18,980 64	3 66
Illinois Central.....				
Minneapolis, St. Paul & Sault Ste. Marie..	173	61,119	138,962 16	2 27
Northern Pacific.....	6	2,043	4,669 87	2 29
Wisconsin & Michigan.....				
Total	1,075	364,109	\$860,696 15	\$2 36
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	2	137	\$480 00	\$3 50
Ashland, Odanah & Marengo.....	1	299	664 25	2 22
Bayfield Transfer.....				
Big Falls Ry. Co.....				
Chippewa Valley & Northern.....				
Green Bay & Western.....	4	936	2,340 00	2 50
Hazelhurst & Southeastern.....				
Iola & Northern.....	2	223	780 00	3 50
Kewaunee, Green Bay & Western.....				
La Crosse & Southeastern.....				
Lake Superior Terminal & Transfer.....				
Marinette, Tomahawk & Western.....				
Mattoon R'y Co.....				
Mineral Point & Northern.....				
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....				
Tomahawk & Eastern.....				
Wisconsin & Northern.....				
Wisconsin Northwestern.....				
Total	9	1,595	\$4,264 25	\$2 67
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	907	316,260	\$755,393 73	\$2 39
Chicago, Burlington & Quincy.....	1,491	526,878	1,303,238 15	2 47
Chicago, Milwaukee & St. Paul.....	1,200	411,465	938,495 69	2 28
Chicago, St. Paul, Minneapolis & Omaha..	269	87,327	236,487 08	2 71
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....	68	20,719	48,222 70	2 33
Elgin, Joliet & Eastern.....	52	18,799	41,074 87	2 18
Great Northern.....	753	202,692	526,493 48	2 60
Illinois Central.....	689	208,588	567,641 66	2 72
Minneapolis, St. Paul & Sault Ste. Marie..	316	111,356	264,800 98	2 38
Northern Pacific.....	907	331,755	936,706 72	2 82
Wisconsin & Michigan.....				
Total	6,652	2,235,819	\$5,618,555 06	\$2 51

SALARIES, 1912—Continued.

Employees—Account of floating equipment.				All other employes and laborers.			
Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
				1,704	363,116	\$940,926 22	\$2 59
				245	77,311	174,733 64	2 27
				2,757	853,610	1,571,797 41	1 84
				917	131,147	295,050 47	2 25
				24	3,654	8,123 30	2 22
				148	47,887	104,393 52	2 18
				21	4,919	12,713 43	2 58
				1,345	323,981	653,328 28	2 02
				28	10,242	24,181 52	2 36
				7,189	1,815,867	\$3,785,247 79	\$2 08
				8	1,230	\$2,152 47	\$1 75
				3	613	1,528 57	2 49
				1	300	900 00	3 00
				20	5,858	12,302 64	2 10
				5	763	1,335 75	1 75
				3	674	1,188 57	1 76
				1	306	673 20	2 20
				3	1,266	1,597 37	1 26
				2	363	832 15	2 29
				1	430	902 54	2 10
				1	204	359 53	1 76
				48	12,007	\$23,773 09	\$1 98
				5,601	1,662,258	\$4,175,231 12	\$2 51
				6,733	1,955,624	4,925,569 86	2 52
				9,731	2,743,873	5,444,945 49	1 98
				1,797	355,255	503,052 82	2 26
				258	67,117	149,860 39	2 23
				141	44,830	119,785 43	2 67
2	789	\$1,756 05	\$2 23	3,172	937,306	2,041,840 47	2 18
50	12,732	29,159 96	2 29	4,071	1,053,452	2,422,136 72	2 30
				3,571	910,845	1,818,919 96	2 00
				3,886	1,362,015	2,961,132 81	2 17
				10	4,316	6,514 69	1 51
52	13,521	\$30,916 01	\$2 29	39,061	11,096,891	\$24,868,989 76	\$2 24

EMPLOYES AND
DISTRIBUTION OF

NAME OF ROAD.	Maintenance of way and structures.			
	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	4,036	923,814	\$1,759,918 69	\$1 91
Chicago, Burlington & Quincy.....				
Chicago, Milwaukee & St. Paul ¹	1,426	378,730	717,236 35	
Chicago, St. Paul, Minneapolis & Omaha.....		962	1,659 91	1 72
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....	176	40,559	70,778 30	1 75
Elgin, Joliet & Eastern.....	40	2,880	5,172 19	1 80
Great Northern.....	660	111,860	198,607 58	1 78
Illinois Central.....	76	21,818	40,132 25	1 84
Minneapolis, St. Paul & Sault Ste. Marie..	2,258	525,761	930,648 61	1 77
Northern Pacific.....	180	35,987	63,762 87	1 77
Wisconsin and Michigan ²				
Total.....	8,852	2,042,371	\$3,787,916 75	\$1 85
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	15	4,596	\$6,983 22	\$1 52
Ashland, Odanah & Marengo.....	39	9,069	16,239 24	1 79
Bayfield Transfer.....			5,461 73	
Big Falls Ry. Co. ¹				
Chippewa Valley & Northern.....	6	1,833	3,293 66	1 80
Green Bay & Western.....	117	35,580	54,051 46	1 52
Hazelhurst & Southeastern.....	2	597	1,185 89	1 95
Iola & Northern.....	1	189	282 89	1 50
Kewaunee, Green Bay & Western.....	22	6,266	9,399 72	1 50
La Crosse & Southeastern.....	16	5,040	6,867 56	1 36
Lake Superior Terminal & Transfer.....	15	4,279	7,585 72	1 77
Marinette, Tomahawk & Western.....	11	2,488	4,397 59	2 00
Mattson Ry. Co.....	5	1,921	3,170 29	1 66
Mineral Point & Northern.....	9	3,338	6,555 25	1 96
Northwestern Coal Ry. Co.....	4	554	1,273 02	2 30
Stanley, Merrill & Phillips.....	48	8,937	16,119 88	1 80
Tomahawk & Eastern.....	5	1,127	2,011 84	1 79
Wisconsin & Northern.....	14	3,756	6,286 35	1 67
Wisconsin Northwestern.....	15	4,255	6,827 24	1 60
Total.....	344	93,825	\$158,572 55	³ 1 63
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	13,508	3,534,916	\$6,655,286 61	\$1 88
Chicago, Burlington & Quincy.....				
Chicago, Milwaukee & St. Paul.....			5,276,464 82	
Chicago, St. Paul, Minneapolis & Omaha..	2,365	673,576	1,280,922 50	1 90
Chicago, Harvard & Geneva Lake.....		1,924	3,319 82	1 72
Duluth, South Shore & Atlantic.....	849	207,270	358,101 15	1 73
Elgin, Joliet & Eastern.....	1,014	322,410	591,042 37	1 83
Great Northern.....	16,880	5,037,345	8,775,129 19	1 74
Illinois Central.....	11,209	3,540,989	6,082,955 48	1 72
Minneapolis, St. Paul & Sault Ste. Marie..	5,447	1,286,769	2,243,975 91	1 74
Northern Pacific.....	13,621	3,301,681	6,345,536 95	1 92
Wisconsin & Michigan.....	57	15,541	25,113 03	1 62
Total.....	67,950	17,922,421	\$40,509,697 40	³ \$1 81

¹ Distribution not given in report.² Wisconsin not reported.³ Bayfield Transfer excluded in average.

STATISTICS—STEAM RAILROADS.

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SALARIES, 1912.—Continued.

THE FOREGOING.

Maintenance of equipment.				Traffic expenses.			
Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
1,561	480,428	\$1,091,665 43	\$2 27	19	5,902	\$24,600 28	\$4 17
532	161,195	378,313 21		3	939	3,840 00	
	209	512 62	2 45		43	112 50	2 58
8	2,599	5,266 85	2 03	3	1,098	1,720 20	1 57
7	2,469	5,211 95	2 11	22	41	109 07	2 66
801	154,039	364,399 84	2 37	6	2,196	6,360 00	2 90
5	2,014	3,659 71	1 81	7	2,626	8,650 96	3 29
1,178	350,805	776,504 78	2 21	69	32,912	116,288 27	3 53
17	5,575	12,999 40	2 33	4	1,582	4,022 80	2 54
4,109	1,159,333	\$2,638,533 79	\$2 28	133	47,339	\$165,704 08	\$3 50
3	938	\$1,500 00	\$1 60	2	208	\$900 00	\$4 33
6	2,259	6,643 24	\$2 94				
		2,736 03					
115	32,233	62,547 22	1 94	2	208	1,500 00	7 21
4	743	1,710 00	2 30	1			
				2	208	900 00	4 33
				1	312	1,020 00	3 27
19	6,691	17,611 22	2 63				
5	1,338	1,431 56	1 07	1	101	596 28	5 90
2	650	1,464 40	2 25				
2	960	2,563 94	2 67	1	366	975 00	2 67
1	334	662 56	1 98				
10	2,107	5,544 48	2 63	1	312	1,650 00	5 29
2	347	497 92	1 43	2	115	198 84	1 73
2	625	1,404 00	2 24				
3	700	1,703 62	2 43				
174	49,926	\$108,020 19	\$2 11	13	1,830	\$7,740 12	\$4 23
9,593	2,921,622	\$6,629,488 50	\$2 27	402	124,800	\$585,608 65	\$4 69
1,808	538,673	7,562,899 55				1,065,935 30	
	417	1,299,177 64	2 41	126	37,931	163,016 38	4 30
		1,025 24	2 45		87	225 00	2 58
410	117,248	248,346 09	2 12	37	13,759	42,281 38	3 07
1,217	394,120	894,365 31	2 27	22	6,893	23,363 06	3 39
7,932	1,733,364	4,235,289 91	2 44	454	166,926	435,343 84	2 61
16,899	4,537,626	10,658,727 00	2 35	813	244,876	689,597 07	2 82
3,233	958,642	2,214,287 43	2 31	199	71,645	230,635 53	3 22
5,628	1,558 450	4,258,207 61	2 73	475	172,280	591,075 10	3 43
30	9,132	19,250 70	2 11	1	365	1,500 00	4 11
46,770	12,769,294	\$38,021,064 98	\$2 38	2,533	839,562	\$3,828,581 31	\$3 29

⁴ Includes \$2,871,849.57 expended by C. M. & St. P. for O. C. and I., and A. and B.

⁵ C. M. & St. P. excluded in average.

EMPLOYES AND
DISTRIBUTION OF

NAME OF ROAD.	Transportation expenses.			
	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	4,910	1,644,589	\$4,762,062 39	\$2 90
Chicago, Burlington & Quincy ¹				
Chicago, Milwaukee & St. Paul ¹			1,433,008 40	
Chicago, St. Paul, Minneapolis & Omaha.....	1,379	416,459	4,177 90	2 34
Chicago, Harvard & Geneva Lake.....		1,781		
Duluth, South Shore & Atlantic.....	125	37,359	114,097 88	3 05
Elgin, Joliet & Eastern.....	93	8,280	27,845 35	3 36
Great Northern.....	570	129,520	395,487 55	3 05
Illinois Central.....	58	15,817	41,014 11	2 58
Minneapolis, St. Paul & Sault Ste. Marie.....	1,590	570,717	1,677,766 01	2 94
Northern Pacific.....	129	49,141	150,805 50	3 07
Wisconsin & Michigan ²				
Total.....	8,854	2,873,663	\$8,606,265 09	\$2 99
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	34	7,506	\$15,547 54	\$2 07
Ashland, Odanah & Marengo.....	9	5,095	12,074 11	2 37
Bayfield Transfer.....			7,346 54	
Big Falls Ry. Co. ¹				
Chippewa Valley & Northern.....	4	1,281	3,447 63	2 69
Green Bay & Western.....	161	49,441	112,522 40	2 78
Hazellurst & Southeastern.....	10	2,829	7,051 16	2 49
Iola & Northern.....	7	1,774	3,589 42	2 02
Kewaunee, Green Bay & Western.....	43	10,811	24,135 11	2 23
La Crosse & Southeastern.....	16	5,760	11,820 00	2 05
Lake Superior Terminal & Transfer.....	54	27,696	89,447 47	3 23
Marinette, Tomahawk & Western.....	11	2,607	7,943 99	3 04
Mattoon R'y Co.....	10	2,310	5,987 88	2 59
Mineral Point & Northern.....	13	6,965	13,977 39	2 00
Northwestern Coal R'y Co.....	10	2,791	8,162 26	2 92
Stanley, Merrill & Phillips.....	15	6,658	16,565 81	2 49
Tomahawk & Eastern.....	6	709	2,385 79	3 37
Wisconsin & Northern.....	18	5,790	15,513 20	2 68
Wisconsin Northwestern.....	6	1,728	3,889 61	2 25
Total.....	427	141,751	\$361,407 31	\$2 60
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	17,491	5,807,871	\$17,467,758 13	\$2 98
Chicago, Burlington & Quincy.....			14,567,721 91	
Chicago, Milwaukee & St. Paul.....			3,567,243 01	3 25
Chicago, St. Paul, Minneapolis & Omaha.....	3,697	1,097,776	8,355 80	2 34
Chicago, Harvard & Geneva Lake.....		3,562		
Duluth, South Shore & Atlantic.....	1,048	301,891	832,858 13	2 76
Elgin, Joliet & Eastern.....	1,926	627,548	2,004,608 89	3 19
Great Northern.....	11,641	2,711,146	8,008,586 30	2 85
Illinois Central.....	16,642	5,225,212	14,538,607 82	2 78
Minneapolis, St. Paul & Sault Ste. Marie.....	4,112	1,437,312	4,290,134 25	2 99
Northern Pacific.....	10,703	3,705,074	11,330,216 52	3 06
Wisconsin & Michigan.....	34	13,722	30,484 32	2 22
Total.....	67,294	20,985,114	\$76,646,575 08	\$2 96

¹ Distribution not given in report.² Wisconsin not reported.³ Bayfield Transfer excluded in average.

SALARIES, 1912—Continued.
THE FOREGOING—Continued.

General expenses.				Outside operations.			
Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
23	6,708	\$26,685 50	\$3 98	99	41,904	\$50,038 80	\$1 19
4	1,411	9,079 98	.....	82	20,658	28,392 35	.....
.....	125	429 50	3 43	.....	.....	.....	.....
79	157	579 42	3 69	7	2,962	4,843 51	1 64
5	1,730	10,078 25	5 83	.....	.....	.....	.....
229	68,493	193,682 23	2 83	36	12,084	16,236 39	1 34
5	1,266	4,508 50	3 56	1	175	223 02	1 27
345	79,890	\$245,043 38	\$3 07	225	77,783	\$99,734 07	1 28
22	1,018	\$4,320 00	\$4 24	.....	.....	.....	.....
3	937	3,267 77	3 49	3	613	\$1,528 87	\$2 49
.....	.....	2,755 00	.....	.....	.....	.....	.....
4	200	1,500 00	7 59	.....	.....	.....	.....
22	3,580	18,540 50	5 18	.....	.....	.....	.....
6	90	.....	.....	.....	.....	.....	.....
6	217	435 00	2 00	.....	.....	.....	.....
22	1,727	8,350 00	4 85	.....	.....	.....	.....
9	1,560	4,680 00	3 00	.....	.....	.....	.....
7	2,555	6,548 30	2 56	.....	.....	.....	.....
6	457	1,983 00	4 33	.....	.....	.....	.....
5	1,440	2,750 00	1 91	.....	.....	.....	.....
8	2,898	6,965 00	2 40	.....	.....	.....	.....
3	450	1,571 50	3 49	.....	.....	.....	.....
5	624	3,780 00	6 06	.....	.....	.....	.....
6	118	600 00	5 08	.....	.....	.....	.....
7	500	4,032 00	8 06	.....	.....	.....	.....
2	624	1,850 00	2 96	.....	.....	.....	.....
143	18,995	\$73,958 07	\$3 77	3	613	\$1,528 87	\$2 49
1,402	432,744	\$1,542,273 94	\$3 56	386	153,788	\$207,552 76	\$1 35
.....	.....	550,682 58	.....	.....	.....	291,930 02	.....
327	111,825	304,474 24	2 72	135	34,430	53,378 75	1 55
.....	250	859 00	3 43	.....	.....	.....	.....
75	27,633	85,139 60	3 08	34	10,790	17,644 85	1 64
79	24,703	106,360 65	4 31	.....	.....	.....	.....
751	263,920	800,895 09	3 04	619	109,389	261,604 76	2 39
1,185	378,188	1,048,185 96	2 77	226	79,736	119,925 18	1 50
595	186,099	553,227 05	2 97	174	57,854	81,626 32	1 41
1,398	468,259	1,354,083 64	2 89	550	202,094	318,914 89	1 58
9	3,215	12,612 00	3 73	.....	.....	.....	.....
5,821	1,896,836	\$6,358,803 75	\$3 06	2,124	648,081	\$1,352,577 53	\$1 71

⁴ Bayfield Transfer and Hazelhurst & S. E. excluded.

⁵ C. M. & St. P. excluded.

EMPLOYES AND
DISTRIBUTION OF

NAME OF ROAD.	Total (including "general officers.")			
	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	10,648	3,103,345	\$7,714,971 09	\$2 49
Chicago, Burlington & Quincy.....	2,102	620,803	1,387,120 07	2 23
Chicago, Milwaukee & St. Paul.....	14,796	4,457,817	10,731,144 10	2 39
Chicago, St. Paul, Minneapolis & Omaha..	3,426	979,392	2,569,870 29	2 62
Chicago, Harvard & Geneva Lake.....	14	3,120	6,892 43	2 21
Duluth, South Shore & Atlantic.....	319	84,577	196,706 74	2 33
Elgin, Joliet & Eastern.....	241	13,827	38,917 98	2 81
Great Northern.....	2,042	399,345	974,933 22	2 44
Illinois Central.....	146	42,275	93,457 03	2 21
Minneapolis, St. Paul & Sault Ste Marie..	5,360	1,560,772	3,711,126 29	2 38
Northern Pacific.....	336	93,726	236,322 09	2 52
Wisconsin & Michigan ¹				
Total.....	39,430	11,358,999	\$27,661,461 33	\$2 44
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	76	14,266	\$29,250 76	\$2 05
Ashland, Odanah & Marengo.....	60	17,973	39,753 23	2 21
Bayfield Transfer.....	22	6,718	18,299 30	2 72
Big Falls Ry. Co.....	11	3,300	5,310 00	1 61
Chippewa Valley & Northern.....	14	3,314	8,241 29	2 49
Green Bay & Western.....	417	121,042	249,161 58	2 06
Hazelhurst & Southeastern.....	18	3,516	8,217 05	2 33
Iola & Northern.....	15	2,180	4,307 31	1 98
Kewaunee, Green Bay & Western.....	93	19,755	44,524 83	2 25
La Crosse & Southeastern.....	42	12,672	24,387 56	1 92
Lake Superior Terminal & Transfer.....	95	41,221	121,192 71	2 94
Marinette, Tomahawk & Western.....	34	6,991	16,952 42	2 42
Mattoon Ry. Co.....	22	6,321	13,372 57	2 12
Mineral Point & Northern.....	33	14,527	31,036 58	2 14
Northwestern Coal Ry. Co.....	18	4,129	11,669 34	2 82
Stanley, Merrill & Phillips.....	79	18,638	43,660 17	2 34
Tomahawk & Eastern.....	21	2,416	5,694 39	2 36
Wisconsin & Northern.....	41	10,672	27,235 55	2 55
Wisconsin Northwestern.....	26	7,307	14,270 47	1 95
Total.....	1,137	316,958	\$716,537 11	\$2 26
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago, & North Western.....	42,782	13,029,741	\$33,087,968 59	\$2 54
Chicago, Burlington & Quincy.....	49,293	14,652,918	35,207,856 85	2 40
Chicago, Milwaukee & St. Paul.....	46,674	13,412,243	33,187,483 75	2 40
Chicago, St. Paul, Minneapolis & Omaha..	8,458	2,494,211	6,668,212 52	2 67
Chicago, Harvard & Geneva Lake.....	28	6,240	13,784 86	2 21
Duluth, South Shore & Atlantic.....	2,453	678,591	1,584,371 20	2 33
Elgin, Joliet & Eastern.....	4,258	1,375,674	3,619,740 28	2 63
Great Northern.....	38,301	10,022,090	22,516,849 09	2 25
Illinois Central.....	49,974	14,006,627	33,138,008 51	2 37
Minneapolis, St. Paul & Sault Ste Marie..	13,760	3,998,321	9,613,886 49	2 40
Northern Pacific.....	32,375	9,407,838	24,198,034 71	2 57
Wisconsin & Michigan.....	131	41,975	88,960 05	2 12
Total.....	288,487	83,126,469	\$201,925,156 90	\$2 43

¹Wisconsin not reported.

SALARIES, 1912—Concluded.

FOREGOING—Concluded.

Less "general officers."				Total (excluding "general officers.")			
Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.	Number on June 30.	Total number of days worked.	Total yearly compensation.	Average daily compensation.
.....	.....	.....	.....	10,648	3,103,345	\$7,714,971 09	\$2 49
4	1,460	\$10,646 40	\$7 29	2,098	619,343	1,376,473 67	2 22
1	1,425	22,375 00	15 70	14,792	4,456,392	10,708,769 10	2 42
4	1,098	12,361 62	11 26	3,422	978,294	2,557,508 67	2 61
2	75	300 00	4 00	12	3,045	6,592 43	2 16
.....	.....	.....	.....	319	84,577	196,706 74	2 33
6	10	186 30	18 63	235	13,817	38,731 68	2 80
.....	.....	.....	.....	2,042	399,345	974,933 22	2 44
7	2,620	60,955 12	23 27	146	42,275	93,457 03	2 21
.....	.....	.....	.....	5,353	1,558,152	3,650,171 17	2 34
.....	25	900 00	36 00	3 36	93,701	235,422 09	2 51
.....
27	6,713	\$107,724 44	\$16 05	39,403	11,352,286	\$27,553,736 89	\$2 43
.....
6	243	\$2,700 00	\$11 11	70	14,023	\$26,550 76	\$1 89
3	937	3,267 77	3 49	57	17,036	36,485 46	2 14
1	313	1,800 00	5 75	21	6,405	16,499 30	2 57
2	600	.....	.....	9	2,700	5,310 00	.....
4	200	1,500 00	7 50	10	3,114	6,741 29	2 16
.....
6	1,188	13,200 00	11 11	411	119,854	235,961 58	1 97
6	90	.....	.....	12	3,426	8,217 05	2 39
6	.....	.....	.....	9	2,180	4,307 31	1 98
6	440	4,900 00	11 14	87	19,315	39,624 83	2 05
7	936	4,500 00	4 80	35	11,736	19,887 56	1 69
.....
4	1,460	3,728 30	2 55	91	39,761	117,464 41	2 95
4	117	1,432 00	12 24	30	6,874	15,520 42	2 26
3	864	1,100 00	1 27	19	5,457	12,272 57	2 25
3	1,068	4,275 00	4 00	30	13,459	26,761 58	1 99
1	150	900 00	6 00	17	3,979	10,769 34	2 71
.....
4	312	2,400 00	7 69	75	18,326	41,260 17	2 25
4	45	547 44	12 39	17	2,371	5,146 95	2 17
3	248	3,300 00	13 30	38	10,424	23,935 55	2 30
1	312	1,250 00	4 01	25	6,995	13,020 47	1 87
.....
74	9,523	\$50,800 51	\$5 69	1,063	307,435	\$665,736 60	\$2 17
.....
34	10,218	\$438,515 66	\$42 92	42,748	13,019,523	\$32,649,452 93	\$2 51
141	51,100	767,256 37	15 01	49,152	14,601,818	34,440,600 48	2 36
26	9,212	250,596 95	27 20	46,648	13,403,031	31,936,896 80	2 38
40	14,274	197,157 46	13 81	8,418	2,479,937	6,471,055 06	2 61
4	150	600 00	4 00	24	6,090	13,184 86	2 16
.....
11	2,879	30,950 33	10 75	2,442	675,712	1,553,420 87	2 30
6	1,872	34,884 84	18 63	4,252	1,373,802	3,584,855 44	2 61
26	9,533	270,945 17	28 42	38,275	10,012,557	22,245,903 92	2 22
84	30,713	389,367 98	12 68	49,890	13,975,914	32,748,640 53	2 34
23	7,480	174,008 33	23 26	13,737	3,990,841	9,439,878 16	2 37
.....
64	23,816	500,370 08	21 01	32,311	9,384,022	23,697,664 63	2 53
3	1,020	6,552 00	6 33	128	40,955	82,408 05	1 91
.....
462	162,267	\$3,061,205 17	\$18 87	288,025	82,964,202	\$198,863,951 73	\$2 40

?Hazelhurst and Southeastern and Big Falls Ry. excluded.

TRAFFIC AND MILEAGE STATISTICS.
PASSENGER

NAME OF ROAD.	Number of passengers carried earning revenue.	Number of passengers carried one mile.	Number of passengers carried one mile per mile of road.	Average distance carried—miles.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western	6,920,813	280,907,292	136,019	40.60
Chicago, Burlington & Quincy ...	426,079	48,036,108		112.74
Chicago, Milwaukee & St. Paul...	3,464,865	219,536,647	123,124	63.36
Chicago, St. P., Minn. & Omaha...	1,989,025	100,534,886	129,985	50.54
Chicago, Harvard & Geneva L...	¹ 56,469			
Duluth, South Shore & Atlantic...	120,130	5,969,616	51,739	49.69
Elgin, Joliet & Eastern.....				
Great Northern.....	216,710	4,538,535	104,685	20.94
Illinois Central.....	152,450	2,522,679	27,679	16.55
Minneapolis, St. P. & S. Ste. Marie..	2,110,988	100,891,133	75,477	47.79
Northern Pacific.....	397,955	9,041,374	66,628	22.72
Wisconsin & Michigan.....	35,211	557,288		
Total.....	15,834,226	772,625,558		48.79
<i>b. Intrastate Roads.</i>				
Ahnapee & Western	77,992	1,521,419	44,748	19.51
Ashland, Odanah & Marengo.....				
Bayfield Transfer.....				
Big Falls Ry. Co.....				
Chippewa Valley & Northern ...	5,829	21,858	1,163	
Green Bay & Western.....	296,080	6,395,956	25,790	21.60
Hazelhurst & Southeastern.....				
Iola & Northern.....	9,940	46,718	9,940	4.70
Kewaunee, Green Bay & Western	87,417	1,890,003	51,489	21.62
La Crosse & Southeastern	65,019	1,454,430	34,133	22.37
Lake Superior Terminal & Tr.....				
Marquette, Tomahawk & Western	15,998	89,746	3,902	5.61
Mattoon R'y Co.....	7,427	74,270	2,530	
Mineral Point & Northern.....	26,412	295,977	9,672	11.26
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....	16,678	266,361	4,806	15.97
Tomahawk & Eastern.....	1,778	19,410	934	10.91
Wisconsin & Northern.....	33,229	438,501	7,850	13.19
Wisconsin Northwestern.....				
Total.....				
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	31,526,803	1,080,580,440	137,498	34.28
Chicago, Burlington & Quincy ...	22,404,120	1,100,846,373	121,314	49.14
Chicago, Milwaukee & St. Paul...	14,177,026	683,916,289	91,050	48.24
Chicago, St. P., Minn. & Omaha...	4,263,640	220,979,696	126,629	51.83
Chicago, Harvard & Geneva L...	¹ 112,939			
Duluth, South Shore & Atlantic..	790,239	37,653,013	60,677	47.65
Elgin, Joliet & Eastern.....				
Great Northern.....	8,168,364	547,843,549	74,361	67.07
Illinois Central.....	27,005,956	709,596,263	148,990	26.28
Minn., St. Paul & S. Ste. Marie....	3,715,268	269,044,518	71,566	72.42
Northern Pacific.....	8,661,645	649,508,183	107,801	74.99
Wisconsin & Michigan	60,292	954,260	7,019	15.83
Total.....	120,773,353	5,300,922,584	105,331	43.89

¹ Not included in total.

YEAR ENDING JUNE 30, 1912.
TRAFFIC.

Total passen- ger revenue.	Average amount re- ceived from each pas- senger.	Average re- ceipts per passenger per mile.	Total passen- ger service train reve- nue.	Passenger service train revenue per mile of road.	Passenger service train revenue per train mile.
\$5,362,090 53	\$0.77478	\$0.01908	\$6,586,453 32	\$3,188 22	\$1.22434
856,266 02	2.00964	.01783	1,176,122 77	5,273 62	1.41251
4,228,774 42	1.22047	.01926	5,516,229 09	3,094 70	1.23885
1,956,406 40	.98360	.01946	2,359,120 72	3,050 20	1.14005
16,583 87	1.11065	.....	17,263 06	1,387 67	.....
122,076 30	1.01620	.02045	138,467 51	1,200 10	.90736
103,061 61	.47557	.02271	118,259 93	2,728 03	1.27551
67,591 77	.44337	.02679	87,139 18	956 10	.98649
1,897,415 56	.89883	.01881	2,307,798 08	1,726 48	.96405
190,837 84	.47955	.02111	215,102 77	1,585 13	1.24408
12,638 82	.....	.....	14,128 50	.....	.....
\$14,797,159 27	\$0.93450	\$0.01915	\$18,518,821 87	\$2,734 79	\$1.29111
\$43,346 28	\$0.55578	\$0.02849	\$51,802 52	\$1,523 60	\$1.10491
1,680 10	.....	.....	1,680 10	.....	.....
333 65	.....	.....	584 10	.....	.....
864 65	.14833	.03956	864 65	46 02	.....
168,724 23	.56984	.02638	201,531 51	812 63	.71574
1,910 64	.19222	.04090	285 19	11 93	.13645
41,845 43	.47869	.02214	2,347 54	499 48	.26514
39,282 21	.60416	.02897	48,835 33	1,330 66	.97386
.....	.....	.....	42,135 96	988 87	.64266
3,744 42	.23405	.04172	4,121 45	179 19	.35702
2,599 60	.35003	.03500	3,479 88	118 52	.....
8,534 61	.32313	.02883	10,962 18	358 24	.27304
7,798 82	.46761	.02928	9,284 22	167 52	.23125
711 36	.40009	.03665	954 25	45 94	.10694
17,299 13	.52060	.03945	18,603 19	.....	.....
534 66	.....	.....	534 66	11 55	.....
\$19,555,567 15	\$0.62028	\$0.01810	\$24,870,004 07	\$3,164 58	\$1.17133
21,083,418 74	.94105	.01915	26,721,933 24	2,944 78	1.46264
13,936,963 07	.98306	.02038	18,127,625 43	2,413 35	1.17559
4,551,593 86	1.06754	.02060	5,382,216 66	3,084 19	1.22508
13,167 74	1.11065	.....	14,526 13	1,387 67	.....
929,692 48	1.17647	.02469	1,044,809 06	1,683 68	1.17616
108 52	.....	.....	401 60	.....	.....
13,623,008 91	1.66778	.02487	17,495,086 81	2,374 69	1.40648
13,337,562 40	.49387	.01880	16,570,743 10	3,479 28	1.19032
5,702,247 31	1.53481	.02119	6,851,896 26	1,815 86	1.19395
15,343,752 05	1.77146	.02362	17,874,276 79	2,966 64	1.49541
21,652 31	.35912	.02269	24,699 93	.....	.....
\$108,085,566 80	\$0.89494	\$0.02090	\$134,963,692 95	\$2,681 76	\$1.38183

TRAFFIC AND MILEAGE
FREIGHT

NAME OF ROAD.	Number of tons carried of freight earning revenue.	Number of tons carried one mile.	Number of tons carried one mile per mile of road.
A. WISCONSIN.			
<i>a. Interstate Roads.</i>			
Chicago & North Western.....	20,985,818	1,722,886,790	833,976
Chicago, Burlington & Quincy.....	2,925,544	583,142,502	2,614,754
Chicago, Milwaukee & St. Paul.....	13,648,016	1,465,558,401	821,939
Chicago, St. Paul, Minneapolis & Omaha.....	4,780,601	675,719,095	873,665
Chicago, Harvard & Geneva Lake ¹.....	.....	.....	.....
Duluth, South Shore & Atlantic.....	403,870	29,504,517	255,716
Elgin, Joliet & Eastern.....	.....	.....	.....
Great Northern.....	16,585,911	333,044,066	7,682,677
Illinois Central.....	216,109	7,520,233	82,513
Minneapolis, St. Paul & Sault St. Marie.....	7,869,805	1,185,502,230	886,881
Northern Pacific.....	2,030,543	23,816,823	175,511
Wisconsin & Michigan.....	182,115	5,670,101	.....
Total.....	69,628,332	6,032,364,758	890,234
<i>b. Intrastate Roads.</i>			
Ahnapee & Western.....	60,805	1,336,543	44,748
Ashland, Odanah & Marengo.....	134,570	.....	.....
Bayfield Transfer.....	.....	.....	.....
Big Falls Ry. Co.....	.....	.....	.....
Chippewa Valley & Northern.....	.....	.....	.....
Green Bay & Western.....	501,378	45,535,269	183,610
Hazelnorth & Southeastern.....	92,491	293,155	12,266
Iola & Northern.....	21,170	99,499	21,170
Kewaunee, Green Bay & Western.....	220,874	6,731,285	183,414
La Crosse & Southeastern.....	34,086	1,452,404	34,086
Lake Superior Terminal & Transfer.....	.....	.....	.....
Marinette, Tomahawk & Western.....	66,683	410,104	17,830
Mattoon Ry. Co.....	.....	.....	.....
Mineral Point & Northern.....	170,059	1,689,140	55,201
Northwestern Coal Ry. Co.....	.....	.....	.....
Stanley, Merrill & Phillips.....	173,558	2,911,783	52,540
Tomahawk & Eastern.....	21,985	252,828	12,172
Wisconsin & Northern.....	119,582	1,930,968	34,568
Wisconsin Northwestern.....	.....	.....	.....
B. ENTIRE SYSTEM.			
<i>Interstate Roads.</i>			
Chicago & North Western.....	37,265,642	5,146,634,307	654,882
Chicago, Burlington & Quincy.....	30,111,513	7,675,979,757	845,900
Chicago, Milwaukee & St. Paul.....	26,575,784	5,105,841,880	679,745
Chicago, St. Paul, Minneapolis & Omaha.....	6,946,804	1,092,173,586	625,852
Chicago, Harvard & Geneva Lake ¹.....	.....	.....	.....
Duluth, South Shore & Atlantic.....	3,413,835	230,353,543	371,209
Elgin, Joliet & Eastern.....	24,402,199	1,385,979,779	1,646,577
Great Northern.....	27,543,172	6,227,714,227	845,317
Illinois Central.....	26,339,149	6,210,461,853	1,303,979
Minneapolis, St. Paul & Sault Ste. Marie.....	11,345,513	2,714,389,244	719,354
Northern Pacific.....	17,455,975	5,051,181,481	838,358
Wisconsin & Michigan.....	234,725	8,167,819	60,078
Total.....	211,634,311	40,847,965,467	811,660

¹ No report on freight.

STATISTICS, 1912.—Continued.

TRAFFIC.

Average distance haul of one ton-mile.	Total freight revenue.	Average amount received for each ton of freight.	Average receipts per ton per mile.	Freight revenue per mile of road.	Freight revenue per train mile.
82.10	\$14,883,467 36	\$0.70922	\$0.00864	\$7,204 45	\$3,05730
199.33	3,149,969 62	1.07671	.00540	14,124 16	3,70203
107.38	12,581,599 84	.92186	.00858	7,056 22	2,63634
141.35	4,711,093 23	.98546	.00697	6,091 17	2,07914
.....	² 5,806 37	.....	.....	² 1,109 35	.....
73.05	231,920 02	.57424	.00786	2,002 26	1,27390
.....
20.08	1,740,069 99	.10491	.00522	40,140 02	7,23134
34.80	72,244 22	.33430	.00961	792 67	83062
150.64	7,725,204 05	.98163	.00652	5,779 27	2,71719
.....
11.73	247,506 07	.12189	.01039	1,823 92	2,12756
.....	83,073 10	.....	.....	.....	.....
86.64	\$45,426,147 50	\$0.65241	\$0.00753	\$6,708 36	\$3,03712
.....
21.98	\$44,349 83	\$0.72938	\$0.03318	\$1,304 41	\$0,73838
.....	81,196 62	.00338	.....	2,537 39	.....
.....	36,015 53	.....	.....	.....	.....
.....	7,806 67	.....	.....	.....	.....
.....	16,846 18	.....	.....	.....	.....
90.82	495,303 23	.98788	.01088	1,997 19	1,62369
3.17	41,462 46	.44828	.14143	1,734 83	5,46926
4.70	6,961 24	.32883	.06996	1,481 11	.78623
30.48	128,012 33	.57957	.01902	3,488 07	2,06605
42.61	32,486 71	.95308	.....	762 41	.49518
.....
6.15	36,447 79	.54658	.08887	1,584 69	2,29058
.....	17,570 75	.....	.....	598 46	.....
9.93	73,522 41	.43233	.04353	2,402 69	1,83128
.....
16.78	75,425 81	.43459	.02594	1,360 99	3,11522
11.50	11,331 07	.51540	.04481	545 55	1,25524
22.03	57,336 15	.47947	.02969	1,026 42	1,49005
.....	30,676 88	.....	.....	662 56	.....
.....
138.11	\$46,691,540 41	\$1.25294	\$0.00907	\$5,941 25	\$2,71207
254.92	57,740,418 62	1.91755	.00752	6,363 04	3,29282
192.12	42,815,573 23	1.61107	.00837	5,700 07	2,41640
157.22	9,478,791 85	1.36448	.00868	5,431 66	2,16279
.....	² 11,612 74	.....	.....	² 1,109 35	.....
67.47	2,061,096 00	.60371	.00895	3,321 40	2,10029
.....	10,083,625 82	.41323	.00728	11,987 47	5,18905
226.11	47,877,369 06	1.73827	.00769	6,498 62	4,62123
235.79	37,881,765 94	1.43823	.00610	7,953 84	2,17201
239.25	19,044,283 51	1.67857	.00701	5,047 05	2,90278
.....
289.37	43,793,521 58	2.50880	.00867	7,268 53	4,42633
34.79	119,674 18	.50985	.01465	880 28	1,30550
.....
193.01	\$317,587,660 20	\$1.50064	\$0.00777	\$6,310 55	\$3,25843

² Not included in total.

TRAFFIC AND
TOTAL*Italic figures denote deficits.*

NAME OF ROAD.	Operating revenues.	Operating revenues per mile of road.	Operating revenues per train-mile.
A. WISCONSIN.			
<i>a. Interstate Roads.</i>			
Chicago & North Western.....	\$21,830,740 01	\$10,567 33	\$2.18713
Chicago, Burlington & Quincy.....	4,352,534 69	19,516 34	2.58537
Chicago, Milwaukee & St. Paul.....	18,087,611 56	10,480 69	2.12917
Chicago, St. Paul, Minneapolis & Omaha.....	7,166,864 85	9,266 34	1.76929
Chicago, Harvard & Geneva Lake.....	¹ 13,089 38	² 2,508 36	.....
Duluth, South Shore & Atlantic.....	375,253 02	3,252 32	1.12225
Elgin, Joliet & Eastern.....	58,785 48	3,097 23	.....
Great Northern.....	1,931,247 00	44,550 10	5.79230
Illinois Central.....	161,518 21	1,772 20	.92129
Minneapolis, St. Paul & Sault Ste. Marie..	10,168,712 95	7,007 27	2.05513
Northern Pacific.....	526,512 39	3,879 97	1.94213
Wisconsin & Michigan ¹	97,974 24	.....	.....
Total.....	\$65,357,754 40	\$9,651 79	\$2.13273
<i>b. Intrastate Roads.</i>			
Ahnapee & Western.....	\$97,856 69	\$2,878 14	\$1.51469
Ashland, Odanah & Marengo.....	81,742 62	2,554 46	.....
Bayfield Transfer ²	37,829 38	.....	.....
Big Falls Ry. Co.....	8,390 77	.....	.....
Chippewa Valley & Northern ²	17,710 83	.....	.....
Green Bay & Western.....	725,276 70	2,924 50	1.60792
Hazelhurst & Southeastern.....	41,747 65	1,746 76	5.50685
Iola & Northern.....	9,375 78	1,994 85	1.05893
Kewaunee, Green Bay & Western.....	182,682 86	4,977 73	2.73109
La Crosse & Southeastern.....	74,993 96	1,760 00	1.14311
Lake Superior Terminal & Transfer ³	196,445 39	8,593 40	.....
Marinette, Tomahawk & Western.....	40,569 24	1,763 88	2.54960
Mattoon R'y Co.....	21,075 58	717 83	.....
Mineral Point & Northern.....	88,604 38	2,895 55	2.20694
Northwestern Coal R'y Co.....	29,125 00	3,570 06	.....
Stanley, Merrill & Phillips.....	86,323 23	1,557 62	1.33938
Tomahawk & Eastern.....	12,285 32	591 49	1.36095
Wisconsin & Northern.....	86,293 83	1,544 82	2.09889
Wisconsin Northwestern.....	31,355 79	674 11	.....
Total.....	\$1,869,685 00	.....	.....
B. ENTIRE SYSTEM.			
<i>Interstate Roads.</i>			
Chicago & North Western.....	\$73,698,591 58	\$9,337 76	\$1.99766
Chicago, Burlington & Quincy.....	86,723,067 97	9,556 96	2.47941
Chicago, Milwaukee & St. Paul.....	63,122,743 34	8,403 58	1.97747
Chicago, St. Paul, Minneapolis & Omaha.....	15,135,426 08	8,673 10	1.86931
Chicago, Harvard & Geneva Lake.....	² 26,178 77	² 2,508 36	.....
Duluth, South Shore & Atlantic.....	3,152,475 03	5,080 13	1.68312
Elgin, Joliet & Eastern.....	10,720,751 78	12,744 90	5.51513
Great Northern.....	66,160,622 52	8,980 30	3.01013
Illinois Central.....	58,727,272 17	12,330 67	1.88874
Minneapolis, St. Paul & Sault Ste. Marie..	26,263,996 30	6,960 36	2.24039
Northern Pacific.....	63,423,946 62	10,526 64	2.98180
Wisconsin & Michigan.....	145,782 59	1,008 56	.86123
Total.....	\$467,274,675 98	\$9,284 87	\$2.31398

¹ Wisconsin not reported.² No record kept.³ Operated at cost for joint benefit.

STATISTICS—STEAM RAILROADS.

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MILEAGE STATISTICS, 1912—Continued.
TRAFFIC.

Operating expenses.	Operating expense per mile of road.	Operating expense per train-mile.	Net operating revenues.	Net operating revenue per mile of road.
\$14,261,118 80	\$6,903 20	\$1.42876	\$7,569,621 21	\$3,664 13
2,397,444 72	10,749 91	1.42406	1,955,089 97	8,766 43
13,088,956 40	7,340 76	1.49129	5,598,655 16	3,139 93
5,236,248 11	6,770 16	1.29268	1,930,616 74	2,496 18
² 13,205 90	² 5,523 09	.....	¹ 116 52	² 22 26
388,728 47	3,369 11	1.16255	13,475 45	116 79
58,884 50	3,102 45	.....	99 02	5 22
1,302,893 96	30,055 22	3.90771	628,353 04	14,494 88
218,874 74	2,401 52	1.24845	57,356 53	629 32
6,693,139 07	5,007 17	1.35270	3,475,573 88	2,600 10
559,576 57	4,123 62	2.06410	33,064 18	243 65
92,167 10	.....	.....	5,807 14	.....
\$44,298,032 44	\$6,541 77	\$1.44552	\$21,059,721 96	\$3,110 02
\$72,227 46	\$2,124 34	\$1.11799	\$25,629 23	\$753 80
60,946 75	1,904 59	.....	20,795 87	649 87
31,959 40	.....	.....	5,869 98	.....
9,505 84	.....	.....	¹ 115 07	74 33
15,474 99	.....	.....	2,235 84	.....
480,791 64	1,938 68	1.06590	244,485 06	985 83
14,302 99	598 45	1.88669	27,444 66	1,148 31
7,335 93	1,560 84	.82854	2,039 85	454 01
90,617 00	2,469 13	1.35472	92,065 86	2,508 61
44,611 44	1,046 97	.68000	30,382 52	713 03
199,566 52	8,729 92	.....	3,121 13	.....
30,383 54	1,321 02	1.90947	10,185 70	442 86
22,523 69	767 16	.....	1,448 11	49 32
68,414 60	2,235 77	1.70406	20,189 78	659 78
20,681 32	2,555 16	.....	8,445 68	1,055 46
95,887 56	1,730 20	1.48778	9,564 33	172 58
9,283 81	446 98	1.02844	3,001 51	144 51
48,925 29	875 85	1.18999	37,368 54	668 97
21,295 08	459 93	.....	10,060 71	214 18
⁴ \$1,344,734 85	.....	.....	⁴ \$524,950 15	.....
\$52,701,843 30	\$6,706 03	\$1.42853	\$20,996,748 28	\$2,671 73
60,646,949 16	6,683 35	1.73389	26,076,118 81	2,873 61
47,743,156 54	6,356 08	1.49567	15,379,586 80	2,047 50
10,466,216 49	5,997 49	1.29263	4,669,209 59	2,675 61
² 26,411 79	² 5,523 09	.....	² 233 02	² 22 26
2,395,160 78	3,859 74	1.27879	757,314 25	1,220 39
6,171,241 36	7,336 41	3.17470	4,549,510 42	5,408 49
37,610,569 39	5,105 06	1.71118	28,550,053 13	3,875 24
48,121,466 54	10,103 82	1.54765	10,605,805 63	2,226 85
15,882,727 90	4,209 16	1.35484	10,381,268 40	2,751 20
38,158,517 02	6,333 27	1.79397	25,265,429 60	4,193 37
137,141 18	63 56	.....	8,641 41	.....
\$320,034,989 66	\$6,359 18	\$1.58484	\$147,239,686 32	\$2,925 69

⁴ Marathon County R. R. excluded in this total.

² Not included in totals.

TRAFFIC AND MILEAGE

TOTAL

NAME OF ROAD.	Average number of passengers per car mile.	Average number of passengers per train-mile	Average number of passenger cars per train-mile
A. WISCONSIN.			
<i>a Interstate Road.</i>			
Chicago & North Western.....	15	52	5.29
Chicago, Burlington & Quincy	11	58	8.37
Chicago, Milwaukee & St. Paul	14	49	5.68
Chicago, St. Paul, Minneapolis & Omaha	13	51	5.64
Chicago, Harvard & Geneva Lake.....			
Duluth, South Shore & Atlantic.....	12	39	4.45
Elgin, Joliet & Eastern.....			
Great Northern.....	14	49	4.84
Illinois Central.....	13	29	3.10
Minneapolis, St. Paul, & Sault S. Marie	13	42	4.97
Northern Pacific.....	20	52	2.76
Wisconsin & Michigan.....	12	17	1.50
Total or average.....	14	49	5.51
<i>b. Intrastate Roads.</i>			
Ahnapee & Western.....	15	32	3.15
Ashland, Odanah & Marengo.....			
Bayfield Transfer.....			
Big Falls Ry. Co.....			
Chippewa Valley & Northern.....			
Green Bay & Western.....	11	23	3.25
Hazelhurst & Southeastern.....			
Iola & Northern.....	5	5	1.00
Kewaunee, Green Bay & Western.....	22	38	2.33
La Crosse & Southeastern.....	11	22	2.00
Lake Superior Terminal & Transfer.....			
Marinette, Tomahawk, & Western.....	7	7	1.00
Mattoon Ry. Co.....			
Mineral Point & Northern.....	7	7	1.09
Northwestern Coal Ry. Co.....			
Stanley, Merrill & Phillips.....	6	7	1.05
Tomahawk & Eastern.....	2	2	1.00
Wisconsin & Northern.....	7	11	1.47
Wisconsin Northwestern.....			
B. ENTIRE SYSTEM.			
<i>Interstate Roads.</i>			
Chicago & North Western.....	16	51	5.05
Chicago, Burlington & Quincy.....	15	50	6.19
Chicago, Milwaukee & St. Paul.....	13	44	5.45
Chicago, St. Paul, Minneapolis & Omaha.....	14	50	5.30
Chicago, Harvard & Geneva Lake.....			
Duluth, South Shore & Atlantic.....	12	42	4.52
Elgin, Joliet & Eastern.....			
Great Northern.....	13	44	5.58
Illinois Central.....	14	51	5.34
Minneapolis, St. Paul & Sault Ste. Marie	13	47	5.27
Northern Pacific.....	14	54	6.08
Wisconsin & Michigan.....	9	13	1.50
Total or average.....	14	51	5.55

STATISTICS, 1912—Continued.

TRAFFIC—Concluded.

Average number of tons of freight per loaded car-mile.	Average number of tons of freight per train-mile.	Average number of freight cars per train-mile.	Average number of loaded cars per train-mile.	Average number of empty cars per train-mile.	Average mileage operated during the year.
17.80	353.91	28.20	19.89	7.35	2,065.87
18.58	685.34	51.63	36.89	13.75	223.02
15.69	307.09	27.07	19.57	6.59	1,783.05
18.34	298.22	23.59	16.26	6.45	773.43
					5.23
16.26	162.69	15.80	10.00	4.80	115.38
					18.98
36.53	1,384.06	66.21	37.89	27.31	43.35
14.16	86.46	10.76	6.10	3.65	91.14
18.26	416.98	29.95	22.83	6.21	1,336.71
12.57	204.73	24.01	16.29	6.85	135.70
19.54	98.85	9.63	5.07	3.08	70.68
17.90	370.47	28.99	20.70	7.37	6,662.54
9.60	22.25	3.26	2.32	.65	34.00
					32.00
					15.86
					15.00
					18.79
16.59	149.27	11.91	9.00	2.35	248.00
12.84	38.67	6.55	3.01	2.81	23.90
10.69	11.24	1.73	1.05	.68	4.70
18.24	108.64	7.88	5.95	1.70	36.70
14.83	22.14	1.87	1.49	.38	42.61
3.19	25.77	9.42	8.08	1.07	23.00
					29.36
17.84	42.07	3.56	2.36	1.20	30.60
					8.00
16.44	120.26	14.58	7.32	6.26	55.42
8.40	28.01	5.24	3.33	1.90	20.77
17.86	53.83	5.93	3.01	2.54	58.86
					46.30
16.87	298.94	27.22	17.72	8.59	7,858.87
18.20	437.75	35.37	24.05	10.36	9,074.34
14.80	288.16	27.51	19.47	7.12	7,511.41
17.62	249.20	21.42	14.14	6.43	1,745.10
					10.47
19.55	234.73	18.68	12.00	5.70	620.55
34.15	712.76	33.22	20.87	11.44	841.18
21.94	601.11	38.91	27.40	10.57	7,367.31
17.94	356.09	28.93	19.85	8.08	4,762.70
18.55	413.74	30.01	22.30	6.79	3,773.37
18.95	510.54	35.68	26.94	7.80	6,025.09
19.54	89.19	8.81	4.56	3.32	135.95
18.32	392.30	30.84	21.41	8.49	49,726.34

TRAFFIC AND MILEAGE

NAME OF ROAD.	LOCOMOTIVE			
	Revenue			
	Freight locomotive—miles.	Passenger locomotive—miles.	Mixed locomotive—miles.	Special locomotive—miles.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	5,004,448	5,175,101	293,250	9,334
Chicago, Burlington & Quincy.....	881,338	838,271		
Chicago, Milwaukee & St. Paul....	5,210,991	3,875,760	658,982	6,374
Chi., St. Paul, Minn. & Omaha....	2,387,646	1,825,956	288,518	4,139
Chi., Harvard & Geneva Lake ¹				
Duluth, South Shore & Atlantic..	192,068	152,658		435
Elgin, Joliet & Eastern.....				
Great Northern.....	253,419	100,079		71
Illinois Central.....	87,027	88,801		8
Minn., St. Paul & Sault Ste. Marie.	2,726,545	2,137,774	290,016	3,366
Northern Pacific.....	153,576	156,638	18,238	51
Wisconsin & Michigan.....	51,215	32,918		
Total.....	17,008,273	14,383,956	1,549,004	23,778
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	17,393	4,148	41,338	1,083
Ashland, Odanah & Marengo ¹				
Bayfield Transfer ¹				
Big Falls Ry. Co ¹				
Chippewa Valley & Northern ¹				
Green Bay & Western.....	176,656	146,363	138,350	764
Hazelhurst & Southeastern.....	5,491		2,090	
Iola & Northern.....			8,874	
Kewaunee, G. Bay & Western.....	16,941	5,376	47,430	72
La Crosse & Southeastern.....			65,605	
Lake Superior Term. & Transfer.				
Marinette, Tomahawk & Western.	4,368		11,544	
Mattoon R'y Co. ¹				
Mineral Point & Northern.....			40,148	
Northwestern Coal R'y ¹				
Stanley, Merrill & Phillips.....	24,212	40,148		90
Tomahawk & Eastern.....	104		8,923	
Wisconsin & Northern.....	1,535	4,777	40,153	
Wisconsin Northwestern ¹				
B. ENTIRE SYSTEM.				
<i>Interstate Roads</i>				
Chicago & North Western.....	17,314,955	20,210,933	1,628,529	34,586
Chicago, Burlington & Quincy....	18,375,751	17,892,325	851,499	19,580
Chicago, Milwaukee & St. Paul....	18,760,062	14,458,617	1,648,620	31,023
Chi., St. Paul, Minn. & Omaha....	4,548,659	3,802,726	690,069	6,853
Chi., Harvard & Geneva Lake ¹				
Duluth, South Shore & Atlantic..	1,069,620	914,139		3,862
Elgin, Joliet & Eastern.....	2,418,415			686
Great Northern.....	10,190,569	12,042,193	841,056	21,403
Illinois Central.....	17,685,887	14,084,161	288,682	18,432
Minn., St. Paul & Sault Ste. Marie.	6,188,386	5,186,420	582,426	6,221
Northern Pacific.....	10,538,758	12,070,206	619,527	23,723
Wisconsin & Michigan.....	85,525	73,315		
Total.....	107,176,587	100,735,035	7,150,408	166,899

¹ Incomplete report.

STATISTICS, 1912—Continued.

MILEAGE.			CAR MILEAGE.		
Service.		Non-revenue service locomotive-miles.	Freight Cars—Revenue service.		
Switching locomotive miles.	Total revenue locomotive mileage.		Freight car-miles—loaded.	Freight car-miles—empty.	Freight car-miles—caboose.
2,883,743	13,425,876	979,204	96,815,216	35,780,719	4,685,358
159,123	1,878,732	177,528	31,391,715	11,695,615	2,847,366
2,921,359	12,673,466	332,072	93,405,490	31,477,636	280,658
597,246	5,103,505	251,855	36,835,947	14,604,496	1,992,862
22,168	367,329	23,529	1,814,344	870,262	179,968
95,388	95,388				
522,798	876,367	41,277	9,117,087	6,571,150	244,367
5,592	181,428	2,858	530,980	317,509	87,179
705,201	5,862,902	341,291	64,914,551	17,660,129	2,568,946
98,952	427,455	1,653	1,894,610	797,237	100,922
6,145	90,278		290,215	211,099	51,215
8,017,715	40,982,726	2,151,367	337,010,155	119,985,852	15,038,841
3,768	76,760	1,918	139,253	39,275	17,050
67,230	529,363	15,871	2,744,033	718,243	169,400
	7,581		22,831	21,327	5,491
	8,874		9,304	5,988	
13,188	83,007	2,333	368,946	105,324	14,191
	65,605		97,884	24,689	
233,922	233,922				
3,120	19,032	930	128,580	16,973	4,368
	40,148		94,696	48,036	
25,095	89,545	1,626	177,169	151,587	24,326
2,125	11,152	78	30,076	17,130	104
3,000	49,465	404	108,104	91,247	13,529
9,646,470	48,835,423	2,266,507	305,119,579	147,472,508	16,039,451
8,914,030	46,053,185	2,075,482	421,665,175	181,749,213	16,756,425
8,791,878	43,690,800	1,410,858	344,987,683	126,195,685	16,283,071
1,650,627	10,698,914	387,191	61,967,528	28,192,393	3,710,384
411,855	2,399,476	77,625	11,780,357	5,598,132	954,871
3,226,651	5,745,752	166,013	40,558,267	22,232,200	1,766,590
3,953,498	27,048,719	1,475,256	283,866,677	109,498,857	9,766,463
7,449,131	39,526,293	823,274	346,157,389	140,890,318	17,526,193
1,905,919	13,869,372	530,761	146,312,773	44,574,779	6,016,134
4,412,276	27,664,490	1,429,938	266,588,712	77,140,586	9,240,248
6,145	164,985		418,056	304,089	85,625
50,468,480	265,697,409	10,642,905	2,229,422,196	883,848,760	98,145,355

TRAFFIC AND MILEAGE
CAR MILEAGE

NAME OF ROAD.	Freight car-miles revenue service, concluded.	Passenger Car-miles—Rev-	
	Total freight car-miles.	Passenger.	Sleeping, parlor and observation.
A. WISCONSIN.			
<i>a. Interstate Roads.</i>			
Chicago & North Western.....	137,281,293	12,712,065	5,849,022
Chicago, Burlington & Quincy.....	43,934,696	1,961,689	2,420,799
Chicago, Milwaukee & St. Paul.....	129,163,784	10,267,252	5,160,184
Chicago, St. P., Minneapolis & Omaha.....	53,433,305	4,915,963	2,773,036
Chicago, Harvard & Geneva Lake ¹			
Duluth, South Shore & Atlantic.....	2,864,574	307,002	209,466
Elgin, Joliet & Eastern.....			
Great Northern.....	15,932,604	196,275	120,339
Illinois Central.....	935,668	193,904	484
Minneapolis, St. P. & S. Ste. Marie.....	85,143,626	5,109,953	2,634,408
Northern Pacific.....	2,792,769	361,641	85,115
Wisconsin & Michigan.....	552,529	49,379	
Total.....	472,034,848	36,075,123	19,252,853
<i>b. Intrastate Roads.</i>			
Ahnapee & Western.....	195,573	102,338	
Ashland, Odanah & Marengo ¹			
Bayfield Transfer ¹			
Big Falls Ry. Co. ¹			
Chippewa Valley & Northern ¹			
Green Bay & Western.....	3,631,676	587,794	
Hazelhurst & Southeastern.....	49,649	2,090	
Iola & Northern.....	15,292	8,854	
Kewaunee, Green Bay & Western.....	488,461	86,725	
La Crosse & Southeastern.....	122,573	131,260	
Lake Superior Terminal & Transfer ¹			
Marinette, Tomahawk & Western.....	149,921	11,544	
Mattoon Ry. Co. ¹			
Mineral Point & Northern.....	142,732	43,607	
Northwestern Coal Ry. Co. ¹			
Stanley, Merrill & Phillips.....	353,082	42,026	
Tomahawk & Eastern.....	47,310	8,923	
Wisconsin & Northern.....	212,880	58,878	
Wisconsin Northwestern ¹			
B. ENTIRE SYSTEM.			
<i>Interstate Roads.</i>			
Chicago & North Western.....	468,631,538	49,427,956	20,086,813
Chicago, Burlington & Quincy.....	620,170,813	45,718,181	26,862,496
Chicago, Milwaukee & St. Paul.....	487,466,439	34,274,273	17,301,706
Chicago, St. P., Minneapolis & Omaha.....	93,870,305	10,888,669	5,004,876
Chicago, Harvard & Geneva Lake.....			
Duluth, South Shore & Atlantic.....	18,332,360	1,954,618	1,082,450
Elgin, Joliet & Eastern.....	64,557,057		
Great Northern.....	403,131,997	24,593,485	17,601,703
Illinois Central.....	504,573,900	37,533,971	14,599,584
Minneapolis, St. P. & S. Ste. Marie.....	196,903,686	12,112,665	7,934,190
Northern Pacific.....	352,969,546	24,152,310	22,177,295
Wisconsin & Michigan.....	807,670	109,974	
Total.....	3,211,416,311	240,766,102	132,651,113

¹ Incomplete report.

STATISTICS, 1912—Continued.
—Continued.

Revenue Service.		Special Car-miles—Revenue Service.				
Other pas- senger-train cars.	Total passenger car-miles.	Freight— loaded.	Freight— empty.	Caboose.	Passenger.	Sleeping, parlor and observation.
9,878,584	28,439,671	133,808		6,871	9,572	428
2,538,917	6,968,405					
9,876,305	25,303,741	68,929	190		15,548	24,881
3,971,571	11,660,570	30,768		2,648		
162,790	679,258	70		10	496	652
132,199	448,813	859		59	19	311
79,062	273,450	104		8		
4,142,815	11,887,176	6,878		930		
203,457	650,213	558		51	269	
	49,379					
31,030,700	86,358,676	241,974	190	10,577	25,904	26,272
45,541	147,879	1,466				
327,436	915,230	2,304		96		
30,065	2,090					
	8,854					
	116,790					
	131,260					
	11,544					
	43,607					
	42,026			90		
	8,923					
	58,878					
37,702,709	107,217,478	426,697		22,734	44,926	1,070
40,584,537	113,165,214	248,069	44	18,700	74,265	351
32,490,436	84,066,415	322,578	1,005		52,690	79,445
7,388,781	23,282,326	58,618		4,188		
978,557	4,015,625	12,141	8	1,265	6,465	3,804
27,259,873	69,455,061	191,879		14,136	3,916	63,311
22,232,771	74,366,326	213,731	100	13,837	31,796	
10,208,419	30,255,274	17,529		1,466		
26,311,675	72,641,280	244,923		16,805	76,690	11,705
	109,974					
205,157,758	578,574,973	1,736,165	1,157	93,131	290,748	159,666

TRAFFIC AND MILEAGE

NAME OF ROAD.	CAR MILEAGE—Concluded.			
	Special Car-miles. Revenue Service—Concluded.		Total revenue car-mileage.	Non-revenue service special car-miles.
	Other passenger-train cars.	Total special car-miles.		
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western	2,394	153,073	165,874,037	7,335,439
Chicago, Burlington & Quincy			50,901,101	1,113,997
Chicago, Milwaukee & St. Paul	15,420	124,968	154,592,493	3,984,864
Chicago, St. P., Minneapolis & O.		33,416	65,127,291	5,160,358
Chicago, Harvard & Geneva L.				
Duluth, South Shore & Atlantic, Elgin, Joliet & Eastern	446	1,674	3,545,506	319,355
Great Northern				
Illinois Central		1,248	16,382,665	243,997
Minneapolis, St. P. & S. S. Marie		112	1,209,230	18,714
Northern Pacific	78	956	3,443,938	7,008
Wisconsin & Michigan			601,908	
Total	18,338	323,255	558,716,779	21,117,835
<i>b. Intrastate Roads.</i>				
Ahnapee & Western		1,466	344,923	5,624
Ashland, Odanah & Marengo ¹				
Barfield Transfer ¹				
Big Falls Ry. Co. ¹				
Chippewa Valley & Northern. ¹				
Green Bay & Western		2,400	4,549,306	31,746
Hazelhurst & Southeastern			51,739	
Iola & Northern			24,146	
Kewaunee, Green Bay & Western			605,251	5,432
La Crosse & Southeastern			253,833	
Lake Superior Terminal & Tr. ¹				
Marinette, Tomahawk & Western			161,465	2,790
Mattoon Ry. Co. ¹				
Mineral Point & Northern			186,339	
Northwestern Coal Ry. Co. ¹				
Stanley, Merrill & Phillips		90	395,198	14,746
Tomahawk & Eastern			56,233	234
Wisconsin & Northern			271,758	
Wisconsin Northwestern ¹				
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western	3,987	499,414	576,348,430	35,784,049
Chicago, Burlington & Quincy	187	341,596	733,677,623	9,075,026
Chicago, Milwaukee & St. Paul	50,915	506,633	572,039,487	16,930,296
Chicago, St. P., Minneapolis & O.		62,806	117,215,437	7,372,614
Chicago, Harvard & Geneva L.				
Duluth, South Shore & Atlantic, Elgin, Joliet & Eastern	2,753	26,436	22,375,421	500,555
Great Northern	700	700	64,557,757	221,560
Illinois Central	380	273,622	472,860,680	15,486,837
Minneapolis, St. P. & S. S. Marie		259,464	579,199,690	8,795,111
Northern Pacific	10,306	360,429	425,971,255	6,411,428
Wisconsin & Michigan			917,644	
Total	69,228	2,350,095	3,792,341,379	106,229,667

¹Incomplete report.

STATISTICS—Concluded.

TRAIN MILEAGE.					
Revenue Service.					Non-revenue service train-miles.
Freight train-miles.	Passenger train-miles.	Mixed train-miles.	Special train-miles.	Total revenue train-mileage	
4,594,834	5,106,261	273,335	7,043	9,981,473	304,027
850,875	832,648	.....	.....	1,683,523	125,026
4,314,166	3,996,289	458,200	8,290	8,776,945	332,572
1,978,684	1,782,103	287,203	2,716	4,050,706	221,384
.....
181,350	152,605	.....	422	334,377	22,470
.....
240,629	92,716	.....	71	333,416	40,941
86,976	88,333	.....	8	175,317	2,958
2,553,962	2,104,743	289,120	148	4,947,973	99,199
.....
98,148	154,716	18,185	51	271,100	1,632
57,360	32,918	.....	.....	90,278	.....
14,956,984	14,343,332	1,326,043	18,749	30,645,108	1,149,709
.....
17,360	4,180	42,704	361	64,605	954
.....
.....
169,400	145,922	135,648	96	451,066	5,290
5,491	.....	2,090	.....	7,581	.....
.....	.....	8,854	.....	8,854	.....
16,744	4,930	45,216	.....	66,890	776
.....	.....	65,605	.....	65,605	.....
.....
4,368	.....	11,544	.....	15,912	930
.....	.....	40,148	.....	40,148	.....
.....
24,212	40,148	.....	90	64,450	1,626
104	.....	8,923	.....	9,027	78
1,125	5,245	34,746	.....	41,114	404
.....
.....
15,634,033	19,650,099	1,582,150	26,137	36,892,419	1,141,590
16,688,629	17,422,976	846,642	19,067	34,977,314	1,279,407
16,471,825	14,173,015	1,246,961	29,134	31,920,935	1,410,458
3,699,117	3,709,801	683,548	4,348	8,096,814	323,018
.....
981,340	888,324	.....	3,331	1,872,995	64,157
1,943,249	.....	.....	639	1,943,879	27,767
9,523,132	11,601,716	837,170	17,277	21,979,295	1,444,269
17,154,325	13,634,621	286,591	17,750	31,093,287	610,014
5,982,539	5,160,684	578,159	1,581	11,722,963	183,253
.....
9,296,541	11,355,464	597,324	21,056	21,270,385	1,318,381
91,670	73,315	.....	.....	164,985	.....
97,466,400	97,670,015	6,658,545	140,311	201,935,271	7,802,314

FREIGHT TRAFFIC MOVEMENT (COMPANY'S
PRODUCTS OF

NAME OF ROAD.	Grain.			
	Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
			Whole tons.	Per cent.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western ²	249,423		249,423	
Chicago, Burlington & Quincy ³				
Chicago, Milwaukee & St. Paul ³				
Chicago, St. P., Minneapolis & Omaha.....	143,315	401,744	545,059	11.40
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....	2,149	12,623	14,772	3.66
Elgin, Joliet & Eastern.....				
Great Northern ³				
Illinois Central.....	1,106	5,044	6,150	2.85
Minneapolis, St. P. & S. Ste. Marie.....	127,818	463,845	591,663	7.52
Northern Pacific ³				
Wisconsin & Michigan.....	80		80	.04
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	7,947	3,002	10,949	18.01
Ashland, Odanah & Marengo.....	205		205	.15
Bayfield Transfer ⁴				
Big Falls Ry. Co. ⁴				
Chippewa Valley & Northern.....		140	140	.21
Green Bay & Western.....	52,366	5,078	57,444	11.43
Hazelhurst & Southeastern.....	11	499	510	.55
Iola & Northern.....	137	242	379	1.79
Kewaunee, Green Bay & Western.....	26,447	47,314	73,761	33.40
La Crosse & Southeastern.....	3,219		3,219	9.44
Lake Superior Terminal & Transfer ⁴				
Marinette, Tomahawk & Western.....				
Mattoon Ry. Co. ⁴				
Mineral Point & Northern.....	602	85	687	.40
Northwestern Coal Ry. Co.....				
Stanley, Merrill & Phillips.....		110	110	.06
Tomahawk & Eastern.....		423	423	1.92
Wisconsin & Northern.....	215	713	928	.78
Wisconsin Northwestern ⁴				
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	2,180,168	663,281	2,843,449	7.63
Chicago, Burlington & Quincy.....	3,064,675	486,384	3,551,059	11.79
Chicago, Milwaukee & St. Paul.....	2,582,718	212,673	2,795,391	10.52
Chicago, St. P., Minneapolis & Omaha.....	851,087	276,709	1,127,796	16.24
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....	2,792	24,038	26,740	.78
Elgin, Joliet & Eastern.....	32,675	137,981	170,656	.70
Great Northern.....	2,728,946	421,307	3,150,253	11.44
Illinois Central.....	2,805,836	265,667	3,071,503	11.66
Minneapolis, St. P., & S. Ste. Marie.....	1,030,507	161,537	1,192,044	10.50
Northern Pacific.....	1,737,097	201,265	1,938,362	11.10
Wisconsin & Michigan.....	140		140	.06
Total.....	17,016,551	2,850,842	19,867,393	9.39

¹ For Wisconsin, freight received from respondent road originating outside of state is included.

² Details of freight received from other carriers not given.

³ Wisconsin not reported.

MATERIAL EXCLUDED), YEAR ENDING JUNE 30, 1912.
AGRICULTURE.

Flour.				Other mill products.			
Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.		Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
		Whole tons.	Per cent.			Whole tons.	Per cent.
12,321		12,321		37,107		37,107	
14,919	187,485	202,404	4.23	16,107	146,641	162,748	3.40
14,582	12,346	26,928	6.67	5,318	14,630	19,948	4.94
193	1,306	1,499	.69	223	2,179	2,402	1.11
22,059	331,653	353,712	4.49	30,120	126,545	156,665	1.99
320	2,598	2,918	1.38	88	1	89	.04
	1,212	1,212	1.99	28	701	729	1.20
					211	211	.32
3,304	4,578	7,882	1.57	2,345	2,533	4,878	.97
	175	175	.19		312	312	.34
	497	497	2.35		440	440	2.08
1,671	1,070	2,741	1.24	899	5,866	6,765	3.06
231	562	793	2.32	48	204	252	.74
					121	121	.18
34	710	744	.44	40	183	223	.13
	201	201	.12	95	201	296	.17
					41	41	.19
177	745	922	.77		249	249	.21
79,942	277,711	357,653	.96	124,488	173,789	298,277	.80
538,280	128,694	666,974	2.21	213,803	48,631	262,434	.87
688,244	40,735	728,979	2.74	542,139	38,918	581,057	2.19
252,803	8,197	261,000	3.76	186,509	9,289	195,798	2.82
14,712	47,160	61,872	1.81	5,415	21,083	26,498	.78
	552,136	552,136	2.26	6,345	74,844	81,189	.33
260,577	13,669	274,246	1.00	146,241	12,746	158,987	.58
121,006	138,335	259,341	.98	225,274	99,383	324,657	1.23
399,662	7,322	406,984	3.59	173,099	16,022	189,121	1.67
372,869	15,887	388,756	2.23	203,542	13,058	216,600	1.24
596	3,540	4,136	1.76	160	1	161	.07
2,728,691	1,233,386	3,962,077	1.87	1,827,015	507,764	2,334,779	1.10

¹ No record.

² Includes other mill products and flour.

FREIGHT TRAFFIC MOVE
PRODUCTS OF AGRICULTURE

NAME OF ROAD.	Hay.			
	Freight originating on this road. Whole tons.	Freight received from other carriers. Whole tons. ¹	Total freight tonnage.	
			Whole tons.	Per cent.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western ²	78,086		78,086	
Chicago, Burlington & Quincy ³				
Chicago, Milwaukee & St. Paul ³				
Chicago, St. Paul, Minneapolis & Omaha.....	62,577	14,507	77,084	1.61
Chicago, Harvard & Geneva Lake ⁴				1.61
Duluth, South Shore & Atlantic.....	1,015	986	2,001	.50
Elgin, Joliet & Eastern.....				
Great Northern ³				
Illinois Central.....	152	913	1,065	.49
Minneapolis, St. Paul & S. Ste. Marie.....	67,201	15,840	83,041	1.06
Northern Pacific ³				
Wisconsin & Michigan.....	387	425	812	.38
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	6,452		6,452	10.61
Ashland, Odanah & Marengo.....	298		298	.22
Bayfield Transfer ⁴				
Big Falls Ry. Co. ⁴				
Chippewa Valley & Northern.....		63	63	.09
Green Bay & Western.....	11,670	377	12,047	2.40
Hazelhurst & Southeastern.....	12	759	762	.82
Iola & Northern.....	22	19	41	.19
Kewaunee, Green Bay & Western.....	10,707	804	11,511	5.21
La Crosse & Southeastern.....	116		116	.34
Lake Superior Terminal & Transfer ⁴				
Marinette, Tomahawk & Western.....		164	164	.25
Mattoon R'y Co. ⁴				
Mineral Point & Northern.....	289	14	303	.18
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....	372		372	.21
Tomahawk & Eastern.....		55	55	.25
Wisconsin & Northern.....	69	1,003	1,072	.89
Wisconsin Northwestern.....				
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	244,649	123,236	367,885	.99
Chicago, Burlington & Quincy.....	240,797	147,252	388,049	1.29
Chicago, Milwaukee & St. Paul.....	181,337	89,069	270,406	1.02
Chicago, St. Paul, Minneapolis & Omaha.....	96,482	28,242	124,724	1.79
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....	15,587	12,152	27,739	.81
Elgin, Joliet & Eastern.....	3,582	6,505	10,087	.04
Great Northern.....	217,958	7,697	225,655	.82
Illinois Central.....	92,987	89,517	182,504	.69
Minneapolis, St. Paul & S. Ste. Marie.....	140,532	3,750	144,282	1.27
Northern Pacific.....	329,826	18,552	348,378	2.00
Wisconsin & Michigan.....	560	479	1,039	.44
Total.....	1,564,297	526,451	2,090,748	.99

¹For Wisconsin, freight received from respondent road originating outside of state is included.²Details of freight received from other carriers not given.

MENT, 1913.—Continued.
CULTURE.—Continued.

Tobacco.				Fruit and vegetables.			
Freight originating on this road. Whole tons.	Freight received from other carriers.	Total freight tonnage.		Freight originating on this road. Whole tons.	Freight received from other carriers.	Total freight tonnage.	
		Whole tons.	Per cent.			Whole tons.	Per cent.
8,106		8,106		320,986		320,986	
152	88	240	.01	71,654	59,447	131,101	2.74
				682	1,355	2,037	.50
212	19	231	.11	313	1,606	1,918	.89
1,802	600	2,402	.03	205,605	36,462	242,067	3.08
				1,349	231	1,580	.75
				6,726	800	7,526	12.48
				10		10	.01
587	21	608	.12	101,191	465	101,656	20.28
	8	8	.01	47	148	195	.21
				12,259	56	12,295	58.08
41	118	159	.07	7,848	1,120	8,968	4.06
1,915	36	1,951	5.72	1,233		1,233	3.63
				132	42	174	.10
				690	13	703	.41
				45		45	.04
9,092	2,270	11,362	.03	456,024	420,427	876,451	2.35
2,274	979	3,253	.01	400,908	535,974	936,882	3.11
34,730	7,187	41,917	.16	141,298	164,168	305,466	1.15
152	88	240		99,619	100,026	199,645	2.87
				1,925	13,337	15,262	.45
	9,699	9,699	.04	789	145,074	145,863	.60
145	241	386		337,047	51,956	389,003	1.38
60,532	26,392	86,924	.33	187,476	604,353	791,829	3.01
2,324	78	2,402	.02	265,990	24,591	290,581	2.56
				420,155	94,144	514,299	2.95
	306	593		2,059	7	2,066	.88
109,536	47,240	156,776	.08	2,313,200	2,154,057	4,467,347	2.11

³Wisconsin not reported.

⁴No record.

FREIGHT TRAFFIC

NAME OF ROAD.	PRODUCTS OF			
	Cotton and other products of agriculture.			
	Freight originating on this road Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
Whole tons.			Per cent.	
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western ²	51,138		51,138	
Chicago, Burlington & Quincy ³				
Chicago, Milwaukee & St. Paul ³				
Chicago, St. Paul, Minneapolis & Omaha	9,812	48,073	57,885	1.22
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....				
Great Northern ³				
Illinois Central.....	16	339	355	.16
Minneapolis, St. Paul & Sault Ste. Marie	22,295	21,401	43,696	.55
Northern Pacific ³				
Wisconsin & Michigan.....	890	494	1,384	.65
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	75	128	203	.33
Ashland, Odanah & Marengo.....				
Bayfield Transfer ⁴				
Big Falls Ry. Co. ⁴				
Chippewa Valley & Northern.....				
Green Bay & Western.....	594	203	797	.16
Hazellhurst & Southeastern.....				
Jola & Northern.....				
Kewaunee, Green Bay & Western.....	185	764	949	.43
La Crosse & Southeastern.....				
Lake Superior Terminal & Transfer ⁴				
Marquette, Tomahawk & Western.....		1,265	1,265	1.90
Mattoon R'y Co. ⁴				
Mineral Point & Northern.....	1		1	
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....				
Tomahawk & Eastern.....				
Wisconsin & Northern.....	1,125		1,125	.94
Wisconsin Northwestern ⁴				
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	97,411	82,034	179,445	.48
Chicago, Burlington & Quincy.....	64,307	120,572	184,879	.62
Chicago, Milwaukee & St. Paul.....	343,581	112,265	455,846	1.71
Chicago, St. Paul, Minneapolis & Omaha	58,090	37,748	95,838	1.38
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....		174,334	174,334	.72
Great Northern.....		30,578	262,853	.96
Illinois Central.....	232,255	276,090	641,728	2.44
Minneapolis, St. Paul & Sault Ste. Marie	365,638	9,749	54,961	.49
	45,212			
Northern Pacific.....	214,375	29,182	243,557	1.39
Wisconsin & Michigan.....	1,132	352	1,484	.63
Total.....	1,422,001	872,904	2,294,905	1.08

¹ For Wisconsin, freight received from respondent road originating outside of state is included.

² Details of freight received from other carriers not given.

MOVEMENT, 1912.—Continued.

AGRICULTURE.—Concluded.				PRODUCTS OF ANIMALS.			
Total products of agriculture.				Live stock.			
Freight originat'g on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.		Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
		Whole tons.	Per cent.			Whole tons.	Per cent.
757,167		757,167		132,292		132,292	
318,536	857,985	1,176,521	24.61	38,511	35,034	73,545	1.54
23,746	41,940	65,686	16.27	145	321	466	.11
2,214	11,406	13,620	6.30	10,845	1,031	11,876	5.50
476,900	996,346	1,473,246	18.72	34,223	17,506	51,729	.66
3,114	3,749	6,863		41	12	53	.02
21,228	5,903	27,131	44.62	1,078	24	1,102	1.81
503		503	.37	98		98	.07
10	414	424	.63				
172,057	13,255	185,312	36.96	12,148	570	12,718	2.54
70	1,892	1,962	2.12	22	33	55	.06
12,418	1,234	13,652	64.49	404	57	461	2.18
47,798	57,056	104,854	47.47	2,433	64	2,497	1.13
6,762	802	7,564	22.19	2,009	47	2,056	6.03
	1,550	1,550	2.33				
1,098	1,034	2,132	1.25	2,790	195	2,985	1.76
1,157	525	1,682	.97	74		74	.04
	519	519	2.36				
1,631	2,710	4,341	3.63	240		240	3.63
3,191,774	1,742,748	4,934,522	13.24	1,130,043	245,904	1,375,947	3.69
4,525,044	1,468,486	5,993,530	19.90	1,635,121	194,943	1,830,064	6.08
4,514,047	665,015	5,179,062	19.49	1,114,542	205,975	1,320,517	4.97
1,544,742	460,299	2,005,041	28.86	280,754	66,966	347,720	5.01
40,341	117,770	158,111	4.63	638	1,241	1,879	.06
43,391	1,100,573	1,143,964	4.69	849	12,129	12,978	.05
3,923,160	538,194	4,461,353	16.18	203,460	22,892	226,352	.82
3,858,749	1,499,737	5,358,486	20.34	387,363	70,396	457,759	1.74
2,057,326	223,049	2,280,375	20.10	97,431	8,283	105,714	.93
3,278,151	372,394	3,650,545	20.91	175,929	26,069	201,998	1.16
4,647	4,379	9,026	3.84	78	13	91	.04
26,981,381	8,192,644	35,174,025	16.62	5,026,208	854,811	5,881,019	2.78

³ Wisconsin not reported.

⁴ No record.

FREIGHT TRAFFIC
PRODUCTS OF

NAME OF ROAD.	Dressed meats.			
	Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
			Whole tons.	Per cent.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western ²	41,537		41,537	
Chicago, Burlington & Quincy ³				
Chicago, Milwaukee & St. Paul ³				
Chicago, St. Paul, Minneapolis & Omaha	185	20,593	20,778	.43
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....		5,002	5,002	1.24
Elgin, Joliet & Eastern.....				
Great Northern ³				
Illinois Central.....				
Minneapolis, St. Paul, & Sault St. Marie.	285	12,711	12,996	.17
Northern Pacific ³				
Wisconsin & Michigan.....				
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....				
Ashland, Odanah & Marengo.....	74		74	.06
Bayfield Transfer ⁴				
Big Falls Ry. Co. ⁴				
Chippewa Valley & Northern.....				
Green Bay & Western.....				
Hazelhurst & Southeastern.....		317	317	.34
Iola & Northern.....				
Kewaunee, Green Bay & Western.....				
La Crosse & Southeastern.....				
Lake Superior Terminal & Transfer ⁴				
Marinette, Tomahawk & Western.....				
Mattoon Ry. Co. ⁴				
Mineral Point & Northern.....		34	34	.02
Northwestern Coal Ry. Co.....				
Stanley, Merrill & Phillips.....				
Tomahawk & Eastern.....				
Wisconsin & Northern.....		26	26	.20
Wisconsin Northwestern ⁴				
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	158,185	12,007	170,192	.46
Chicago, Burlington & Quincy.....	192,712	7,452	200,164	.66
Chicago, Milwaukee & St. Paul.....	168,126	4,594	172,720	.65
Chicago, St. Paul, Minneapolis & Omaha	41,406	3,993	45,399	.65
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....		7,921	7,921	.20
Elgin, Joliet & Eastern.....		46,674	46,674	.19
Great Northern.....	11,178	6,951	18,129	.07
Illinois Central.....	21,515	5,822	27,337	.10
Minneapolis, St. Paul & Sault Ste. Marie	12,201	5,185	17,386	.15
Northern Pacific.....	9,380	17,762	27,142	.16
Wisconsin & Michigan.....				
Total.....	614,703	118,361	732,064	.35

¹ For Wisconsin, freight received from respondent road originating outside of state is included.

² Details of freight received from other carriers not given.

MOVEMENT, 1912.—Continued.

ANIMALS.—Continued.

Other packing house products.				Poultry, game and fish.			
Freight originating on this road. Whole tons.	Freight received from other carriers. Whole tons. ¹	Total freight tonnage.		Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
		Whole tons.	Per cent.			Whole tons.	Per cent.
55,221		55,221		2,318		2,318	
185	12,086	12,271	.26	1,248	14,134	15,382	.32
	302	302	.07	208	615	823	.20
207	18	225	.10	273	190	463	.21
828	8,247	9,075	.12	515	6,960	7,475	.09
103	68	171	.08				
				100		100	.17
	5	5	.01	336	146	482	.10
				409	17	426	.22
				20		20	.06
	50	50	.04				
119,210	20,042	139,252	.37	15,522	28,265	43,787	.12
139,606	6,999	146,605	.49	52,666	30,047	82,713	.27
81,955	4,488	89,443	.34	6,744	5,341	12,085	.05
19,667	1,390	21,057	.30	7,092	9,681	16,773	.24
	439	439	.01	553	673	1,226	.04
	7,833	7,833	.03		6,006	6,006	.03
7,999	6,656	14,655	.05	24,411	4,723	29,134	.11
163,004	57,130	220,134	.84	27,184	24,888	52,072	.20
10,961	1,624	12,585	.11	4,329	6,924	11,253	.10
2,866	10,783	13,649	.08	22,718	7,100	29,818	.17
217	75	292	.12				
548,455	117,459	665,914	.31	161,219	123,648	284,867	.13

³ Wisconsin not reported.

⁴ No report.

FREIGHT TRAFFIC
PRODUCTS OF

NAME OF ROAD.	Wool.			
	Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
			Whole tons.	Per cent.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western ²	1,444		1,444	
Chicago, Burlington & Quincy ³				
Chicago, Milwaukee & St. Paul ³				
Chicago, St. P., Minneapolis & Omaha.....	130	3,463	3,593	.08
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....	57	504	561	.14
Elgin, Joliet & Eastern.....				
Great Northern ³				
Illinois Central.....	5		5	
Minneapolis, St. Paul & S. S. Marie.....	233	4,751	4,984	.06
Northern Pacific ³				
Wisconsin & Michigan.....				
Total.....				
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....				
Ashland, Odanah & Marengo.....				
Bayfield Transfer ⁴				
Big Falls Ry. Co. ⁴				
Chippewa Valley & Northern.....				
Green Bay & Western.....	11	76	87	.02
Hazelhurst & Southeastern.....				
Iola & Northern.....				
Kewaunee, Green Bay & Western.....				
La Crosse & Southeastern.....				
Lake Superior Terminal & Transfer ⁴				
Marinette, Tomahawk & Western.....				
Mattoon R'y Co. ⁴				
Mineral Point & Northern.....	15		15	.01
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....				
Tomahawk & Eastern.....				
Wisconsin & Northern.....				
Wisconsin Northwestern ⁴				
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	10,147	14,674	24,821	.07
Chicago, Burlington & Quincy.....	9,809	11,347	21,156	.07
Chicago, Milwaukee & St. Paul.....	4,181	14,135	18,316	.07
Chicago, St. P., Minneapolis & Omaha.....	2,938	829	3,767	.06
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....	57	524	581	.02
Elgin, Joliet & Eastern.....		5,613	5,613	.02
Great Northern.....	9,956	267	10,223	.04
Illinois Central.....	2,015	8,025	10,040	.04
Minneapolis, St. Paul & S. S. Marie.....	4,813	207	5,020	.05
Northern Pacific.....	12,196	1,894	14,090	.08
Wisconsin & Michigan.....				
Total.....	56,112	57,515	113,627	.05

¹ For Wisconsin, freight received from respondent road originating outside of state is included.² Details of freight received from other carriers not given.

MOVEMENT, 1912—Continued.
ANIMALS—Continued.

Hides and leather.				Other products of animals.			
Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.		Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
		Whole tons.	Per cent.			Whole tons.	Per cent.
22,671		22,671		27,541		27,541	
584	9,345	9,929	.21	2,447	11,671	14,118	.20
	83	83	.02				
6,315	31	31	.01	6,105	903	7,008	3.24
	14,534	20,849	.37	4,982	3,259	8,241	.10
43		43	.07	878	60	938	1.54
28	1	28		2,770	130	2,900	.58
45		45	.02	124		124	.58
				2,055	679	2,734	1.24
1,183	1,459	2,642	3.96	301		301	.45
13		13	.01	821		821	.48
392	485	877	3.99	118		118	.54
58,024	33,237	91,261	.24	115,603	16,659	132,262	.36
13,854	4,447	18,301	.06	58,837	18,757	77,594	.26
47,574	29,627	77,201	.29	74,145	11,433	85,578	.32
7,488	3,685	11,173	.16	6,249	10,437	16,686	.24
3,373	7,452	10,825	.32				
	22,158	22,158	.09		15,438	15,438	.06
1,004	3,141	5,135	.02	24,228	9,987	34,215	.12
8,726	9,237	17,963	.07	140,244	64,819	205,063	.78
17,449	14,629	32,078	.28	13,429	929	14,358	.13
7,716	990	8,706	.05	18,009	8,839	26,848	.15
166,198	128,603	294,801	.14	450,744	157,298	608,042	.29

³ Wisconsin not reported.

⁴ No record.

FREIGHT TRAFFIC

NAME OF COMPANY.	PRODUCTS OF ANIMALS—Concluded.			
	Total products of animals.			
	Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons	Total freight tonnage.	
Whole tons.			Per cent.	
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western ²	283,024		283,024	
Chicago Burlington & Quincy ³				
Chicago, Milwaukee & St. Paul ³				
Chicago, St. Paul, Minneapolis & Omaha.....	43,290	106,326	149,616	3.13
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....	410	6,827	7,237	1.78
Elgin, Joliet & Eastern.....				
Great Northern ²				
Illinois Central.....	17,435	2,173	19,608	9.06
Minneapolis, St. Paul & Sault Ste. Marie.....	47,381	67,968	115,349	1.47
Northern Pacific ³				
Wisconsin & Michigan.....	144	80	224	
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	2,099	84	2,183	3.59
Ashland, Odanah & Marengo.....	172		172	.13
Bayfield Transfer ⁴				
Big Falls Ry. Co. ⁴				
Chippewa Valley & Northern.....				
Green Bay & Western.....	15,293	922	16,215	3.24
Hazelhurst & Southeastern.....	22	356	378	.41
Iola & Northern.....	528	57	585	2.76
Kewaunee, Green Bay & Western.....	5,000	760	5,760	2.61
La Crosse & Southeastern.....	2,029	47	2,076	6.09
Lake Superior Terminal & Transfer ⁴				
Marinette, Tomahawk & Western.....	1,484	1,459	2,943	4.41
Mattoon R'y Co. ⁴				
Mineral Point & Northern.....	3,639	229	3,868	2.28
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....	74		74	.04
Tomahawk & Eastern.....	510	485	995	4.53
Wisconsin & Northern.....	240	76	316	.26
Wisconsin Northwestern ⁴				
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	1,606,734	370,788	1,977,522	5.31
Chicago, Burlington & Quincy.....	2,102,605	273,992	2,376,597	7.89
Chicago, Milwaukee & St. Paul.....	1,500,267	273,593	1,773,860	6.68
Chicago, St. Paul, Minneapolis & Omaha.....	365,594	96,981	462,575	6.66
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....	4,621	18,250	22,871	.65
Elgin, Joliet & Eastern.....	849	115,851	116,700	.47
Great Northern.....	283,226	54,617	337,843	1.23
Illinois Central.....	750,051	240,317	990,368	3.77
Minneapolis, St. Paul & Sault Ste. Marie.....	160,613	37,781	198,394	1.75
Northern Pacific.....	248,914	73,437	322,251	1.85
Wisconsin & Michigan.....	295	88	383	.16
Total.....	7,023,669	1,557,695	8,581,364	4.05

¹ For Wisconsin, freight received from respondent road originating outside of state is included.

² Details of freight received from other carriers not given.

³ Wisconsin not reported.

MOVEMENT, 1912—Continued.

PRODUCTS OF MINES.							
Anthracite coal.				Bituminous coal.			
Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.		Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ whole tons.	Total freight tonnage.	
		Whole tons.	Per cent.			Whole tons.	Per cent.
409,088		409,088		944,250		944,250	
196,811	23,874	220,685	4.62	488,145	178,217	666,362	13.94
224	6,394	6,618	1.64	2,154	3,509	5,663	1.40
	3,016	3,016	1.40	47	99,240	99,287	45.94
	136,098	146,098	1.86		856,062	856,062	10.88
257	281	538	.25	254	1,800	1,054	.97
56	1,076	1,132	1.86	51	2,253	2,304	3.79
12,426	1,920	14,346	2.86	112,503	12,414	124,917	24.91
	134	134	.15	36	3,270	3,306	3.57
	134	134	.63		770	770	3.64
1,610	56	1,666	.75	28,794	204	28,998	13.13
	370	370	1.07		5,159	5,159	15.13
					6,023	6,023	9.03
10	39,708	39,718	23.35	63	27,517	27,580	16.22
123,800		123,800	25.93	353,351		353,351	74.07
				948	4,480	5,428	3.13
	71	71	.06	28	2,021	2,021	9.19
					401	429	.36
620,267	208,352	828,619	2.22	2,400,513	3,017,708	5,418,221	14.54
23,506	75,702	99,208	.33	7,030,815	2,666,398	9,697,213	32.20
555,985	155,319	711,304	2.68	1,949,086	1,048,095	2,997,181	11.28
210,975	45,295	256,270	3.69	606,047	200,141	806,188	11.61
381	15,619	16,000	.47	18,352	135,690	154,042	4.51
	106,468	106,468	.44	2,315,321	4,540,916	6,856,237	28.10
478,148	53,880	532,028	1.93	^a 1,721,509	^b 196,572	^c 1,918,081	6.96
77,278	57,524	134,802	.51	7,331,128	1,277,531	8,608,659	32.68
	154,339	154,339	1.36	^a 225,336	^b 923,197	1,148,533	10.13
442,583	7,515	450,098	2.58	2,467,165	418,350	2,885,515	16.53
1,137	453	1,590	.68	2,164	1,820	3,984	1.69
2,410,260	880,466	3,290,726	1.55	26,067,436	14,426,418	40,493,854	19.13

⁴ No record.

⁵ Includes lignite coal.

⁶ Lignite coal.

FREIGHT TRAFFIC
PRODUCTS OF

NAME OF ROAD.	Coke.			
	Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons	Total freight tonnage.	
			Whole tons.	Per cent.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western ²	129,224		129,224	
Chicago, Burlington & Quincy ³				
Chicago, Milwaukee & St. Paul ³				
Chicago, St. Paul, Minneapolis & Omaha	477	13,116	13,593	.28
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....				
Great Northern ³				
Illinois Central.....		397	397	.18
Minneapolis, St. Paul & Sault Ste. Marie	16,525	29,338	45,863	.58
Northern Pacific ³				
Wisconsin & Michigan.....				
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....		77	77	.13
Ashland, Odessa & Marengo.....				
Bayfield Transfer ⁴				
Big Falls Ry. Co. ⁴				
Chippewa Valley & Northern.....				
Green Bay & Western.....	102	176	278	.06
Hazelhurst & Southeastern.....				
Iola & Northern.....				
Kewaunee, Green Bay & Western.....	77		77	.04
LaCrosse & Southeastern.....		75	75	.22
Lake Superior Terminal & Transfer ⁴				
Marinette, Tomahawk & Western.....				
Mattoon Ry. Co. ⁴				
Mineral Point & Northern.....		2,184	2,184	1.29
Northwestern Coal Ry. Co.....				
Stanley, Merrill & Phillips.....				
Tomahawk & Eastern.....				
Wisconsin & Northern.....				
Wisconsin Northwestern ⁴				
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	170,611	47,614	218,225	.59
Chicago, Burlington Quincy.....	27,348	150,109	177,457	.59
Chicago, Milwaukee & St. Paul.....	275,656	109,343	384,999	1.45
Chicago, St. Paul, Minneapolis & Omaha	2,823	13,320	16,143	.23
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....	326	20,190	20,516	.60
Elgin, Joliet & Eastern.....	2,537,231	420,648	2,957,879	12.12
Great Northern.....	91,204	23,109	114,313	.42
Illinois Central.....	27,482	82,723	110,205	.42
Minneapolis, St. Paul & Sault Ste. Marie	63,103	8,166	71,269	.63
Northern Pacific.....	54,999	35,536	90,535	.52
Wisconsin & Michigan.....				
Total.....	3,250,783	910,758	4,161,541	1.97

¹For Wisconsin, freight received from respondent road originating outside of state included.²Details of freight received from other carriers not given.

MOVEMENT, 1912—Continued.
MINES—Continued.

Ores.				Sand, stone and like articles.			
Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.		Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
		Whole tons.	Per cent.			Whole tons.	Per cent.
429,975		429,975		959,220		959,220	
4,551	15,160	19,711	.41	5,508	15,069	20,577	.43
	34	34	.01	56,273	398	56,671	14.03
597	449	1,046	.48	173	10,620	10,793	5.00
265,429	762,241	1,027,670	13.06	169,639	36,221	205,860	2.62
					5,488	5,488	2.60
				20	201	221	.36
				11,898	2,140	14,038	2.80
					152	152	.72
				11,201	24	11,225	5.08
				1,685	32	1,717	5.03
36,572	32,530	69,102	40.63	380	2,552	2,932	1.72
				46	81	127	.67
					50	50	.23
7,174,972	5,758	7,180,730	19.27	2,722,135	208,655	2,930,790	7.86
202,804	340,571	543,375	1.80	1,423,820	202,982	1,626,802	5.40
1,498,401	274,959	1,773,360	6.67	1,296,494	280,488	1,576,982	5.93
6,860	16,017	22,877	.33	71,789	32,038	103,827	1.49
1,453,402	7,569	1,460,971	42.80	299,668	3,388	303,056	6.24
	1,123,793	1,123,793	4.61	3,043,856	392,723	3,436,579	14.08
14,386,999	12,268	14,399,267	52.28	504,254	11,406	515,660	1.87
71,570	118,569	190,139	.72	758,639	234,386	993,025	3.77
1,022,795	54,529	1,077,324	9.49	385,577	11,928	397,505	3.50
505,999	158,945	664,944	3.81	675,162	107,975	783,137	4.49
					5,488	5,488	2.34
26,323,802	2,112,978	28,436,780	13.44	11,091,394	1,491,457	12,582,851	5.94

³Wisconsin not reported.
⁴No record.

FREIGHT TRAFFIC

NAME OF ROAD.	PRODUCTS OF			
	Other products of mines.			
	Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
Whole tons.			Per cent.	
A. Wisconsin.				
<i>a. Interstate Roads.</i>				
Chicago & North Western ²	31,844		31,844	
Chicago, Burlington & Quincy ³				
Chicago, Milwaukee & St. Paul ³				
Chicago, St. Paul, Minneapolis & Omaha	4,025	16,569	20,594	.43
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....		246	246	.06
Elgin, Joliet & Eastern.....				
Great Northern ³				
Illinois Central.....	28	1,182	1,210	.56
Minneapolis, St. Paul & S. S. Marie.....	28,282	38,942	67,224	.85
Northern Pacific ³				
Wisconsin & Michigan.....		3,590	3,590	1.70
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....		227	227	.37
Ashland, Odinah & Marengo.....				
Bayfield Transfer ⁴				
Big Falls Ry. Co. ⁴				
Chippewa Valley & Northern.....				
Green Bay & Western.....	903	2,253	3,156	.63
Hazelhurst & Southeastern.....		22	22	.02
Iola & Northern.....		171	171	.81
Kewaunee, Green Bay & Western.....	1,347	118	1,465	.66
La Crosse & Southeastern.....	240		240	.73
Lake Superior Terminal & Transfer ⁴				
Marinette, Tomahawk & Western.....				
Mattoon R'y Co. ⁴				
Mineral Point & Northern.....				
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....		155	155	.09
Tomahawk & Eastern.....				
Wisconsin & Northern.....	65		65	.05
Wisconsin Northwestern ⁴				
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	67,563	132,208	199,771	.54
Chicago, Burlington & Quincy.....	73,932	310,120	384,052	1.29
Chicago, Milwaukee & St. Paul.....	26,607	61,269	87,876	.33
Chicago, St. Paul, Minneapolis & Omaha	13,864	12,992	26,856	.39
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....	7,149	26,809	33,958	1.00
Elgin, Joliet & Eastern.....		33,993	33,993	.14
Great Northern.....	48,482	25,148	73,630	.27
Illinois Central.....	33,419	101,409	134,828	.51
Minneapolis, St. Paul & S. S. Marie.....	55,406	22,754	78,160	.69
Northern Pacific.....	222,797	157,183	379,980	2.17
Wisconsin & Michigan.....	3,590		3,590	1.53
Total.....	552,809	883,885	1,436,694	.68

¹ For Wisconsin, freight received from respondent road, originating outside of state is included.

² Details of freight received from other carriers not given.

MOVEMENT, 1912—Continued.

MINES—Concluded.				PRODUCTS OF FORESTS.			
Total products of mines.				Lumber.			
Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.		Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
		Whole tons.	Per cent.			Whole tons.	Per cent.
2,903,601		2,903,601		893,608		893,608	
699,517	262,005	961,522	20.11	314,700	352,439	667,139	13.96
58,651	10,581	69,232	17.14	77,684	27,940	105,624	26.15
845	114,904	115,749	53.56	332	13,561	13,893	6.43
479,875	1,868,902	2,348,777	29.85	912,701	361,670	1,274,371	16.19
511	11,159	11,670	5.52	16,509	2,444	18,953	9.00
127	3,834	3,961	6.51	778	5,582	6,360	10.46
				133,363		133,363	99.10
				14,666		14,666	21.96
137,832	18,903	156,735	31.26	19,741	14,770	34,511	6.88
36	3,426	3,462	3.74	70,844	108	70,952	78.73
	1,227	1,227	5.80	978	172	1,150	5.43
43,029	402	43,431	19.66	6,242	17,775	24,017	10.87
1,925	5,636	7,561	22.18	152	3,635	3,787	11.11
			9.03				
	6,023	6,023	9.03	24,685	1,584	26,269	39.40
37,025	104,491	141,516	83.21	204	2,227	2,431	1.43
477,351		477,351	100.00				
994	4,716	5,710	3.29	150,654	2,466	153,120	88.22
	2,071	2,071	9.42	8,224	528	8,752	24.44
93	472	565	.47	63,580		63,580	53.17
				6,393		6,393	8.73
13,156,061	3,620,295	16,776,356	45.02	1,247,663	1,337,481	2,585,144	6.94
8,782,225	3,745,882	12,528,107	41.61	216,820	1,365,531	1,582,351	5.25
5,602,229	1,929,473	7,531,702	28.34	613,627	1,357,753	1,971,380	7.42
912,358	319,803	1,232,161	17.74	491,614	358,248	849,862	12.24
1,689,278	209,265	1,898,543	55.62	157,189	109,149	266,338	7.80
7,896,408	6,618,541	14,514,949	59.49	16,245	294,269	310,514	1.27
17,230,596	322,383	17,552,979	83.73	1,471,703	326,309	1,798,012	6.53
8,299,516	1,872,142	10,171,658	38.61	1,612,651	2,194,165	3,806,816	14.45
1,752,217	1,174,913	2,927,130	25.80	1,660,084	268,929	1,929,013	17.00
4,368,705	885,504	5,254,209	30.10	4,378,311	507,232	4,885,543	27.99
6,891	7,761	14,652	6.24	17,481	2,302	19,783	8.43
69,698,484	20,705,962	90,404,446	42.71	11,883,388	8,121,368	20,004,756	9.45

³ Wisconsin not reported.

⁴ No record.

⁶ Includes logs.

FREIGHT TRAFFIC

NAME OF ROAD.	PRODUCTS OF			
	Other products of forests.			
	Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
		Whole tons.	Per cent.	
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western ²	1,710,836		1,710,836	
Chicago, Burlington & Quincy ³				
Chicago, Milwaukee & St. Paul. ³				
Chicago, St. Paul, Minneapolis & Omaha.....	723,137	116,987	840,124	17.57
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....	29,853	16,390	46,243	11.45
Elgin, Joliet & Eastern.....				
Great Northern ²				
Illinois Central.....	476	91	567	.26
Minneapolis, St. Paul & S. Ste. Marie.....	629,785	100,637	730,422	9.28
Northern Pacific ³				
Wisconsin & Michigan.....	152,952	14,111	167,063	79.05
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	2,345	246	2,591	4.26
Ashland, Odanah & Marengo.....				
Bayfield Transfer ⁴				
Big Falls Ry. Co. ⁴				
Chippewa Valley & Northern.....	30,176	21,147	51,323	76.89
Green Bay & Western.....	11,874	11,797	23,671	4.72
Hazelhurst & Southeastern.....	14,163	30	14,193	15.33
Iola & Northern.....	1,750		1,750	8.27
Kewaunee, Green Bay & Western.....	3,130	3,340	6,470	2.93
La Crosse & Southeastern.....	897		897	2.63
Lake Superior Terminal & Transfer ⁴				
Marquette, Tomahawk & Western.....	10,240	6,446	16,686	25.02
Mattoon Ry. Co. ⁴				
Mineral Point & Northern.....	496	650	1,146	.67
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....	6,535		6,535	3.77
Tomahawk & Eastern.....	3,559	1,814	5,373	39.81
Wisconsin & Northern.....	43,041	592	43,633	36.49
Wisconsin Northwestern.....	66,878		66,878	91.27
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	2,268,111	265,436	2,533,547	6.8
Chicago, Burlington & Quincy.....	148,719	175,183	323,902	1.08
Chicago, Milwaukee & St. Paul.....	1,321,195	273,689	1,594,884	6.00
Chicago, St. Paul, Minneapolis & Omaha.....	781,646	69,513	851,159	12.25
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....	381,758	178,851	560,609	16.42
Elgin, Joliet & Eastern.....		4,656	4,656	.02
Great Northern.....	755,392	98,520	853,912	3.10
Illinois Central.....	343,188	46,124	389,312	1.47
Minneapolis, St. Paul & S. Ste. Marie.....	1,131,036	27,795	1,158,831	10.22
Northern Pacific.....	252,671	144,821	397,492	2.28
Wisconsin & Michigan.....	170,935	246	171,181	72.94
Total.....	7,554,651	1,284,834	8,839,485	4.18

¹ For Wisconsin, freight received from respondent road originating outside of state is included.

² Details of freight received from other carriers not given.

MOVEMENT, 1912—Continued.

FORESTS—Concluded.				MANUFACTURES.			
Total products of forests.				Petroleum and other oils.			
Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.		Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
		Whole tons.	Per cent.			Whole tons.	Per cent.
2,604,444		2,604,444		4,540		4,540	
1,037,837	469,426	1,507,263	31.53	3,735	31,501	35,236	.73
107,537	44,330	151,867	37.60	246	320	566	.14
808	13,652	14,460	6.69	1	1,290	1,291	.60
1,542,486	462,307	2,004,793	25.47	18,511	74,171	92,682	1.18
169,461	16,555	186,016	88.05				
3,123	5,828	8,951	14.72		774	774	1.27
133,363		133,363	99.10				
44,842	21,147	65,989	98.85		26	26	.04
31,615	26,567	58,182	11.60	468	1,943	2,411	.48
85,007	138	85,145	92.06	1	61	62	.07
2,728	172	2,900	13.70				
9,372	21,115	30,487	13.80	856	351	1,207	.55
1,049	3,635	4,684	13.74	14		14	.04
34,925	8,030	42,955	64.42				
700	2,877	3,577	2.10	2	215	217	.13
157,189	2,466	159,655	91.90		101	101	.06
11,783	2,342	14,125	61.25				
106,621	592	107,213	89.66		145	145	.12
73,271		73,271	100.00				
3,515,774	1,602,917	5,118,691	13.74	131,107	147,603	278,710	.75
365,539	1,540,714	1,906,253	6.35	137,188	244,267	381,455	1.27
1,934,822	1,631,442	3,566,264	13.42	150,087	129,811	279,898	1.05
1,273,260	427,761	1,701,021	24.49	19,893	40,235	60,128	.87
538,947	288,000	826,947	24.22	760	5,727	6,487	.19
16,245	298,925	315,170	1.29	229,256	40,392	269,648	1.11
2,227,095	424,829	2,651,924	9.63	99,971	38,828	138,799	.50
1,955,839	2,240,289	4,196,128	15.92	136,936	148,173	285,109	1.08
2,791,120	206,724	3,087,844	27.22	81,664	53,350	135,014	1.19
4,630,982	652,053	5,283,035	30.27	108,867	34,056	142,923	.82
188,416	2,548	190,964	81.37				
19,438,039	9,406,202	28,844,241	13.63	1,095,729	882,442	1,978,171	.94

³ Wisconsin not reported.

⁴ No record.

FREIGHT TRAFFIC
MANUFACTURES

NAME OF ROAD.	Sugar.			
	Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
			Whole tons.	Per cent.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western ²	24,401		24,401	
Chicago, Burlington & Quincy ³				
Chicago, Milwaukee & St. Paul ³				
Chicago, St. Paul, Minneapolis & Omaha	1,163	17,838	19,001	.40
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....		569	569	.14
Elgin, Joliet & Eastern.....				
Great Northern ³				
Illinois Central.....	38	1,526	1,564	.72
Minneapolis, St. Paul & Sault Ste. Marie	9,998	7,944	17,942	.23
Northern Pacific ³				
Wisconsin & Michigan.....	36	10	46	.02
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....		103	103	.17
Ashland, Odanah & Marengo.....				
Bayfield Transfer ⁴				
Big Falls Ry. Co. ⁴				
Chippewa Valley & Northern.....				
Green Bay & Western.....	207	242	449	.09
Hazelhurst & Southeastern.....		59	59	.06
Iola & Northern.....		20	20	.09
Kewaunee, Green Bay & Western.....	305	19	322	.14
La Crosse & Southeastern.....				
Lake Superior Terminal & Transfer ⁴				
Marquette, Tomahawk & Western.....		68	68	.10
Mattoon Ry. Co. ⁴				
Mineral Point & Northern.....				
Northwestern Coal Ry. Co.....				
Stanley, Merrill & Phillips.....		40	40	.02
Tomahawk & Eastern.....		23	23	.10
Wisconsin & Northern.....				
Wisconsin Northwestern.....				
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	52,719	61,589	114,308	.31
Chicago, Burlington & Quincy.....	86,136	88,007	174,143	.58
Chicago, Milwaukee & St. Paul.....	49,694	38,310	88,004	.33
Chicago, St. Paul, Minneapolis & Omaha	6,331	22,864	29,195	.42
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....	34	3,899	3,933	.12
Elgin, Joliet & Eastern.....				
Great Northern.....	12,282	17,457	29,739	.11
Illinois Central.....	91,564	93,777	185,341	.70
Minneapolis, St. Paul & Sault Ste. Marie	14,801	6,478	21,279	.19
Northern Pacific.....	21,918	28,674	50,592	.29
Wisconsin & Michigan.....	660	9	669	.28
Total.....	336,139	361,064	697,203	.33

¹ For Wisconsin, freight received from respondent road originating outside of state is included.

² Details of freight received from other carriers not given.

MOVEMENT, 1912.—Continued.

—Continued

Iron, pig and bloom.				Iron and steel rails.			
Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.		Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
		Whole tons.	Per cent.			Whole tons.	Per cent.
63,970		63,970		5,853		5,853	
3,382	21,452	24,834	.52	12,609	22,294	34,903	.73
1,971	7,432	9,403	2.33	1,634	31,272	32,906	8.15
234	252	486	.22	62		62	.03
10,329	22,982	33,311	.42	9,716	49,752	59,468	.76
				435		435	.20
				237		237	.05
				27		27	.01
125		125	.36		119	119	.35
					9	9	.01
				800		800	.46
				234	89	323	.27
177,737	121,151	298,888	.80	50,860	77,864	128,724	.35
5,058	146,721	151,779	.50	19,925	113,603	133,528	.44
240,361	225,060	465,421	1.75	32,829	88,574	121,403	.46
25,351	5,667	31,018	.45	18,448	17,910	36,358	.52
19,527	33,354	52,881	1.55	4,562	34,812	39,374	1.16
⁵ 1,318,865	² 233,617	⁵ 1,552,482	6.36	848,262	93,513	941,775	3.86
5,435	6,007	11,442	.04	9,436	64,655	74,091	.27
73,682	62,703	136,385	.52	21,599	56,808	78,407	.30
28,220	13,495	41,715	.37	63,032	12,972	76,004	.67
21,123	9,979	31,102	.18	53,797	37,121	90,918	.52
				436		436	.18
1,915,359	857,754	2,773,113	1.31	1,123,186	597,832	1,721,018	.81

³ Wisconsin not reported.

⁴ No record.

⁵ Includes billets, wire, and wire rods.

FREIGHT TRAFFIC
MANUFAC-

NAME OF ROAD.	Other castings and machinery.			
	Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
			Whole tons.	Per cent.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western ²	112,536		112,536	
Chicago, Burlington & Quincy ³				
Chicago, Milwaukee & St. Paul ³				
Chicago, St. Paul, Minneapolis & Omaha.....	3,588	55,760	59,348	1.24
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....	605	1,486	2,091	.52
Elgin, Joliet & Eastern.....				
Great Northern ³				
Illinois Central.....	141	548	689	.32
Minneapolis, St. Paul & Sault Ste. Marie.....	21,848	46,319	68,167	.87
Northern Pacific ³				
Wisconsin & Michigan.....	577	169	746	.35
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	205	151	356	.59
Ashland, Odanah & Marengo.....				
Bayfield Transfer ⁴				
Big Falls Rv. Co. ⁴				
Chippewa Valley & Northern.....		10	10	.01
Green Bay & Western.....	524	840	1,364	.27
Hazelhurst & Southeastern.....	331	100	431	.47
Iola & Northern.....		12	12	.06
Kewaunee, Green Bay & Western.....	506	203	709	.36
La Crosse & Southeastern.....				
Lake Superior Terminal & Transfer ⁴				
Marinette, Tomahawk & Western.....				
Mattoon R'y Co. ⁴				
Mineral Point & Northern.....	184	225	409	.24
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....	106	47	153	.09
Tomahawk & Eastern.....				
Wisconsin & Northern.....	54	115	169	.14
Wisconsin Northwestern.....				
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	259,925	117,911	377,836	1.01
Chicago, Burlington & Quincy.....	206,749	353,048	559,797	1.86
Chicago, Milwaukee & St. Paul.....	175,094	50,142	225,236	.85
Chicago, St. Paul, Minneapolis & Omaha.....	17,429	52,360	69,789	1.00
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....	2,530	13,675	16,205	.48
Elgin, Joliet & Eastern.....	30,464	279,630	310,094	1.27
Great Northern.....	36,265	104,571	140,836	.51
Illinois Central.....	109,620	117,935	227,555	.87
Minneapolis, St. Paul & Sault Ste. Marie.....	92,610	32,238	124,848	1.10
Northern Pacific.....	96,326	80,904	186,230	1.07
Wisconsin & Michigan.....	822	209	1,031	.44
Total.....	1,028,434	1,211,623	2,240,057	1.06

¹ For Wisconsin, freight received from respondent road originating outside of state is included.² Details of freight received from other carriers not given.

MOVEMENT, 1912—Continued.
TUNES—Continued.

Bar and sheet metal.				Cement, brick and lime.			
Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons	Total freight tonnage.		Freight originating on this road. Whole tons	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
		Whole tons.	Per cent.			Whole tons.	Per cent.
103,907		103,907		157,860		157,860	
897	16,436	17,333	.36	31,291	63,347	94,638	1.98
	505	505	.12	594	6,698	7,292	1.81
73	219	292	.14	526	19,349	19,875	9.20
10,318	68,551	78,869	1.00	80,179	95,133	175,312	2.22
61	172	233	.11	49	520	569	.27
22	25	47	.08	20	3,559	3,579	5.89
243	401	644	.13	4,889	13,006	17,895	3.57
	12	12	.01		141	141	.15
	19	19	.09		904	904	4.27
294	336	630	.29	7,242	4,293	11,535	5.22
				767	1,832	2,599	7.62
					212	212	.32
				1,834	2,290	4,124	2.43
				1,955	474	2,429	1.40
					70	70	.31
				174	240	414	.35
204,219	240,364	444,583	1.19	665,935	530,303	1,196,238	3.21
22,223	150,464	172,687	.57	1,079,324	495,815	1,575,139	5.23
134,005	179,139	313,144	1.18	986,709	513,932	1,500,641	5.65
4,320	13,752	18,072	.26	102,308	108,359	210,667	3.03
47	1,811	1,858	.06	81,115	56,846	137,961	4.04
758,895	936,408	1,695,303	6.95	896,482	391,269	1,287,751	5.28
11,818	42,220	54,038	.20	324,542	137,140	461,682	1.68
26,899	25,294	52,193	.20	606,901	249,884	856,785	3.25
59,703	36,620	96,323	.85	189,520	77,223	266,743	2.35
24,689	43,130	67,819	.39	315,190	181,328	496,518	2.84
151	257	408	.17	2,754	804	3,558	1.52
1,246,969	1,669,459	2,916,428	1.38	15,250,780	2,742,903	7,993,683	3.78

¹ Wisconsin not reported.
² No record.

FREIGHT TRAFFIC
MANUFACTURES

NAME OF ROAD.	Agricultural implements.			
	Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
			Whole tons.	Per cent.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western ²	32,598		32,598	
Chicago, Burlington & Quincy ³				
Chicago, Milwaukee & St. Paul ³				
Chicago, St. Paul, Minneapolis & Omaha	552	34,968	35,520	.74
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....		67	67	.02
Elgin, Joliet & Eastern.....				
Great Northern ³				
Illinois Central.....	33	603	636	.30
Minneapolis, St. P. & Sault Ste. Marie...	4,591	21,188	25,779	.33
Northern Pacific ³				
Wisconsin & Michigan.....	32	15	47	.02
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....		248	248	.41
Ashland, Odanah & Marengo.....				
Bayfield Transfer ⁴				
Big Falls Ry. Co. ⁴				
Chippewa Valley & Northern.....				
Green Bay & Western.....	269	1,046	1,315	.26
Hazelhurst & Southeastern.....				
Iola & Northern.....		67	67	.32
Kewaunee, Green Bay & Western.....	471	81	552	.25
La Crosse & Southeastern.....				
Lake Superior Terminal & Transfer ⁴				
Marinette, Tomahawk & Western.....				
Mattoon Ry. Co. ⁴				
Mineral Point & Northern.....	48	76	124	.07
Northwestern Coal Ry. Co.....				
Stanley Merrill & Phillips.....		35	35	.02
Tomahawk & Eastern.....				
Wisconsin & Northern.....				
Wisconsin Northwestern.....				
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	107,563	53,798	161,361	.43
Chicago, Burlington & Quincy.....	159,251	59,713	218,964	.73
Chicago, Milwaukee & St. Paul.....	108,375	33,350	141,725	.53
Chicago, St. Paul, Minneapolis & Omaha	7,638	36,713	44,351	.64
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....		2,094	2,094	.06
Elgin, Joliet & Eastern.....		39,666	39,666	.16
Great Northern.....	40,122	50,606	90,728	.33
Illinois Central.....	44,401	28,009	72,410	.28
Minneapolis, St. P. & Sault Ste. Marie..	45,944	20,817	66,761	.59
Northern Pacific.....	7,296	38,514	45,810	.26
Wisconsin & Michigan.....	79	26	105	.05
Total.....	520,639	363,306	883,975	.42

¹ For Wisconsin, freight received from respondent road originating outside of state is included.

² Details of freight from other carriers not given.

MOVEMENT, 1912—Continued.
—Continued.

Wagons, carriages, and tools,				Wines, liquors and beers.			
Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.		Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
		Whole tons.	Per cent.			Whole tons.	Per cent.
18,678		18,678		168,970		168,970	
196	8,746	8,942	.19	878	18,239	19,117	.40
	40	40	.01	65	241	306	.08
60	359	419	.20	51	90	141	.07
2,237	5,072	7,309	.09	32,368	10,594	42,962	.55
66	13	79	.04	114	1,270	1,384	.65
	63	63	.10		2,221	2,221	3.65
46	166	212	.04	2,628	290	2,918	.58
	35	35	.16	16	51	67	.07
55	46	101	.04	2,193	31	2,224	1.01
	52	52	.15				
					293	293	.44
2	38	40	.02	179	49	228	.13
				120	10	130	.08
					99	99	.45
	3	3					
31,707	14,643	46,350	.12	222,428	29,708	252,136	.68
28,853	33,872	62,725	.21	134,013	45,162	179,175	.60
54,247	22,620	76,867	.29	487,573	28,369	515,942	1.94
1,069	9,151	10,220	.15	17,578	16,703	34,281	.49
12	193	205	.01	1,155	4,855	6,010	.18
	59,400	59,400	.24	985	226,661	227,646	.93
4,588	13,413	18,001	.07	30,041	22,346	52,387	.19
22,733	22,170	44,903	.17	87,794	60,777	148,571	.57
9,393	6,086	15,479	.14	48,670	6,144	54,814	.48
1,714	7,139	8,853	.05	51,347	46,834	98,181	.56
89	10	99	.04	2,148	1,109	3,257	1.38
154,405	188,697	343,102	.16	1,083,732	488,668	1,572,400	.74

³ Wisconsin not reported.

⁴ No record.

FREIGHT TRAFFIC

MANUFACTURES—

NAME OF ROAD.	Household goods and furniture.			
	Freight originating on this road, Whole tons.	Freight received from other carriers ¹ Whole tons.	Total freight tonnage.	
			Whole tons.	Per cent.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western ²	85,907		85,907	
Chicago, Burlington & Quincy ³				
Chicago, Milwaukee & St. Paul ³				
Chicago, St. Paul, Minneapolis & Omaha.....	3,034	18,846	21,880	
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....	393	622	1,015	.25
Elgin, Joliet & Eastern.....				
Great Northern ³				
Illinois Central.....	307	237	544	.25
Minneapolis, St. P. & Sault Ste. Marie.....	15,074	19,849	34,923	.44
Northern Pacific ³				
Wisconsin & Michigan.....	341	29	370	.02
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	80	10	90	.15
Ashland, Odanah & Marengo.....				
Bayfield Transfer ⁴				
Big Falls Ry. Co. ⁴				
Chippewa Valley & Northern.....		36	30	.05
Green Bay & Western.....	536	52	588	.12
Hazelhurst & Southeastern.....	156	28	184	.20
Iola & Northern.....	10		10	.05
Kewaunee, Green Bay & Western.....	86	27	113	.05
La Crosse & Southeastern.....	345	52	397	1.16
Lake Superior Terminal & Transfer ⁴				
Marinette, Tomahawk & Western.....				
Mattoon Ry. Co. ⁴				
Mineral Point & Northern.....	156	168	324	.19
Northwestern Coal Ry. Co.....				
Stanley, Merrill & Phillips.....				
Tomahawk & Eastern.....				
Wisconsin & Northern.....	30	23	53	.04
Wisconsin Northwestern.....				
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	127,590	24,686	152,276	.41
Chicago, Burlington & Quincy.....	73,995	39,849	113,844	.38
Chicago, Milwaukee & St. Paul.....	110,392	42,915	153,307	.58
Chicago, St. Paul, Minneapolis & Omaha.....	8,764	19,587	28,351	.41
Chicago, Harvard & Geneva Lake ⁴				
Duluth, South Shore & Atlantic.....	1,082	1,686	2,768	.08
Elgin, Joliet & Eastern.....	1,589	36,847	38,436	.16
Great Northern.....	10,080	25,536	35,616	.13
Illinois Central.....	35,763	22,510	58,273	.22
Minneapolis, St. Paul & Sault Ste. Marie.....	79,346	13,145	92,491	.81
Northern Pacific.....	12,495	19,241	31,736	.18
Wisconsin & Michigan.....	519	95	614	.26
Total	461,615	246,097	707,712	.33

¹For Wisconsin, freight received from respondent road originating outside of state is included.²Details of freight received from other carriers not given.

MOVEMENT, 1912—Continued.
Concluded.

Other manufactures.				Total manufactures.			
Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.		Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
		Whole tons.	Per cent.			Whole tons.	Per cent.
490,556		490,556		1,269,876		1,269,876	
50,523	203,658	254,181	5.32	111,848	513,085	624,933	13.07
692	6,056	6,748	1.67	6,200	55,308	61,508	15.24
677	3,233	3,910	1.81	2,203	27,706	29,909	13.86
187,272	193,106	380,378	4.83	402,441	614,661	1,017,102	12.92
				1,711	2,198	3,909	1.68
225	403	628	1.03	552	7,557	8,109	13.34
					66	66	.10
17,482	2,411	19,893	3.97	27,529	20,397	47,926	9.56
20	128	148	.70	504	452	956	1.03
1,386	1,653	3,039	1.38	13,509	7,040	20,549	9.30
2,093	225	2,318	6.81	3,344	2,280	5,624	16.49
6,498	2,512	9,010	13.51	6,498	3,085	9,583	14.37
5,585	1,153	6,738	3.96	7,990	4,223	12,213	7.18
473	87	560	.32	3,454	794	4,248	2.45
2,159	7 69	2,928	13.33	2,159	961	3,120	14.19
992		992	.83	1,484	615	2,099	1.75
1,124,880	536,340	1,661,220	4.46	3,156,670	1,955,960	5,112,630	13.72
516,919	402,980	919,899	3.05	2,469,634	2,173,501	4,643,135	15.42
640,452	545,320	1,185,772	4.46	3,170,418	1,897,542	5,067,960	19.07
120,543	203,949	324,492	4.67	349,672	547,250	896,922	12.91
2,981	17,327	20,308	.59	113,805	176,279	290,084	8.52
	146,171	146,171	.60	4,084,798	2,483,574	6,568,372	26.92
117,387	149,288	266,675	.87	701,967	672,067	1,374,034	5.00
317,795	389,205	707,000	2.68	1,575,687	1,277,245	2,852,932	10.84
346,173	103,738	449,911	3.96	1,059,076	382,306	1,441,382	12.70
134,387	188,210	322,597	1.85	849,149	724,130	1,573,279	9.01
				7,658	2,519	10,177	4.32
3,321,517	2,682,528	6,004,045	2.84	17,538,534	12,292,373	29,830,907	14.10

¹ Wisconsin not reported.
² No record.

FREIGHT TRAFFIC

NAME OF ROAD.	MISCELLANEOUS			
	Merchandise.			
	Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
		Whole tons.	Per cent.	
A. WISCONSIN:				
<i>a. Interstate Roads</i>				
Chicago & North Western	594,936		594,936	
Chicago, Burlington & Quincy ²				
Chicago, Milwaukee & St. Paul ²				
Chicago, St. Paul, Minneapolis & Omaha.	79,925	238,304	318,229	6.66
Chicago, Harvard & Geneva Lake ³				
Duluth, South Shore & Atlantic	5,502	12,585	18,087	4.48
Elgin, Joliet & Eastern				
Great Northern ²				
Illinois Central	7,319	10,383	17,702	8.19
Minneapolis, St. Paul & Sault Ste. Marie.	130,019	183,011	313,030	3.98
Northern Pacific ²				
Wisconsin & Michigan	1,101	910	2,011	.95
<i>b. Intrastate Roads.</i>				
Ahnapee & Western	4,051	5,750	9,801	13.12
Ashland, Odanah & Marengo	532		532	.40
Bayfield Transfer ³				
Big Falls Ry. Co. ³				
Chippewa Valley & Northern		277	277	.42
Green Bay & Western	23,532	8,608	32,140	6.41
Hazelhurst & Southeastern	39	549	588	.64
Iola & Northern	288	1,194	1,482	7.00
Kewaunee, Green Bay & Western	10,957	3,701	14,658	6.64
La Crosse & Southeastern	5,358	1,219	6,577	19.31
Lake Superior Terminal & Transfer ³				
Marinette, Tomahawk & Western	660	643	1,303	1.95
Mattoon R'y Co. ³				
Mineral Point & Northern	1,237	2,023	3,260	1.92
Northwestern Coal R'y Co.				
Stanley, Merrill & Phillips	1,063	827	1,890	1.09
Tomahawk & Eastern	220	214	434	1.97
Wisconsin & Northern	50		50	.04
Wisconsin Northwestern				
B. ENTIRE SYSTEM:				
<i>Interstate Roads.</i>				
Chicago & North Western	1,562,707	577,988	2,140,695	5.74
Chicago, Burlington & Quincy	1,268,349	744,904	2,013,253	6.89
Chicago, Milwaukee & St. Paul	1,987,126	912,893	2,900,019	10.91
Chicago, St. Paul, Minneapolis & Omaha.	350,940	191,766	542,706	7.81
Chicago, Harvard & Geneva Lake ³				
Duluth, South Shore & Atlantic	35,069	65,340	100,409	2.94
Elgin, Joliet & Eastern	65,148	86,359	151,507	.82
Great Northern	636,101	123,747	759,848	2.76
Illinois Central	1,454,009	576,720	2,030,729	7.71
Minneapolis, St. Paul & Sault Ste. Marie.	432,564	50,670	483,234	4.26
Northern Pacific	913,858	123,733	1,037,591	5.94
Wisconsin & Michigan	3,389	454	3,843	1.04
Total	8,709,260	3,454,574	12,163,834	5.75

¹ For Wisconsin freight received from respondent road originating outside of state is included.

MOVEMENT, 1912—Concluded.

COMMODITIES.				TOTAL TONNAGE.			
All other commodities.							
Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.		Freight originating on this road. Whole tons.	Freight received from other carriers. ¹ Whole tons.	Total freight tonnage.	
		Whole tons.	Per cent.			Whole tons.	Per cent.
680,978		680,978		9,094,026	11,891,792	20,985,818	100.00
11,349	31,168	42,517	.89	2,302,302	2,478,299	4,780,601	100.00
16,813	13,440	30,253	7.49	218,859	185,011	403,870	100.00
3,502	1,559	5,061	2.34	34,326	181,783	216,109	100.00
254,652	342,856	597,508	7.59	3,333,754	4,533,051	7,869,805	100.00
249	732	981	.46	176,291	35,383	211,674	100.00
473	196	669	1.10	31,653	29,152	60,805	103.00
				134,570		134,570	100.00
				44,852	21,904	66,756	100.00
3,299	1,579	4,868	.97	411,147	90,231	501,378	100.00
61	48	109	.51	85,678	6,813	92,491	100.00
876	259	1,135	.52	16,053	5,117	21,170	100.00
				130,541	90,333	220,874	100.00
				20,467	13,619	34,086	100.00
646	1,680	2,326	3.49	44,213	22,470	66,683	100.00
2,718	775	3,493	2.06	54,407	115,652	170,059	100.00
				477,351		477,351	100.00
153	146	299	.17	164,084	9,474	173,558	100.00
163	558	721	3.28	14,835	7,150	21,985	100.00
2,862	2,136	4,998	4.19	112,981	6,601	119,582	100.00
				73,271		73,271	100.00
1,082,095	123,131	1,205,226	3.23	27,271,815	9,993,827	37,265,642	100.00
508,991	141,647	650,638	2.16	20,022,387	10,089,126	30,111,513	100.00
540,869	14,028	554,917	2.09	19,249,798	7,325,986	26,575,784	100.00
71,359	35,019	106,378	1.53	4,867,925	2,078,879	6,946,804	100.00
29,267	87,603	116,870	3.42	2,451,328	962,507	3,413,835	100.00
847,327	744,210	1,591,537	6.52	12,954,166	11,448,033	24,402,199	100.00
331,683	73,498	405,181	1.47	25,333,837	2,209,335	27,543,172	100.00
482,337	256,511	738,848	2.81	18,376,188	7,962,961	26,339,149	100.00
651,984	275,170	927,154	8.17	8,904,900	2,440,613	11,345,513	100.00
263,930	71,135	335,065	1.92	14,553,589	2,902,386	17,455,975	100.00
4,206	1,474	5,680	2.43	215,502	19,223	234,725	100.00
4,814,068	1,823,426	6,637,494	3.14	154,201,435	57,432,876	211,634,311	100.00

² Wisconsin not reported.

³ No record.

EQUIPMENT OWNED OR LEASED IN SERVICE

NAME OF ROAD.	Locomotives—owned or leased.					
	Passenger.	Freight.	Switching.	Total loco- motives in service.	Locomotives leased.	Locomotives owned.
<i>a. Interstate Roads.</i>						
Chicago & North Western...	359	1,022	289	1,670	.....	1,670
Chi., Burlington & Quincy..	437	873	362	1,672	.....	1,672
Chi., Milwaukee & St. Paul.	313	846	226	1,385	.....	1,385
Chi., St. P., Mpls. & Omaha..	68	243	53	364	.....	364
Chi., Harvard & Geneva L...	.....	.....	.....	.....	.....	.....
Dul. So. Shore & Atlantic...	28	41	13	82	.....	82
Elgin, Joliet & Eastern.....	.....	115	132	247	162	85
Great Northern.....	275	782	132	1,189	2	1,187
Illinois Central.....	280	1,000	178	1,458	.....	1,458
Minneapolis, St. P., & S. S. M.	127	312	59	498	219	279
Northern Pacific.....	294	901	221	1,416	.....	1,416
Wisconsin & Michigan.....	3	3	.....	6	.....	6
Total.....	2,184	6,138	1,665	9,987	383	9,604
<i>b. Intrastate Roads.</i>						
Ahnapee & Western.....	52	.....	.....	2	.....	2
Ashla'd. Odanah & Marengo	.....	4	1	5	.....	5
Bayfield Transfer.....	52	.....	.....	2	.....	2
Big Falls Ry. Co.....	.....	1	.....	1	.....	1
Chip. Valley & Northern....	.....	2	.....	2	.....	2
Green Bay & Western.....	3	16	4	23	.....	23
Hazelhurst & Southeastern	51	.....	1	2	.....	2
Iola & Northern.....	51	.....	.....	1	.....	1
Kewanee, Gr. B. & Western	.....	5	.....	5	.....	5
La Crosse & Southeastern...	3	.....	.....	3	.....	3
Lake Sup. Term. & Transfer	.....	.....	14	14	.....	14
Mar., Tomahawk & Western	54	.....	.....	4	.....	4
Mattoon R'y Co.....	.....	2	.....	2	.....	2
Mineral Point & Northern...	.....	3	.....	3	.....	3
Northwestern Coal R'y Co...	.....	.....	.....	.....	.....	.....
Stanley, Merrill & Phillips..	.....	5	.....	5	.....	5
Tomahawk & Eastern.....	.....	.....	.....	.....	.....	.....
Wisconsin & Northern.....	.....	3	.....	3	.....	3
Wisconsin Northwestern.....	.....	2	.....	2	.....	2
Total.....	16	43	20	79	.....	79

¹ Observation cars.² Includes 4 electric locomotives.³ One oil locomotive.

OF ROADS, ENTIRE SYSTEM, JUNE 30, 1912.

Cars owned or leased—In passenger service.

First class cars.	Second-class cars.	Combination cars.	Emigrant cars.	Dining cars.	Parlor cars.	Sleeping cars.	Baggage, ex-press and postal cars.	Other cars in passenger service.	Total.
889	12	173	.....	25	55	.....	359	244	1,757
660	.....	230	.....	37	14	.....	268	45	1,254
418	171	.....	.....	28	28	146	458	19	1,258
104	45	60	.....	5	32	.....	75	.....	321
2	.....	2	.....	.....	.....	.....	.....	.....	4
18	12	5	.....	6	.....	7	18	.....	66
1	.....	2	.....	.....	.....	.....	.....	.....	3
368	.....	44	.....	46	31	193	338	.....	1,020
445	152	44	.....	26	7	5	246	1	926
106	52	27	16	17	18	30	92	10	368
277	161	70	184	58	15	130	264	93	1,152
3	.....	1	.....	.....	.....	.....	1	.....	5
3,291	605	658	100	248	200	511	2,119	402	8,134
3	.....	1	.....	.....	.....	.....	1	.....	5
.....	1	1	.....	.....	.....	.....	.....	.....	2
.....	.....	2	.....	.....	.....	.....	.....	.....	2
.....	.....	.....	.....	.....	.....	.....	.....	1	1
10	5	4	.....	.....	.....	.....	9	.....	28
.....	.....	1	.....	.....	.....	.....	.....	.....	1
.....	.....	1	.....	.....	.....	.....	.....	.....	1
5	.....	1	.....	.....	.....	.....	2	.....	8
3	.....	2	.....	.....	1	.....	.....	.....	6
.....
1	.....	2	.....	.....	.....	.....	.....	.....	3
.....	.....	1	.....	.....	.....	.....	.....	.....	1
1	.....	1	.....	.....	.....	.....	.....	.....	2
.....
.....	.....	2	.....	.....	.....	.....	.....	.....	2
.....
1	.....	1	.....	.....	.....	.....	.....	.....	2
.....
24	6	20	.....	.....	1	.....	12	1	64

⁴ Tourist cars.

⁵ Passenger and freight.

⁶ Passenger, freight and switching.

EQUIPMENT OWNED OR LEASED IN SERVICE OF ROADS.

NAME OF ROAD.	Cars in freight service.							Total.
	Box cars.	Flat cars.	Stock cars.	Coal cars.	Tank cars.	Refrigerator cars.	Other cars in freight service.	
<i>a. Interstate Roads.</i>								
Chicago & N. W.	31,679	4,467	4,849	11,013	.....	1,850	5,231	59,098
Chicago B. & Q.	29,597	1,205	6,481	15,780	113	2,462	88	55,726
Chi., Milwaukee & St. P.	31,777	5,058	3,451	2,478	.....	1,840	2,624	47,228
Chi., St. P. M. & O.	8,062	1,556	139	1,398	.....	279	4	11,438
Chi., Harv. & Geneva L.	2	1	.....	.....	.....	.....	.....	3
Duluth, S. S. & Atlantic.	1,160	526	.....	229	.....	25	983	2,923
Elgin, Joliet & Eastern.	940	452	.....	8,652	.....	.....	1,355	11,399
Great Northern.	30,488	3,488	1,910	2,288	.....	1,109	8,377	47,640
Illinois Central.	29,834	2,709	1,778	21,777	10	.....	.....	56,108
Mpls., St. P. & S. S. M. ..	17,642	2,060	536	566	.....	327	2,053	23,184
Northern Pacific.	23,846	8,230	2,562	5,651	17	1,553	1,361	43,220
Wisconsin & Michigan. ..	35	291	.....	.....	.....	4	.....	350
Total.	205,042	30,043	21,706	69,832	140	9,458	22,076	358,297
<i>b. Intrastate Roads.</i>								
Ahnapee & Western.	2	25	.....	.....	.....	.....	.....	27
Ashland, Odanah & M. ....	.....	2	.....	.....	.....	.....	98	100
Bayfield Transfer. ....	.....	19	.....	.....	.....	.....	43	62
Big Falls Ry. Co. ....	.....	.....	.....	.....	.....	.....	42	42
Chippewa Valley & N. ....	.....	.....	.....	.....	.....	.....	32	32
Green Bay & Western. ..	722	48	.....	24	.....	6	.....	800
Hazelhurst & S'eastern. ....	.....	.....	.....	.....	.....	.....	63	63
Iola & Northern. ....	.....	.....	.....	.....	.....	.....	.....	.....
Kewaunee, G. B. & W.	166	.....	.....	.....	.....	.....	.....	166
La Crosse & S'eastern. ..	9	14	2	.....	.....	.....	.....	25
Lake Superior T. & T. ....	.....	.....	.....	.....	.....	.....	.....	.....
Marquette, T. & W'stern.	2	24	.....	.....	.....	.....	.....	26
Mattoon R'y Co. ....	.....	.....	.....	.....	.....	.....	.....	.....
Mineral Pt. & Northern.	10	10	.....	.....	.....	.....	.....	20
N'western Coal R'y Co. ....	.....	.....	.....	.....	.....	.....	.....	.....
Stanley, M. & Phillips. ..	7	127	1	1	.....	.....	125	261
Tomahawk & Eastern. ....	.....	.....	.....	.....	.....	.....	.....	.....
Wisconsin & Northern.	2	72	.....	.....	.....	.....	2	76
Wisconsin N'western. ....	.....	2	.....	.....	.....	.....	217	19
Total.	920	343	3	25	.....	6	422	1,719

¹Snow plow.

ENTIRE SYSTEM, JUNE 30, 1912.—Concluded.

Cars in company's service.						Total cars in service.			
Officers' and pay cars.	Gravel cars.	Derrick cars.	Caboose cars.	Other road cars.	Total.	Total cars in service.	Total cars leased.	Total cars owned.	Cars contributed to fast freight line service.
8	814	31	785	541	2,179	63,034	.....	63,034	49
32	978	40	680	4,150	5,880	62,860	.....	62,860	.....
5	.....	24	812	621	1,462	49,948	.....	49,948	.....
2	154	9	150	24	339	12,098	.....	12,098	.....
.....	.....	.....	.....	2	2	9	.....	9	.....
1	.....	3	34	94	132	3,121	.....	3,121	95
1	.....	3	107	267	378	11,760	9,132	2,648	.....
27	518	34	586	624	1,789	50,444	.....	50,449	.....
12	540	34	675	1,511	2,772	59,806	1,000	58,806	.....
7	9	12	283	128	439	23,991	9,324	14,667	439
9	.....	31	588	2,694	3,322	47,694	.....	47,694	.....
1	2	.....	5	3	11	346	.....	346	.....
105	3,015	221	4,705	10,659	18,705	385,136	19,456	365,680	583
.....	.....	.....	2	2	4	32	.....	32	.....
.....	.....	.....	.....	2	2	104	.....	104	.....
.....	.....	.....	.....	.....	.....	66	.....	66	.....
.....	.....	.....	.....	.....	.....	44	.....	44	.....
.....	.....	.....	.....	.....	.....	33	.....	33	.....
1	.....	2	9	20	32	860	.....	860	.....
.....	.....	.....	1	.....	1	65	.....	65	.....
.....	.....	.....	.....	.....	.....	174	.....	174	.....
.....	.....	2	.....	.....	2	33	.....	33	.....
.....	.....	.....	.....	11	1	1	.....	1	.....
.....	.....	.....	2	.....	2	31	.....	31	.....
.....	6	.....	1	1	8	9	1	8	.....
.....	2	.....	1	.....	3	25	.....	25	.....
.....
.....	.....	.....	2	11	13	276	.....	276	.....
.....	.....	.....	.....	.....	.....	78	.....	78	.....
.....	.....	.....	1	.....	1	20	.....	20	.....
1	8	2	21	37	69	1,852	1	1,851	.....

²Logging cars.

DESCRIPTION OF EQUIPMENT.

NAME OF ROAD.	Box cars.		Flat cars.		Stock cars.	
	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.
Classes I & II (Cap. 10,000's & 20,000's 1b.)						
<i>a. Interstate Roads.</i>						
Chicago & North Western	12	168	37	518	5	70
Chicago, Milwaukee & St. Paul ...	39	328	15	168	36	310
Chicago, St. Paul, Minn. & Omaha	194	2,716				
Total	245	3,212	52	686	41	380
<i>b. Intrastate Roads.</i>						
Hazelhurst & Southeastern						
Class III (Cap. 30,000's 1b.)						
<i>a. Interstate Roads.</i>						
Chicago & North Western	5	90	17	255		
Chicago, Burlington & Quincy	15	225	61	915		
Chicago, Milwaukee & St. Paul ...	1,501	22,515	147	2,205	8	120
Duluth, South Shore & Atlantic ..	6	90				
Great Northern ¹	346	4,844	11	154	5	70
Northern Pacific			4	60		
Total	1,873	27,764	240	3,589	13	190
<i>b. Intrastate Roads.</i>						
Green Bay & Western			5	75		
La Crosse & Southeastern			4	60		
Wisconsin Northwestern						
Total			9	135		
Class IV. (40,000's 1b.)						
<i>a. Interstate Roads.</i>						
Chicago & North Western	1,731	34,620	118	2,360		
Chicago, Burlington & Quincy	63	1,260	100	2,000	1,897	37,940
Chicago, Milwaukee & St. Paul ...	5,461	109,220	1,522	30,440	238	4,760
Chicago, St. Paul, Minn. & Omaha ..	1,419	28,380	362	7,240		
Duluth, South Shore & Atlantic ..			378	7,560		
Elgin, Joliet & Eastern	56	1,120	21	220		
Great Northern	4,109	82,180	751	15,020	1,243	24,860
Illinois Central	1	20			1,000	20,000
Minneapolis, St. P. & S. S. Marie ..	693	13,860	278	5,560	3	60
Northern Pacific	649	12,980	563	11,260	1,546	30,920
Total	14,182	283,640	4,093	81,660	5,927	118,540
<i>b. Intrastate Roads.</i>						
Ahnapee & Western			16	320		
Ashland, Odanah & Marengo			2	40		
Bayfield Transfer			13	360		
Green Bay & Western			23	460		
Stanley, Merrill & Phillips	2	40	53	1,060	1	20
Total	2	40	107	2,240	1	20

¹ The names of railway companies not owning cars of the above classes are omitted from this table.

ENTIRE SYSTEM, JUNE 30, 1912.

Coal cars.		Tank cars.		Refrigerator cars.		Other cars.		Total.	
No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.
						4	38	58	794
								90	806
								194	2,716
						4	38	342	4,316
						63	630	63	630
						47	752	69	1,097
8	120					48	758	132	2,018
				12	180			1,668	25,020
						1	15	7	105
								362	5,068
3	45							7	105
11	165			12	180	96	1,525	2,245	33,413
				2	30			7	105
								4	60
						17	340	17	340
				2	30	17	340	28	505
43	860			106	2,120	93	1,860	2,091	41,820
261	5,220			10	200	11	220	2,342	46,840
				34	680	123	2,460	7,378	147,560
170	3,400			10	200	2	40	1,963	39,260
69	1,380					203	4,060	650	13,000
14	280					4	80	95	1,700
318	6,360			93	1,860			6,514	130,280
								1,001	20,020
505	10,100			21	420	839	16,780	2,339	46,780
		6	120	133	2,660	4	80	2,901	58,020
1,380	27,600	6	120	407	8,140	1,279	25,580	27,274	545,280
								16	320
								100	2,000
								13	360
				4	80			27	540
						125	2,500	181	3,620
				4	80	223	4,460	337	6,840

* 28,000 lb.

DESCRIPTION OF EQUIPMENT

NAME OF ROAD.	Box cars.		Flat cars.		Stock cars.	
	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.
Class V. (Cap. 50,000's lb.)						
<i>a. Interstate Roads.</i>						
Chicago & North Western.....	8,198	204,950	209	5,225	1,754	43,850
Chicago, Burlington & Quincy....	1,307	32,675	65	1,625	2,482	62,050
Chicago, Milwaukee & St. Paul....	499	12,475	116	2,900		
Chicago, St. P., Minn. & Omaha....	1,490	37,250	195	4,875	28	700
Duluth, South Shore & Atlantic....	559	13,975	48	1,200		
Elgin, Joliet & Eastern.....						
Great Northern.....			33	825		
Illinois Central.....	163	4,075	103	2,575	1	25
Minneapolis, St. P. & S. S. Marie..	4,796	119,900	440	11,000	70	1,750
Northern Pacific.....	2,418	60,450	42	1,050	737	18,425
Total.....	19,430	485,750	1,251	31,275	5,072	126,800
<i>b. Intrastate Roads.</i>						
Ahnapee & Western.....	2	50	9	225		
Bayfield Transfer.....						
Chippewa Valley & Northern.....						
Green Bay & Western.....	52	1,300				
La Crosse & Southeastern.....	9	225	10	250		
Marquette, Tomahawk & Western	2	50	24	600		
Wisconsin & Northern.....	1	25				
Total.....	66	1,650	43	1,075		
Class VI. (Cap. 60,000's lb.)						
<i>a. Interstate Roads.</i>						
Chicago & North Western.....	7,911	237,330	297	8,910	3,090	92,700
Chicago, Burlington & Quincy....	7,766	232,980	13	390	2,102	63,060
Chicago, Milwaukee & St. Paul....	15,954	478,620	2,252	67,560	3,169	95,070
Chicago, St. Paul, Mpls. & Omaha	1,938	58,140	25	750	111	3,330
Chicago, Harvard & Geneva Lake			1	30		
Duluth, South Shore & Atlantic..	595	17,850	100	3,000		
Elgin, Joliet & Eastern.....	341	10,230	103	3,090		
Great Northern.....	8,055	241,650	568	17,040	682	19,860
Illinois Central.....	9,490	284,700	87	2,610	777	23,310
Mpls., St. Paul & S. Ste. Marie....	11,412	342,360	845	25,350	463	13,890
Northern Pacific.....	761	22,890	181	5,430	279	8,370
Wisconsin & Michigan.....	35	1,050	291	8,730		
Total.....	64,258	1,927,740	4,763	142,890	10,653	319,590
<i>b. Intrastate Roads.</i>						
Bayfield Transfer.....			6	180		
Chippewa Valley & Northern.....						
Green Bay & Western.....	670	20,100	20	600		
Kewaunee, Green Bay & Western	166	4,980				
La Crosse & Southeastern.....	2	60				
Mineral Point & Northern.....	10	300	10	300		
Stanley, Merrill & Phillips.....			74	2,220		
Wisconsin & Northern.....	1	30				
Wisconsin Northwestern.....			2	60		
Total.....	849	25,470	112	3,360		
Class VII. (Cap. 70,000's lb.)						
<i>a. Interstate Roads.</i>						
Chicago & Northwestern.....			1,454	50,890		
Chicago, St. Paul, Mpls. & Omaha			529	18,515		
Northern Pacific.....	4,659	163,065	6,140	214,900		
Total.....	4,659	163,065	8,123	284,305		

¹ The names of railway companies not owning cars of the above classes are omitted from this table.

ENTIRE SYSTEM, 1912—Continued.

Coal cars.		Tank cars.		Refrigerator cars.		Other cars.		Total.	
No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.
30	750			436	10,900	95	2,375	10,722	268,050
33	825			218	5,450	29	725	4,134	103,350
104	2,600							719	17,975
415	10,375			27	675			2,155	53,875
19	475			6	150	78	1,950	710	17,750
108	2,700							108	2,700
				8	200	524	13,100	565	14,125
19	475							286	7,150
33	825			167	4,175			5,506	137,650
987	24,675	4	100	827	20,675	292	7,300	5,307	132,675
1,748	43,700	4	100	1,689	42,225	1,018	25,450	30,212	755,300
								11	275
						43	1,075	43	1,075
						8	200	8	200
								52	1,300
								19	475
								26	650
								1	25
						51	1,275	160	4,000
2,899	86,970			1,317	39,510	499	14,970	16,013	480,390
606	18,180			2,234	67,020			12,721	311,630
1,170	35,100			1,794	53,820	96	2,880	24,435	733,050
9	270			242	7,260	2	60	2,327	69,810
								1	30
3	90			19	570	401	12,030	1,118	73,540
675	20,250					57	1,710	1,176	35,280
				1,008	30,240	424	12,720	10,717	321,510
2,689	80,670							13,045	391,290
28	840			139	4,170	320	9,600	13,207	396,210
5	150	2	60	593	17,790	24	720	1,845	55,350
				4	120			330	9,900
8,084	242,520	2	60	7,350	220,500	1,823	54,690	96,933	2,907,990
								6	180
						24	720	24	720
								690	20,700
								166	4,980
								2	60
								20	600
1	30							75	2,250
								1	30
								2	60
1	30					24	720	986	29,580
								1,454	50,890
								529	18,515
72	2,520	5	175					10,876	580,660
72	2,520	5	175					12,859	450,065

DESCRIPTION OF EQUIPMENT

NAME OF ROAD.	Box cars.		Flat cars.		Stock cars.	
	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.
Class VIII. (Cap. 80,000's lb.)						
<i>a. Interstate Roads.</i>						
Chicago & North Western.....	13,822	552,880	2,033	81,320		
Chi., Burlington & Quincy.....	20,446	817,840	466	18,640		
Chi., Milwaukee & St. Paul.....	8,323	332,920				
Chi., St. P., Mpls. & Omaha.....	3,021	120,840	445	17,800		
Dul., So. Shore & Atlantic.....						
Elgin, Joliet & Eastern.....	144	5,760	3	120		
Great Northern.....	17,958	718,320	2,125	85,000		
Illinois Central.....	17,208	688,320	2,021	80,840		
Mpls., St. Paul & Sault Ste. Marie.	741	29,640	497	19,880		
Northern Pacific.....	15,359	614,360	1,300	52,000		
Total.....	97,022	3,880,880	8,890	355,600		
<i>b. Intrastate Roads.</i>						
Green Bay & Western.....						
Stanley, Merrill & Phillips.....	5	200				
Wisconsin & Northern.....			72	2,880		
Total.....	5	200	72	2,880		
Classes IX, X and XII. (Cap. 90,000's, 100,000's and 120,000's lb.)						
<i>a. Interstate Roads.</i>						
Chicago & North Western.....			302	15,120		
Chi., Burlington & Quincy.....			500	25,000		
Chi., Milwaukee & St. Paul.....			1,006	50,350		
Chi., St. Paul, Mpls. & Omaha.....						
Elgin, Joliet & Eastern.....	399	19,950	325	16,250		
Great Northern.....						
Illinois Central.....						
Mpls., St. Paul & Sault Ste. Marie.	2,972	148,600	498	24,900		
Northern Pacific.....						
Total.....	3,771	168,550	2,631	131,600		

¹ The names of railway companies not owning cars of the above classes are omitted from this table.

STATISTICS—STEAM RAILROADS.

939

ENTIRE SYSTEM, 1912—Continued.

Coal cars.		Tank cars.		Refrigerator cars.		Other cars.		Total.	
No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.
5,544	221,720	.....	.....	.....	.....	4,493	179,720	25,391	1,035,640
3,376	135,040	6	240	.....	.....	.....	.....	24,294	971,760
504	20,160	.....	.....	.....	.....	1,450	58,000	9,773	390,920
138	5,520	.....	.....	.....	.....	300	12,000	3,970	158,800
394	15,760	.....	.....	.....	.....	.....	.....	438	17,520
501	20,040	.....	.....	.....	.....	968	38,720	1,509	60,360
11,316	452,640	10	400	.....	.....	766	30,640	21,350	854,000
498	19,920	.....	.....	.....	.....	394	15,760	30,555	1,222,200
.....	.....	.....	.....	.....	.....	1,041	41,640	1,632	65,280
22,270	890,800	16	640	.....	.....	.....	.....	18,198	727,920
.....	.....	.....	.....	.....	.....	9,412	376,480	137,610	5,504,400
24	960	.....	.....	.....	.....	.....	.....	24	960
.....	.....	.....	.....	.....	.....	.....	.....	5	200
.....	.....	.....	.....	.....	.....	.....	.....	72	2,880
24	960	.....	.....	.....	.....	.....	.....	101	4,040
.....
2,498	124,900	.....	.....	.....	.....	.....	.....	2,800	140,020
11,496	574,800	107	5,350	.....	.....	.....	.....	12,103	605,150
1,204	60,200	.....	.....	.....	.....	955	47,750	3,165	158,280
300	15,000	.....	.....	.....	.....	326	16,300	300	15,000
7,461	373,050	.....	.....	.....	.....	.....	.....	8,511	425,550
1,469	73,450	.....	.....	.....	.....	6,663	333,150	8,132	406,600
7,753	386,475	.....	.....	.....	.....	500	25,000	11,225	549,975
.....	.....	.....	.....	.....	.....	.....	.....	500	25,000
4,086	204,300	.....	.....	.....	.....	.....	.....	4,086	204,300
36,267	1,812,175	107	5,350	.....	.....	8,444	422,200	50,820	2,539,875

DESCRIPTION OF EQUIPMENT.

TOTAL—

NAME OF ROAD.	Box cars.		Flat cars.		Stock cars.	
	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.
<i>a. Interstate Roads.</i>						
Chicago & North Western.....	31,679	1,030,038	4,467	164,598	4,849	136,620
Chicago, Burlington & Quincy...	29,597	1,084,980	1,205	48,570	6,481	163,050
Chicago, Milwaukee & St. Paul..	31,777	956,078	5,058	153,603	3,451	100,260
Chicago, St. P. Minneapolis & O.	8,062	247,326	1,556	49,180	139	4,030
Chicago, Harvard & Geneva L.....			1	30		
Duluth, S. Shore & Atlantic.....	1,160	31,915	526	11,760		
Elgin, Joliet & Eastern.....	940	37,060	452	19,680		
Great Northern.....	30,468	1,046,994	3,488	118,039	1,910	44,790
Illinois Central.....	29,834	1,125,715	2,709	110,925	1,778	43,335
Minneapolis, St. P. & S. S. Marie.	17,642	505,760	2,080	61,790	536	15,700
Northern Pacific.....	23,846	873,685	8,230	284,700	2,562	57,715
Wisconsin & Michigan.....	35	1,050	291	8,730		
Total.....	205,040	6,940,601	30,043	1,031,605	21,706	565,500
<i>b. Intrastate Roads.</i>						
Ahnapee & Western.....	2	50	25	545		
Ashland, Odanah & Marengo.....			2	40		
Bayfield Transfer.....			19	540		
Big Falls Ry. Co.....						
Chippewa Valley & Northern.....						
Green Bay & Western.....	722	21,400	48	1,135		
Hazelhurst & Southeastern.....						
Iola & Northern.....						
Kewaunee, Green Bay & West'n	166	4,980				
LaCrosse & Southeastern.....	11	285	14	310		
Lake Sup. Terminal & Transfer.						
Marinette, Tomahawk & West'n	2	50	24	600		
Mattoon R'y Co.....						
Mineral Point & Northern.....	10	300	10	300		
Northwestern Coal R'y Co.....						
Stanley, Merrill & Phillips.....	7	240	127	3,280	1	20
Tomahawk & Eastern.....						
Wisconsin & Northern.....	2	55	72	2,880		
Wisconsin Northwestern.....			2	60		
Total.....	922	27,360	343	9,690	1	20

ENTIRE SYSTEM. 1912—Concluded.

CLASSES I to XII.

Coal Cars.		Tank cars.		Refrigerator cars.		Other cars.		Total.	
No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.	No.	Aggregate capacity, tons.
11,013	435,200			1,859	52,530	5,231	199,715	59,096	2,018,701
15,780	734,185	113	5,590	2,462	72,670	88	1,705	55,726	2,110,748
2,478	97,900			1,840	54,680	2,694	111,090	47,228	1,473,611
1,398	49,205			279	8,135	4	100	11,438	357,976
								1	30
229	7,465			25	720	983	30,055	2,923	81,915
8,652	412,040					1,355	56,810	11,399	525,590
2,288	99,850			1,109	32,300	8,377	389,610	47,640	1,731,583
21,777	920,260	10	400					56,108	2,200,635
566	11,765			327	8,765	2,053	67,140	23,184	670,920
5,651	251,610	17	455	1,553	41,125	1,361	49,740	43,220	1,559,630
				4	120			330	9,900
69,832	3,019,480	140	6,445	9,458	271,045	22,676	905,963	358,295	12,740,639
								27	595
								98	1,960
								43	1,075
									62
								32	920
24	960			6	110				
								800	23,605
								63	630
								166	4,980
								25	595
								26	650
								20	600
1	30								
								125	2,500
								74	2,955
								17	340
								19	400
25	990			6	110	378	7,425	1,675	45,595

MILEAGE OF ROADS OPERATED

NAME OF ROAD.	LINE OWNED.		Line of propri- etary com- panies	Line operated under lease.
	Main line.	Branches and spurs.		
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	953.85	1,125.91	1.98	.....
Chicago, Burlington & Quincy.....	222.49	.....	.....	.....
Chicago, Milwaukee & St. Paul.....	11,774.07	.....	.....	.....
Chicago, St. Paul, Minneapolis & Omaha.....	771.44	.....	.....	.....
Chicago, Harvard & Geneva Lake.....	5.23	.....	.....	.....
Duluth, South Shore & Atlantic.....	107.15	2.94	.....	.....
Elgin, Joliet & Eastern.....	.....	.....	.....	18.98
Great Northern.....	37.47	.....	.....	.....
Illinois Central.....	.....	91.14	.....	.....
Minneapolis, St. P., & Sault Ste. Marie.....	262.80	116.06	.....	920.82
Northern Pacific.....	87.97	56.40	.....	.....
Wisconsin & Michigan.....	32.62	38.06	.....	.....
Total.....	4,255.09	1,430.51	1.98	999.80
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	34.00	.....	.....	.....
Ashland, Odanah & Marengo.....	14.50	13.00	.....	.....
Bayfield Transfer.....	3.86	.....	.....	.....
Big Falls Ry. Co.....	.....	.....	.....	9.00
Chippewa Valley & Northern.....	15.00	3.79	.....	.....
Green Bay & Western.....	212.50	12.50	.....	.....
Hazelhurst & Southeastern.....	11.06	.....	.....	2.70
Iola & Northern.....	4.70	.....	.....	.....
Kewaunee, Green Bay & Western.....	36.70	.....	.....	.....
La Crosse & Southeastern.....	40.81	.....	.....	.....
Lake Superior Terminal & Transfer.....	.....	.....	.....	.....
Marinette, Tomahawk & Western.....	23.00	.....	.....	.....
Mattoon R'y Co.....	29.36	.....	.....	.....
Mineral Point & Northern.....	26.40	.....	.....	.....
Northwestern Coal R'y Co.....	8.00	.....	.....	.....
Stanley, Merrill & Phillips.....	37.66	7.96	.....	5.26
Tomahawk & Eastern.....	.....	.....	.....	20.77
Wisconsin & Northern.....	45.11	10.75	.....	.....
Wisconsin Northwestern.....	15.30	10.00	.....	.....
Total.....	557.90	58.00	.....	37.73
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	3,049.59	4,695.26	1.98	.....
Chicago, Burlington & Quincy.....	822.41	7,914.66	71.24	.....
Chicago, Milwaukee & St. Paul.....	7,281.02	.....	.....	.....
Chicago, St. Paul, Minneapolis & Omaha.....	1,672.01	.....	.....	.....
Chicago, Harvard & Geneva Lake.....	10.47	.....	.....	.....
Duluth, South Shore & Atlantic.....	517.23	80.20	.....	.....
Elgin, Joliet & Eastern.....	129.94	101.63	.....	335.86
Great Northern.....	6,457.39	78.33	622.50	.....
Illinois Central.....	1,599.57	673.43	97.75	1,317.60
Minneapolis, St. Paul & Sault Ste. Marie.....	1,040.08	1,678.86	.....	984.59
Northern Pacific.....	2,764.89	3,297.43	.....	195.00
Wisconsin & Michigan.....	75.79	51.26	.....	.....
Total.....	25,420.39	18,571.06	793.47	2,833.05

¹ Main line and branches and spurs are combined.

(SINGLE TRACK) JUNE 30, 1912.

Line operated under contract, etc.	Line operated under track-age rights.	Total mileage operated.	New line constructed during year.	RAILS.	
				Iron.	Steel.
60.02	22.79	2,164.55	1.02	5 70	2,136.06
.....	.53	223.02	.....	.....	222.49
.....	8.98	1,783.05	.....	.....	1,774.07
.....	1.28	772.72	.57	2.74	768.70
.....	.....	5.234	.....	.....	5.234
.....	5.29	115.38	.....	.....	110.09
.....	.....	18.98	.67	.....	18.98
.....	5.88	43.35	.....	.....	37.47
.....	.....	91.14	.....	.....	91.14
.....	37.03	1,336.71	.....	10.33	1,289.35
.....	.94	.....	.....	.....	.....
.....	6.68	145.31	.....	.....	144.37
.....	.....	77.36	.....	.....	77.36
60.02	89.40	6,776.80	2.26	18 77	6,675.31
.....	.....	34.00	.....	.....	34.00
3.00	1.50	32.00	.....	.....	30.50
12.00	.....	15.86	.....	.....	15.86
6.00	.....	15.00	.....	9.00	6.00
.....	.....	18.79	.....	.....	18.79
.....	23.00	248.00	.....	.....	225.00
.....	10.20	23.90	.....	.....	13.70
.....	.....	4.70	.....	.....	4.70
.....	.....	36.70	.....	.....	36.70
.....	1.80	42.61	.....	.....	40.81
.....	.....	23.00	.....	.....	23.00
.....	.....	29.36	.....	.....	29.36
.....	4.20	30.60	.....	.....	26.40
.....	.....	8.00	.....	.....	8.00
.....	4.54	55.42	.16	.....	50.88
.....	.....	20.77	.....	.....	20.77
.....	.....	55.86	.....	.....	55.86
.....	21.00	46.30	.....	.....	15.30
21.00	66.24	740.87	.16	9.00	655.63
.....
136.84	76.78	7,960.45	12.01	61.54	7,822.13
.....	265.79	9,074.10	.82	5.51	8,802.80
.....	230.39	7,511.41	.....	47.64	7,233.38
.....	72.38	1,744.39	.57	4.60	1,667.41
.....	.....	10.47	.....	.....	10.47
.....	25.99	623.42	15.22	4.95	592.48
.....	270.86	838.29	20.39	.....	567.43
.....	324.14	7,482.36	69.62	6.71	7,151.51
867.49	206.86	4,762.70	.....	.....	4,555.84
.....	69.84	3,773.37	6.60	10.33	3,693.20
.....
.....	162.70	6,420.02	24.91	9.62	6,247.70
.....	8.90	135.95	.....	.....	127.05
1,004.33	1,714.63	50,336.93	150.14	150.90	48,471.40

TRACK MILEAGE.

NAME OF ROAD.	LINE OWNED.					Total.
	Miles of single track.	Miles of second track.	Miles of third track.	Miles of fourth track.	Miles of yard track and sidings.	
A. WISCONSIN.						
<i>a. Interstate Roads.</i>						
Chicago & North Western...	2,079.76	196.49	39.58	35.54	1,044.88	3,396.25
Chicago, Burlington & Quincy...	222.49	32.14			69.63	324.26
Chicago, Milwau. & St. Paul	1,774.07	234.41	4.74	13.31	892.24	2,918.77
Chicago, St. Paul, Mpls. & O.	771.44	93.91	3.19		256.63	1,125.17
Chicago, Harvard & Gen. L.	5.23				1.11	6.34
Duluth, So. Shore & Atlantic	110.09				18.75	128.84
Elgin, Joliet & Eastern.....						
Great Northern.....	37.47	21.92			98.78	158.17
Illinois Central.....	91.14				12.90	104.04
Mpls., St. P. & S. Ste. Marie.	378.86				110.29	489.15
Northern Pacific.....	144.37	10.35			60.29	215.01
Wisconsin & Michigan.....	70.68				17.00	87.68
Total.....	5,685.60	589.22	47.51	48.85	2,582.50	8,953.68
<i>b. Intrastate Roads.</i>						
Ahnapee & Western.....	34.00				3.55	37.55
Ashland, Odanah & Marengo	27.50				1.00	28.50
Bayfield Transfer.....	3.86					3.86
Big Falls Ry. Co.....						
Chippewa Val. & Northern..	18.79				53	19.32
Green Bay & Western.....	225.00				30.60	255.60
Hazlehurst & Southeastern..	11.00				1.00	12.00
Iota & Northern.....	4.70				70	5.40
Kewaunee, G. Bay & West'n	36.70				7.49	44.19
La Crosse & Southeastern...	40.81				3.18	43.99
Lake Sup. Term. & Transfer					22.42	22.42
J. R. Davis Lbr. Co. Log. Ry.						
Marquette, Tomahawk & W.	23.00				7.25	30.25
Mattoon R'y Co.....	29.36					29.36
Mineral Point & Northern...	26.40				3.16	29.56
Northwestern Coal R'y Co...	8.00					8.00
Stanley, Merrill & Phillips.	45.62				3.53	49.15
Tomahawk & Eastern.....						
Wisconsin & Northern.....	55.86				12.15	68.01
Wisconsin Northwestern.....	25.30					25.30
Total.....	615.90				96.56	712.46
B. ENTIRE SYSTEM.						
<i>Interstate Roads.</i>						
Chicago & North Western...	7,744.85	799.55	104.49	95.36	3,196.15	11,940.40
Chi., Burlington & Quincy...	8,737.07	703.63	23.55		2,766.18	12,230.46
Chi., Milwaukee & St. Paul.	7,281.02	593.93	12.83	46.75	2,407.68	10,344.21
Chi., St. P., Mpls. & Omaha.	1,672.01	119.85	6.37	2.50	572.34	2,373.07
Chi., Harvard & Geneva L...	10.47				2.35	12.82
Duluth, So. Shore & Atlantic	597.43	5.82			150.09	753.34
Elgin, Joliet & Eastern.....	231.57	43.75			147.75	423.07
Great Northern.....	6,535.72	178.84	9.28	13.05	1,774.96	8,511.85
Illinois Central.....	2,273.00	396.55	27.77	112.60	1,006.94	3,906.86
Mpls., St. P. & S. Ste. Marie.	2,718.94	4.24			531.09	3,254.27
Northern Pacific.....	6,062.32	539.92	4.02		1,878.62	8,484.88
Wisconsin & Michigan.....	127.05				31.08	158.13
Total.....	43,991.45	3,388.09	188.31	270.26	14,555.26	62,393.37

¹ Connection track.² 43.20 miles are connection track.³ 84.75 miles are additional main tracks.

STATISTICS—STEAM RAILROADS.

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JUNE 30, 1912.

LINE OPERATED (including trackage rights).

Miles of single track.	Miles of second track.	Miles of third track.	Miles of fourth track.	Miles of yard track and sidings.	Total.	RAILS (excluding trackage rights).	
						Iron.	Steel.
2,164.55	196.49	39.58	35.54	1,084.65	3,520.81	32.76	3,438.45
223.02	32.14			69.63	324.79		324.26
1,783.05	234.41	4.74	14.60	919.90	2,956.70	73.00	2,845.77
772.72	93.91	3.19		256.63	1,126.45	47.84	1,077.33
5.23				1.11	6.34		6.34
115.38				19.50	134.88		128.84
18.98				.45	19.43		19.43
43.35	21.92			98.78	164.05	98.78	59.39
91.14				12.90	104.04		104.04
1,336.71	32.85			460.03	1,829.59	144.55	1,615.16
145.31	10.35			75.48	231.14		215.01
77.36				17.00	94.36		94.36
6,776.80	622.07	47.51	50.14	3,016.06	10,512.58	396.93	9,928.38
34.00				3.55	37.55		37.55
32.00				1.00	33.00		31.50
15.86					15.86		15.86
15.00					15.00		
18.79				.53	19.32		19.32
248.00				30.60	278.60		255.60
23.90				1.00	24.90		14.70
4.70				.70	5.40		5.40
36.70				7.49	44.19		44.19
42.61				3.18	45.79		43.99
21.50				22.86	22.86		22.42
23.00					21.50		21.50
29.36				7.25	30.25	4.00	26.25
30.60				3.16	29.36		29.36
					33.76		29.56
8.00					8.00		8.00
55.42					58.95		54.41
20.77				3.53	21.82		21.82
55.86				1.05	68.01		68.01
46.30				12.15	46.30		15.30
762.37				98.05	860.42	4.00	764.74
7,960.45	867.84	104.49	95.36	3,307.13	12,335.27	310.12	11,858.65
9,074.10	761.10	23.55		2,779.49	12,638.24	78.83	12,236.18
7,511.41	661.07	14.91	450.15	2,457.88	10,695.42	164.07	10,180.14
1,744.39	119.85	6.37	2.50	572.34	2,445.45	106.55	2,266.52
10.47				2.35	12.82		12.82
623.42	6.55			174.78	804.75	46.10	707.24
838.29	59.80			293.42	1,191.51		920.65
7,482.36	178.84	9.28	13.05	1,871.42	9,554.95	1,878.13	7,352.68
4,762.70	750.95	27.77	147.20	1,966.31	7,654.93		7,402.71
3,773.37	59.33			957.94	4,790.64	144.55	4,576.25
6,420.02	619.84	4.02		2,053.51	9,097.39	92.91	8,693.88
135.95				31.08	167.03		158.13
50,336.93	4,085.17	190.39	308.26	16,467.65	71,388.40	2,821.26	66,365.85

⁴ 45.67 miles connection track.

⁵ Iron and steel.

⁶ 119.35 miles are additional main track.

Italic figures denote decreases.

RAILROAD MILEAGE IN

NAME OF ROAD.	LINE OWNED.		LINE OPERATED (excluding trackage rights.)	
	Length, miles.	Increase as shown by comparison with report for June 30, 1911. Miles.	Length, miles.	Increase as shown by comparison with report for June 30, 1911. Miles.
Ahnapee & Western.....	34.00	.....	34.00	.....
Ashland, Odanah & Marengo.....	27.50	3.00	30.50	.....
Bayfield Transfer Ry. Co.....	15.86	12.00	15.86	.....
Big Falls Ry. Co.....	15.00	.....	9.00	6.00
Chicago & North Western.....	2,079.76	189.09	2,141.76	173.03
Chicago, Burlington & Quincy...	222.49	.....	222.49	.....
Chicago, Milwaukee & St. Paul...	1,774.07	.....	1,774.07	.....
Chicago, St. Paul, Minn. & Oma..	771.44	.57	771.44	.57
Cazenovia & Sauk City.....	5.73	.....	5.73	.....
Chicago, Harvard & Geneva Lake	5.23	.27	5.23	.27
Chicago & Lake Superior.....	3.24	.....	3.24	.....
Chippewa Valley & Northern....	18.79	.....	18.79	.....
Duluth, South Shore & Atlantic..	110.09	.....	110.09	.....
Dunbar & Wausaukee.....	14.71	1.21	14.71	1.21
Elgin, Joliet & Eastern.....	.....	.....	18.98	.54
Fairchild & Northeastern.....	38.00	.....	38.00	.....
Great Northern.....	37.47	.....	37.47	.....
Green Bay & Western.....	225.00	.....	225.00	.....
Hazelhurst & Southeastern.....	11.00	.....	13.70	.....
Hillsboro & Northeastern.....	5.00	.....	5.00	.....
Illinois Central.....	91.14	.17	91.14	.17
Iola & Northern.....	4.70	.....	4.70	.....
Kewaunee, Green Bay & Western	36.70	.....	36.70	.....
La Crosse & Southeastern.....	40.81	.....	40.81	.....
Lake Superior Term. & Transfer.	22.42	.31	22.42	.31
Laona & Northern.....	20.00	.....	20.00	.....
Marathon County.....	21.50	.....	21.50	.....
Marinette, Tomahawk & Western	43.77	.....	23.00	.....
Mattoon Ry. Co.....	29.36	.....	29.36	.....
Mineral Point & Northern.....	26.40	.....	26.40	.....
Minn., St. Paul & S. Ste. Marie....	378.86	7.13	1,299.68	4.39
Milwaukee, Bay View & Chicago.	19.43	.99	.....	.....
Northern Pacific.....	144.37	.67	144.37	.67
Northwestern Coal Ry. Co.....	8.00	.....	8.00	.....
Oshkosh Transportation Co.....	4.47	.....	.....	.....
Robbins Railroad Co.....	22.25	1.00	22.25	1.00
Roddis Lumber & Veneer Co.....	15.00	.....	15.00	.....
Stanley, Merrill & Phillips.....	45.62	.01	50.88	.01
Superior & Southeastern.....	45.00	6.00	45.00	6.00
Tomahawk & Eastern.....	.....	.....	20.77	.....
Whitcomb & Morris.....	7.08	.....	7.08	.....
Winona Bridge Ry.....	.54	.....	.54	.....
Wisconsin Central.....	920.82	2.74	.....	.....
Wisconsin & Michigan.....	70.68	.....	70.68	.....
Wisconsin & Northern.....	55.86	.....	55.86	.....
Wisconsin Northwestern.....	25.30	.....	25.30	.....
Waupaca-Green Bay.....	9.85	.....	9.85	.....
Total.....	7,524.31	.....	7,586.35	.....

WISCONSIN, JUNE 30, 1912.

TOTAL MILE-AGE OPERATED ON JUNE 30, 1912. (including trackage rights.)	REMARKS.
34.00	
32.00	
15.86	
15.00	
2,164.55	Change in classification. Bayfield Harbor & Great Western 6.00 miles, Bayfield, Superior & Minneapolis 6.00 miles. Line owned by Wall Spaulding Lumber Co. Decrease in line operated due to 6 miles being abandoned.
223.02	'9.59 re-classification, 178.48 purchased, 1.02 constructed; '16.06 formerly leased was included in 189.09 purchased.
1,783.05	
772.72	Increase .57 re-alignment.
5.73	Re-survey.
5.23	
3.24	
18.79	
115.38	
14.71	1.21 miles of logging spurs not reported last year.
18.98	.54 mile constructed.
38.00	
43.35	
248.00	
23.90	
5.00	
91.14	Decrease of .17 mile due to re-measurement.
4.70	
36.70	
42.01	
22.42	.31 miles constructed.
20.00	
21.50	
23.00	20.77 leased to Tomahawk & Eastern.
29.36	Operated by C. & N. W. Ry. Co.
30.60	
1,336.71	6.28 miles constructed. Increase .85 by re-measurement. Decrease 2.74 miles of line leased.
.....	Correction of error in former report .45 mile. .54 mile construction.
145.31	Operated by Elgin, Joliet & Eastern.
8.00	Decrease in main line spurs to industries.
.....	Operated by C. & N. W. Ry. Co.
22.25	Decreased last year 1 mile but no explanation given. Increased this year.
15.00	Increase .01 by remeasurement.
55.42	Increase 6.00 miles. No explanation given.
45.00	
20.77	
7.08	
.54	
.....	Decreased 2.74 miles by remeasurement.
77.36	Error of 17 miles in last year's report in "Total mileage operated" column due to inclusion of yard tracks and sidings.
55.86	
46.30	
9.85	
7,747.99	

RENEWAL OF RAILS,

NAME OF ROAD.	50 to 65 lb. per yard. Tons.	66 to 69 lb. per yard. Tons.	70 to 73 lb. per yard. Tons.	74 to 79 lb. per yard. Tons.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	.58		131.11	
Chicago, Burlington & Quincy.....				
Chicago, Milwaukee St. Paul.....	.83			9,408.08
Chicago, St. P., Minn. & Omaha.....		.59	843.15	
Chicago, Harv. & Geneva Lake.....				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....			10.15	1.74
Great Northern.....				.35
Illinois Central.....				
Minn., St. P. & Sault Ste. Marie.....				
Northern Pacific.....			.32	
Wisconsin & Michigan.....				
Total.....	1.41	.59	984.73	9,470.77
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....			586.70	
Ashland, Odanah & Marengo.....				
Bayfield Transfer.....				
Big Falls Ry. Co.....				
Chippewa Valley & Northern.....				
Green Bay & Western.....			1,154.52	
Hazelhurst & Southeastern.....				
Iola & Northern.....				
Kewaunee, Green Bay & Western.....				
La Crosse & Southeastern.....				
L. Superior Terminal & Transfer.....				
Marquette, Tomahawk & Western.....				
Mattoon R'y Co.....				
Mineral Point & Northern.....				
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....				
Tomahawk & Eastern.....				
Wisconsin & Northern.....				
Wisconsin Northwestern.....				
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	7.48		3,849.19	
Chicago, Burlington & Quincy.....				
Chicago, Milwaukee & St. Paul.....	34.53			
Chicago, St. P., Minn. & Omaha.....		.59	3,183.45	
Chicago, Harv. & Geneva Lake.....				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....	162.98		10.48	95.36
Great Northern.....	87.46	4.48	107.08	26.14
Illinois Central.....				5,746.00
Minn., St. P. & Sault Ste. Marie.....				
Northern Pacific.....			113.25	
Wisconsin & Michigan.....				
Total.....	292.25	5.07	7,263.45	5,867.50

¹ Includes classes from 44 to 100 lb. per yard.

YEAR ENDING JUNE 30, 1912.

80 lb. per yard. Tons.	82 to 89 lb. per yard. Tons.	90 lb. per yard. Tons.	100 lb. per yard. Tons.	Total number of tons.	Average price at distribut- ing point.
181.89		552.34	2,919.01	3,784.93	\$28.06
		4,206.00		4,206.00	30.05
596.70		17,052.76		26,522.27	24.22
		2,765.16		4,205.60	29.38
667.14				667.14	32.12
9.82				21.71	26.72
3,016.00	4,540.00	2,113.58		2,113.93	32.89
				7,556.00	30.00
				.76	
		.44			
4,471.55	4,540.00	26,690.28	2,919.01	49,078.34	
				586.70	\$29.23
				1,154.52	29.23
1.87				1.87	31.90
275.45		847.57	19,337.53	24,317.22	\$28.13
	706.00	33,813.00	6,664.00	41,183.00	30.05
2,372.28		2,781.23	183,058.27	83,092.60	28.80
				8,337.55	29.23
2,721.92				2,721.92	32.12
2,216.89	823.13	1,216.83		4,525.67	28.06
6.64	59.38	27,320.10		27,611.28	34.70
4,461.00	12,553.00	13,474.00		19,220.00	30.05
				17,014.00	30.00
	202.05	12,435.53		12,750.83	31.53
12,054.18	14,343.56	91,888.26	109,059.80	240,774.07	

NAME OF ROAD.	Oak.		Tamarack.		Pine.		Cedar.	
	Number.	Av. price at distributing point, cts.	Number.	Av. price at distributing point, cts.	Number.	Av. price at distributing point, cts.	Number.	Av. price at distributing point, cts.
A. WISCONSIN.								
<i>a. Interstate Roads.</i>								
Chicago & North Western.....	203,645	65.04	.....	.....	.....	.....	7,452	77.00
Chicago, Burlington & Quincy.....	115,109	59.00	.....	.....	.....	.....	.....	.....
Chicago, Milw'kee & St. Paul.....	.....	.....	.....	.....	.....	.....	.....	.....
Chi., St. P., Minn. & Omaha.....	17,695	133.27	23,307	55.60	3,691	61.20	46,694	68.50
Chi., Harvard & Geneva Lake.....	250	78.00	.....	.....	.....	.....	410	36.00
Duluth, S. Shore & Atlantic.....	.....	.....	110	29.64	.....	.....	6,985	34.13
Elgin, Joliet & Eastern.....	.....	.....	.....	.....	.....	.....	.....	.....
Great Northern.....	46,802	58.98	41,498	55.15	.....	.....	.....	.....
Illinois Central.....	9,740	51.81	.....	.....	8,056	56.00	.....	.....
Minn., St. Paul & S. S. Marie.....	14,455	60.00	14,372,500	32.00	.....	.....	.....	.....
Northern Pacific.....	3,499	108.50	64,670	44.40	.....	.....	.....	.....
Wisconsin & Michigan.....	1,670	50.00	6,456	28.00	.....	.....	1,614	40.00
Total.....	372,865	.....	508,541	.....	11,747	.....	63,155	.....
<i>b. Intrastate Roads.</i>								
Ahnapee & Western.....	50	50.00	.....	.....	.....	.....	1,300	38.00
Ashland, Odanah & Marengo.....	.....	.....	176,965	20.00	.....	.....	.....	.....
Bayfield Transfer.....	.....	.....	.....	.....	.....	.....	7,080	20.00
Big Falls Ry. Co.....	.....	.....	.....	.....	.....	.....	.....	.....
Chippewa Valley & Northern.....	.....	.....	.....	.....	.....	.....	996	35.00
Green Bay & Western.....	2,700	48.00	.....	.....	.....	.....	31,350	50.00
Hazelhurst & Southeastern.....	.....	.....	.....	.....	.....	.....	.....	.....
Iola & Northern.....	20	48.00	.....	.....	.....	.....	140	50.00
Kewaunee, G. Bay & Western.....	2,021	58.00	.....	.....	.....	.....	505	37.00
La Crosse & Southeastern.....	.....	.....	.....	.....	.....	.....	.....	.....
L. Sup'r Terminal & Transfer.....	.....	.....	6,065	44.50	.....	.....	.....	.....
Mar., Tomahawk & Western.....	.....	.....	142,692	23.80	.....	.....	.....	.....
Mattoon R'y Co.....	.....	.....	.....	.....	.....	.....	.....	.....
Mineral Point & Northern.....	.....	.....	.....	.....	.....	.....	.....	.....
Northwestern Coal R'y Co.....	44	44.00	.....	.....	.....	.....	.....	.....
Stanley, Merrill & Phillips.....	7,013	23.10	.....	.....	.....	.....	.....	.....
Tomahawk & Eastern.....	.....	.....	.....	.....	.....	.....	.....	.....
Wisconsin & Northern.....	.....	.....	145,625	35.00	.....	.....	.....	.....
Wisconsin Northwestern.....	.....	.....	.....	.....	.....	.....	.....	.....
B. ENTIRE SYSTEM.								
<i>Interstate Roads.</i>								
Chicago & North Western.....	490,261	69.59	.....	.....	.....	.....	.....	.....
Chicago, Burlington & Quincy.....	12,264,295	59.00	.....	.....	.....	.....	.....	.....
Chicago, Milw'kee & St. Paul.....	.....	.....	.....	.....	.....	.....	.....	.....
Chi., St. P., Minn. & Omaha.....	41,076	113.96	32,817	50.70	3,743	61.50	95,125	59.90
Chi., Harvard & Geneva Lake.....	500	78.00	.....	.....	.....	.....	820	36.00
Duluth, S. Shore & Atlantic.....	.....	.....	59,266	29.64	.....	.....	29,303	34.13
Elgin, Joliet & Eastern.....	.....	.....	.....	.....	.....	.....	7,800	58.00
Great Northern.....	21,860	53.48	1,492,532	46.35	7,382,753	54.15	.....	.....
Illinois Central.....	925,417	51.55	58,388	38.00	9,941	37.00	117,05	52.00
Minn., St. P. & S. S. Marie.....	33,949	60.00	14,853,519	32.00	.....	.....	74,200	50.00
Northern Pacific.....	119,761	71.00	805,777	43.10	16,123,391	33.40	.....	.....
Wisconsin & Michigan.....	1,670	50.00	9,233	28.00	.....	.....	3,049	40.00
Total.....	3,898,789	.....	3,311,538	.....	1,618,828	.....	211,002	.....

¹ Hardwood. ² Soft wood. ³ Bridge and switch. ⁴ Hardwood hewed. ⁵ Includes pine and cedar. ⁶ Hardwood sawed. ⁷ Treated. ⁸ Cypress. ⁹ Chestnut.

STATISTICS—STEAM RAILROADS.

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ENDIN G JUNE 30, 1912.

Hemlock.		Mixed.		Culls.		Bridge.		Switch.		Total.	
Number.	Av. price at distributing point, cts.	Number.	Av. price at distributing point, cts.	Number.	Av. price at distributing point, cts.	Number.	Av. price at distributing point, cts.	Number.	Av. price at distributing point, cts.	Number.	Av. price at distributing point, cts.
		492,084	39.55							695,729	47.01
		810,416	51.00							122,561	60.12
47,249	46.40	3,129	97.22	20,272	20.00	² 29,292	³ 123.10			869,708	53.40
										162,037	62.70
										660	52.00
30,049	30.57	2,430	59.60	1,998	11.00	430	190.57			39,572	34.22
3,767	60.70	1,041	107.40							6,197	59.20
										49,341	56.78
										17,796	53.95
										386,955	.....
										68,169	46.20
4,950	30.00									14,690	.....
86,015	.....	1,339,100	.....	22,270	.....	29,722	.....			2,433,415	.....
7,169	30.00									8,519	31.30
										6,965	20.00
										7,080	20.00
		1,950	25.00							2,946	.....
44,328	36.00									78,378	42.00
385	36.00									545	40.00
7,590	36.00									10,106	40.40
								468	1.49	6,533	52.00
										2,692	23.80
6,792	26.00	¹⁶ 61	50.00							6,853	.....
										44	44.00
14,169	34.29	2,379	11.90							89	38.50
										23,650	28.70
										463	23.80
										5,625	35.00
		1,678,012	44.61							2,168,273	50.25
		672,906	77.00							2,937,201	60.12
		2,757,282	57.80			99,934	113.00			2,857,226	59.70
98,159	40.80	4,285	85.31	24,430	18.20					299,635	57.00
										1,320	52.01
102,074	30.57	115	225.00	14,790	11.00	1,590	190.57	4,863	78.87	212,001	31.85
3,767	60.70	183,760	59.00							195,327	59.30
⁶ 123,149	42.22	108,169	67.92							2,128,463	48.68
¹² 2,416	56.00	¹⁰ 812,403	56.00	¹³ 307	52.00					1,800,577	.....
		¹⁰ 10,521	35.00							172,189	31.40
		807,132	65.30	14,634	19.60					2,978,695	46.10
8,676	30.00									22,634	.....
338,241	.....	7,034,595	.....	54,161	.....	101,524	.....	4,863	.....	16,573,541	.....

¹⁰Pine, treated. ¹¹Beech. ¹²Cypress, treated. ¹³Gum, treated. ¹⁴Includes hemlock.
¹⁵Elm. ¹⁶Fir. ¹⁷Includes pine and balsam.

CONSUMPTION OF FUEL BY LOCOMOTIVES.

NAME OF ROAD.	FREIGHT LOCOMOTIVES.						
	Bituminous coal, tons.	Wood.		Fuel oil, gallons.	Total fuel consumed, tons.	Miles run.	Average pounds consumed per mile.
		Hard, cords.	Soft, cords.				
<i>a. Interstate Roads.</i>							
Chicago & N. W.	2,140,109	4,212	8,425	761,296	2,153,117	17,314,955	248.70
Chicago, B. & Q.	2,277,807		17,404		2,286,509	18,375,751	248.86
Chicago, M. & St. Paul.	1,951,914				1,951,914	18,760,082	208.09
Chicago, St. P., M. & O.	360,875	27	4,819		363,312	4,548,659	159.74
Chi., Har. & Geneva L.							
Duluth, S. S. & Atlantic	67,396		468		67,630	1,069,620	126.46
Elgin, Joliet & Eastern.	257,125		3,294		258,772	2,418,415	214.00
Great Northern.....	1,113,967	15,494	241,577	14,050,932	1,265,320	10,157,899	249.13
Illinois Central.....	1,474,371	3,769		221,598	1,478,280	17,685,887	167.17
Mpls., St. P. & S. S. M.	475,824		4,065		477,856	6,788,386	154.40
Northern Pacific.....	1,258,406		3,863	311,132	1,260,963	10,538,758	239.30
Wisconsin & Michigan..	4,471				4,471	85,525	104.55
Total.....	11,382,265	13,502	83,915	15,144,958	11,568,144	107,743,827	214.73
<i>b. Intrastate Roads.⁶</i>							
Ahnapee & Western.....	1,175				1,175	17,393	135.11
Ashland, Odanah & M. ⁴	2,170		150		2,245		
Bayfield Transfer ⁴	51,309				1,309		
Big Falls Ry. Co.....						584	
Chippewa Valley & N. ⁴ ..	584						
Green Bay & Western..	12,359				12,359	176,656	139.92
Hazelhurst & S'eastern.							
Iola & Northern.....							
Kewaunee, G. B. & W..	915				915	16,941	108.02
La Crosse & S'eastern..							
Lake Superior T. & T..							
Marquette, T. & W.....	245		8		249	4,368	114.01
Mattoon Ry. Co.....							
Mineral Point & N.....							
N'western Coal R'y Co..							
Stanley, M. & P.....	1,005	12	14		1,020	24,212	84.26
Tomahawk & Eastern..	4		1		5	104	86.53
Wisconsin & Northern..	60				60	1,535	79.00
Wisconsin N'western ⁴ ..	2,040				2,040		

¹ Soft wood.
record.² Crude oil.³ Includes 11,172 gallons gasoline.⁴ No mileage

ENTIRE SYSTEM, YEAR ENDING JUNE 30, 1912.

PASSENGER LOCOMOTIVES.

Bituminous coal, tons.	Wood.		Fuel oil, gallons.	Total fuel consumed, tons.	Miles run.	Average pounds consumed per mile.
	Hard, cords.	Soft, cords.				
1,107,149	4,917	9,834	2,953,600	1,137,972	20,210,933	112.61
955,296		16,747		983,670	17,827,987	108.11
743,345				743,345	14,458,617	102.82
183,737	21	2,453		184,984	3,802,726	97.39
34,943		365		35,125	914,139	76.85
489,929	16,493	249,147	11,639,712	616,434	12,008,129	102.67
1,174,049	2,999		674,822	1,180,299	14,084,161	167.71
198,335		1,807		199,238	5,186,420	76.83
643,926		2,142	4,098,906	670,748	12,070,206	111.14
1,848				1,848	73,315	50.41
5,532,557	14,430	82,495	19,397,040	5,733,663	100,636,633	113.95
134				134	4,148	64.61
			1,440	11		
4,931				4,931	146,363	67.38
179				179	5,376	66.59
927	9	12	1,140	950	40,148	47.32
165				165	4,777	69.05

⁵ Includes all revenue and non-revenue service. incomplete reports.

⁶ Average omitted because of

CONSUMPTION OF FUEL BY

NAME OF ROAD.	MIXED LOCOMOTIVES.						
	Bituminous coal, tons.	Wood.		Fuel oil, gallons	Total fuel consumed, tons.	Miles run.	Average pounds consumed per mile.
		Hard, cords.	Soft, cords.				
<i>a. Interstate Roads.</i>							
Chi., & North Western	109,892	397	793	.....	110,553	1,628,529	135.77
Chi., Bur. & Quincy	106,794	.....	765	.....	107,176	851,499	251.73
Chi., Milw. & St. Paul	111,410	.....	.....	.....	111,410	1,648,620	135.16
Chi., St. P. M. & Omaha	30,627	4	409	.....	30,836	690,155	89.37
Chi., Har. & G. Lake	.....	.....	.....	.....	.....	.....	.....
Duluth, S. S. & Atlantic	.....	.....	.....	.....	.....	.....	.....
Elgin, Joliet & Eastern	.....	.....	.....	.....	.....	.....	.....
Great Northern	48,062	¹ 450	² 3,377	446,376	53,030	841,056	126.10
Illinois Central	24,078	36	.....	3,619	24,125	288,682	167.14
Mpls., St. P. & S. S. M.	30,279	.....	295	.....	30,426	582,426	104.50
Northern Pacific	37,770	.....	220	.....	37,880	619,527	122.29
Wisconsin & Michigan	.....	.....	.....	.....	.....	.....	.....
Total	498,912	887	5,859	449,995	505,436	47,150,494	141.37
<i>b. Intrastate Roads.</i>							
Ahnapee & Western	1,515	.....	.....	.....	1,515	41,368	73.25
Ashland, Odanah & M.	.....	.....	.....	.....	.....	.....	.....
Bayfield Transfer	.....	.....	.....	.....	.....	.....	.....
Big Falls Ry. Co.	.....	.....	.....	.....	.....	.....	.....
Chippewa V. & North'n	.....	.....	.....	.....	.....	.....	.....
Green Bay & Western	5,470	.....	.....	.....	5,470	133,350	79.07
Hazelhurst & Sou'eas'r'n	736	.....	.....	.....	736	7,581	194.17
Iola & Northern	504	.....	.....	.....	504	8,874	113.59
Kewaunee, G. B. & W.	2,110	.....	.....	.....	2,110	47,430	88.97
LaCrosse & Sou'eas't'r'n.	2,468	.....	.....	.....	2,468	65,605	.....
L. Sup. Term. & Trans.	.....	.....	.....	.....	.....	.....	.....
Mar. Tom. & Western	651	.....	22	.....	662	11,544	114.69
Mattoon Ry. Co. ³	737	.....	.....	.....	737	.....	.....
Mineral Pt. & North'r'n	3,204	.....	.....	.....	3,204	40,148	160.00
Nor'wes'r'n Coal Ry. Co.	.....	.....	.....	.....	.....	.....	.....
Stanley, Merrill & Ph'ps	.....	.....	.....	.....	.....	.....	.....
Tomahawk & Eastern	369	.....	8	.....	373	8,923	83.60
Wisconsin & Northern	1,586	.....	.....	.....	1,586	40,153	78.99
Wisconsin Northwes'r'n	.....	.....	.....	.....	.....	.....	.....

¹Soft Wood.²Crude oil.

LOCOMOTIVES, ENTIRE SYSTEM, 1912—Continued.

SPECIAL LOCOMOTIVES.

Bituminous coal, tons.	Wood.		Fuel oil, gallons.	Total fuel consumed, tons.	Miles run.	Average pounds consumed, per mile.
	Hard, cords.	Soft, cords.				
2,254	8	17		2,268	34,536	131.34
2,405		22		2,415	19,580	246.68
1,746				1,746	31,623	110.40
458		6		461	6,833	134.93
144		1		145	3,862	75.09
85		2		86	686	250.73
1,925	115	² 117	23,562	1,582	21,403	147.87
1,481	28		224	1,501	18,432	162.87
1,164		18		1,171	6,221	376.40
1,589				1,589	23,723	133.96
12,651	51	183	23,786	12,964	166,899	155.35
45				45	1,083	83.10
30				30	764	78.53
3				3	72	83.33
4				4	90	88.89

²No mileage record.
⁴Error of 86 corrected.

CONSUMPTION OF FUEL BY

NAME OF ROAD.	SWITCHING LOCOMOTIVES.						
	Bituminous coal, tons.	Wood,		Fuel oil, gal- lons.	Total fuel con- sumed, tons.	Miles run.	Aver- age pounds con- sumed per mile.
		Hard, cords.	Soft, cords.				
<i>a. Interstate Roads.</i>							
Chicago & North West.	683,869	2,347	4,695	159,062	689,054	9,646,470	142.86
Chicago, Burling. & Q.	499,015		8,436		503,233	8,914,080	112.91
Chicago, M. & St. Paul.	335,963				335,963	8,791,878	76.43
Chicago, St. P., M. & O.	89,441	8	1,195		90,046	1,650,627	109.11
Chicago, H. & Gen. Lk. ¹ .							
Duluth, S. S. & Atlant.	9,185		92		9,231	411,855	44.83
Elgin, Joliet & Eastern.	208,591		2,704		209,943	3,328,651	126.22
Great Northern.....	265,993	² 2,139	³ 16,188	2,812,026	296,886	3,953,498	150.19
Illinois Central.....	421,385	1,589		2,199,728	636,302	7,449,131	170.84
Mpls., St. P. & S. S. M.	94,823		705		95,175	1,905,919	99.90
Northern Pacific.....	286,270		493	2,591,526	302,713	4,412,276	137.21
Wisconsin & Michigan.	135				135	6,145	43.93
Total.....	3,094,670	6,083	34,508	7,762,342	3,168,681	50,468,480	125.57
<i>b. Intrastate Roads.⁶</i>							
Ahnapee & Western...	174				174	3,768	92.36
Ashland, Odanah & M.							
Bayfield Transfer							
Big Falls Ry. Co.....							
Chippewa Val. & Nor..							
Green Bay & Western.	3,137				3,137	67,230	93.32
Hazelhurst & Southe'n.							
Iola & Northern.....							
Kewaunee, G. B. & W.	611				611	13,188	92.66
La Crosse & Southeast.							
L. Sup. Ter. & Transf.	10,702		68		10,736	233,922	91.80
Mar. Tomahawk & W.	176		6		179	3,120	114.74
Mattoon R'y Co.....							
Mineral Pt. & Northern							
Northw. Coal R'y Co. ⁹ .	897				897		
Stanley, Merrill & P...	998	12	14		1,013	25,095	80.73
Tomahawk & Eastern.	88		2		89	2,125	84.24
Wisconsin & Northern.	108				108	3,000	72.06
Wisconsin Northw.ern.							

¹ Electric road.² Soft wood.³ Crude oil.

LOCOMOTIVES, ENTIRE SYSTEM, 1912.—Continued.

NON-REVENUE SERVICE LOCOMOTIVES.

Bituminous coal, tons.	Wood.		Fuel oil, gallons.	Total fuel consumed, tons.	Miles run.	Average pounds consumed per mile.
	Hard, cords.	Soft, cords.				
132,902	551	1,101	23,716	134,009	2,266,507	118.25
108,611		1,956		109,590	2,075,482	105.60
76,403				76,403	1,410,858	108.31
17,755	1	238		17,875	387,191	92.33
3,020		12		3,026	77,625	77.96
20,435		264		20,567	166,013	247.78
94,507	800	36,056	1,913,940	115,213	1,475,136	156.21
68,518	174		10,298	68,700	823,274	166.89
23,258				23,258	530,761	87.60
100,338		318	30,030	100,685	1,429,938	140.82
645,807	1,526	9,945	1,977,984	669,326	10,642,785	125.78
114				114	1,918	118.87
827				827	15,871	104.22
143				143	2,333	122.59
52		2		53	930	113.98
80	5	10		88	1,626	108.24
3		1		3	78	89.74
15				15	404	72.00

⁴ Includes 357 tons coke.

⁵ No mileage record.

⁶ Average omitted because of incomplete reports.

CONSUMPTION OF FUEL BY
TOTAL CON

NAME OF ROAD.	Bituminous coal.		Hard wood.		Soft wood.	
	Number of tons.	Average cost at distributing point.	Number of cords.	Average cost at distributing point.	Number of cords.	Average cost at distributing point.
<i>a. Interstate Roads.</i>						
Chicago & North Western...	4,176,175	\$1.96	12,432	\$1.64	24,865	\$1.64
Chi. Burlington & Quincy...	3,949,928	1.75			45,330	1.56
Chi. Milwaukee & St. P....	3,220,781	2.25				
Chi., St. P., M. & Omaha....	682,893	2.89	61	3.89	9,120	1.47
Chi., Harvard & Geneva L. ¹						
Duluth, S. S. & Atlantic....	114,688	3.12			938	1.50
Elgin, Joliet & Eastern....	486,236	1.43			6,264	1.70
Great Northern.....	2,613,843	2.55	15,391	1.96	116,462	.04
Illinois Central.....	43,363,882	1.19	8,595	2.05		
Mpls., St. P. & S. Ste. Marie.	823,683	2.56			6,890	1.50
Northern Pacific.....	2,328,299	2.79			7,036	2.24
Wisconsin & Michigan.....	6,454	3.00				
Total.....	21,166,862		36,479		216,905	
<i>b. Intrastate Roads.</i>						
Ahnapee & Western.....	3,157	\$3.00				
Ashl'd. Odanah & Marengo ²	2,170	3.50			150	\$1.25
Bayfield Transfer ³	1,309	3.98				
Big Falls Ry. Co.....						
Chippewa Val. & Northern..	584	4.00				
Green Bay & Western.....	26,754	2.71				
Hazelhurst & Southeastern.	736	4.25				
Iola & Northern.....	504	3.11				
Kewaunee, G. B. & Western	3,961	3.68				
La Crosse & Southeastern...	2,468	3.00				
Lake S. Terminal & Trans...	10,702	3.00			68	2.50
Marin, Tomahawk & W....	1,124	4.25			38	1.00
Mattoon Ry. Co.....	737					
Mineral Point & Northern..	3,204					
Northwestern Coal Ry. Co..	897	2.81				
Stanley, Merrill & Phillips..	3,014	3.75	38	\$1.00	50	1.75
Tomahawk & Eastern.....	464	4.25			12	1.00
Wisconsin & Northern.....	1,934	4.25				
Wisconsin Northwestern....	2,040	4.50				

¹ Electric road.² Soft wood.³ Crude oil.⁴ Includes 357 tons coke.

LOCOMOTIVES, ENTIRE SYSTEM, 1912—Concluded.
SUMPTION.

Fuel oil.		Total fuel consumed.		Miles run.	Average pounds consumed per mile.
Number of gallons.	Average cost at distributing point.	Number of tons.	Average cost at distributing point.		
3,927,674	\$0.021	4,226,973	\$1.97	51,101,930	165.43
		3,972,593	1.76	48,064,329	165.30
		3,220,781		45,101,658	142.83
		687,514	2.89	11,086,191	124.03
		115,157	3.12	2,477,101	92.98
		489,368	1.42	5,911,765	165.56
30,886,548	.018	2,348,465	2.44	28,457,031	165.05
3,110,289	.020	3,389,207	1.21	40,349,567	167.99
		827,124		15,000,133	114.90
6,831,594	.018	2,374,578	2.79	29,094,428	163.23
		6,454		164,985	78.24
44,756,105		21,658,214		276,209,118	156.82
		3,157	\$3.00	69,678	90.62
		2,245			
		1,309	3.98		
1,440	\$0.18	595			
		26,754	2.71	545,234	98.14
		736	4.25	7,581	194.17
		504	3.11	8,874	113.59
		3,961	3.63	85,340	92.83
		2,468	3.00	65,905	75.24
		10,736	2.99	233,922	91.80
		1,143		19,962	114.51
		737			
		3,204		40,148	160.00
		897	2.81		
1,140	.086	3,075	3.75	91,171	67.45
		470	4.22	11,230	83.70
		1,934	4.25	49,869	77.56
		2,040	4.50		

⁵ Average for coal only.

⁶ Price per net ton.

⁷ No mileage record.

ACCIDENTS TO PERSONS, OCCURRING IN WISCONSIN

A. ACCIDENTS RESULTING FROM THE MOVEMENT

Kind of

NAME OF ROAD.	Coupling or uncoupling		Collisions.		Derail- ments.		Parting of trains.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Ashland, Odanah & Marengo.....						2		
Chicago & North Western.....	2	23	1	69		49		5
Chicago, Burlington & Quincy.....								
Chicago, Milwaukee & St. Paul.....	3	28	1	48	1	58		
Chicago, St. Paul, Minn. & Omaha.....		11	2	24		3		2
Duluth, South Shore & Atlantic.....								
Dunbar & Wausaukee.....								
Elgin, Joliet & Eastern.....								
Great Northern.....		3		1				6
Green Bay & Western.....								
Illinois Central.....		1						
La Crosse & South Eastern.....	1							
Lake Superior Terminal & Transfer.....		1						
Mineral Point & Northern.....						1		
Minn., St. Paul, & Sault Ste. Marie.....		8	4	9	5	39		
Northern Pacific.....		1				2		
Robbins Railroad Co.....								
Stanley, Merrill & Phillips.....								
Wisconsin & Michigan.....								
Wisconsin & Northern.....								
Wisconsin & Northwestern.....						1		
Total.....	6	76	8	151	6	155		13

DURING YEAR ENDING JUNE 30, 1912.
OF TRAINS, LOCOMOTIVES OR CARS.
Accident.

Locomotives, etc., breaking down.		Falling from trains, etc.		Jumping off trains, etc.		Struck by trains, locomotives, or cars.		Overhead obstruc- tions.		Other causes.		Total A.	
Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
.....	2	5	61	4	139	72	93	.....	9	2	419	86	2
.....	1	.....	1	3	5	5	.....	.....	1	10	8	18
.....	7	61	5	70	58	107	.....	1	8	277	83	650
.....	1	2	26	2	30	22	15	.....	1	.....	41	28	154
.....	1	.....	.....	.....	.....	.....	1	.....
.....	1	.....	.....	.....	.....	.....	1
.....	2	7	.....	2	2	3	.....	.....	.....	4	4	26
.....
.....	3	.....	2	.....	.....	.....	.....	.....	5	.....	11
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	1
.....	1	2	.....	.....	.....	.....	.....	.....	.....	2	2
.....	1
.....	1	25	1	46	12	32	.....	10	10	78	33	247
.....	2	1	1	2	1	1	.....	.....	.....	9	4	16
.....	1	.....	.....	.....	.....	.....	.....	1	1	1
.....	1	.....	1
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	3	20	187	17	294	173	257	.....	21	21	845	251	2,002

ACCIDENTS TO PERSONS OCCURRING
B. ACCIDENTS FROM CAUSES OTHER

NAME OF ROAD.	<i>Kind of</i>			
	Handling of traffic.		Handling tools, machinery, etc.	
	Killed.	Injured.	Killed.	Injured.
Ashland, Odanah & Marengo.....				
Chicago & North Western.....		59		90
Chicago, Burlington & Quincy.....		3		50
Chicago, Milwaukee & St. Paul.....		52	1	200
Chicago, St. Paul, Minneapolis & Omaha.....		5		20
Duluth, South Shore & Atlantic.....		1		3
Dunbar & Wausaukee.....				
Elgin, Joliet & Eastern.....				
Great Northern.....		77		15
Green Bay & Western.....				
Illinois Central.....		3		
La Crosse & Southeastern.....				
Lake Superior Terminal & Transfer.....				
Mineral Point & Northern.....				
Minneapolis, St. Paul & Sault Ste. Marie.....		5	2	64
Northern Pacific.....				
Robbins Railroad Co.....				2
Stanley, Merrill & Phillips.....				
Wisconsin & Michigan.....				
Wisconsin & Northern.....				
Wisconsin Northwestern.....				
Total.....		205	3	444

IN WISCONSIN, 1912—Continued.
 THAN MOVEMENT OF TRAINS. ETC.

Accident—Concluded.								Total A and B.	
Handling supplies, etc.		Getting on or off locomotives at rest.		Other causes.		Total B.		Killed.	Injured.
Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		
									2
	69		11	1	278	1	507	87	1,376
	9		9	1	48	1	119	9	137
	37		5	1	81	2	375	85	1,025
	17		4		62		108	28	262
	2				4		10	1	10
					1		1		1
	7				9		108	4	134
	3				1		7		18
								1	1
								2	2
1	70				53	3	192	36	439
	5				5		12	4	28
								1	1
									1
									1
1	219		29	3	542	7	1,439	258	3,441

ACCIDENTS TO PERSONS OCCURRING
 A. ACCIDENTS RESULTING FROM MOVEMENTS
Classes

NAME OF ROAD.	Railway									
	Trainmen.		Switch tenders etc.		Station men.		Shop men.		Track men.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Ashland, Odanah & Marengo.....		2								
Chicago & North Western.....	7	587		1		4		2	1	10
Chicago, Burlington & Quincy.....	1	12	1				1			1
Chicago, Milwaukee & St. Paul.....	6	154	1	103		5	2	2		2
Chicago, St. Paul, Mpls. & Omaha..	2	90				1			3	19
Duluth, South Shore & Atlantic.....										
Dunbar & Wausaukee.....										
Elgin, Joliet & Eastern.....										
Great Northern.....	3	19		1					1	1
Green Bay & Western.....										
Illinois Central.....		7								
La Crosse & Southeastern.....	1	1								
Lake Superior Terminal & Transfer		2								
Mineral Point & Northern.....		1								
Minneapolis, St. Paul & S. S. Marie.	7	148							1	4
Northern Pacific.....		14								
Robbins Railroad Co.....		1								
Stanley, Merrill & Phillips.....										
Wisconsin & Michigan.....		1								
Wisconsin & Northern.....										
Wisconsin Northwestern.....		1								
Total.....	27	1049	2	105		10	3	4	6	37

IN WISCONSIN, 1912—Continued.
OF TRAINS, LOCOMOTIVES, OR CARS—Concluded,
of Persons.

Employees.						Passen- gers.	Postal clerks, etc.	Other persons.						Total A.			
Tele- graph em- ployes.		Other em- ployes.		Total.				Tres- pass- ing.		Not tres- passing.		Total.					
Killed.	Injured.	Killed.	Injured.	Killed.	Injured.			Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		
.....	2	22	10	626	.....	99	1	31	52	37	23	76	75	113	86	869
.....	1	1	4	14	.....	1	.....	.....	3	2	1	1	4	3	8	18
.....	5	26	14	292	.....	204	.....	.....	49	58	19	96	68	154	83	650
.....	1	5	120	.....	1	.....	1	14	12	8	9	22	21	28	154
.....	1	.....	.....	.....	1	.....	1	.....
.....	2	4	23	.....	.....	.....	.....	.....	2	.....	1	.....	1	3	26
.....	7	.....	2	.....	.....	.....	1	.....	1	.....	2	.....	11
.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
.....	2	2	.....	.....	.....	.....	2	.....	.....	.....	2	.....	2	2
.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	2	4	10	156	.....	43	.....	4	15	27	8	17	23	44	33	247
.....	14	.....	2	.....	.....	4	.....	.....	.....	4	.....	4	16
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	1
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
.....	10	56	48	1261	3	363	1	36	140	139	59	203	199	342	251	2,002

ACCIDENTS TO PERSONS OCCURRING
B. ACCIDENTS FROM CAUSES OTHER THAN

NAME OF ROAD.	Classes of									
	Railway employees.									
	Stationmen.		Shopmen.		Trackmen.		Other employes.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Ashland, Odanah & M.....		73		164	1	141		105	1	483
Chicago & North Western.....		1		45		56	1	17	1	119
Chicago, Bur. & Quincy.....		50	1	198	1	92		35	2	375
Chicago, Milw. & St. Paul.....		6		44		29		26		105
Duluth, S. S. & Atlantic.....		1				8		1		10
Dunbar & Wausaukee.....						1				1
Elgin, Joliet & Eastern.....										
Great Northern.....						108				108
Green Bay & Western.....										
Illinois Central.....		2				5				7
LaCrosse & Southeastern.....										
L. Superior Term. & Tr.....										
Mineral Pt. & Northern.....										
Mpls., St. P. & S. S. M.....			2	69	1	59		64	3	192
Northern Pacific.....				1		3		8		12
Robbins Railroad Co.....										
Stanley, Merrill & Philips.....										
Wisconsin & Michigan.....										
Wisconsin & Northern.....										
Wisconsin Northwestern.....										
Total.....		133	3	521	3	502	1	256	7	1,412

IN WISCONSIN, 1912—Concluded.
 MOVEMENT OF TRAINS, ETC—Concluded.

<i>Persons—Concluded,</i>								Total A and B.	
Passengers.		Postal clerks, etc.		Other persons.		Total B.		Killed.	Injured.
Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		
	6				18	1	507	87	2
						1	119	9	1,376
						2	375	85	137
	3						108	28	1,025
							10	1	262
							1		10
							108	4	1
									134
							7		18
								1	1
								2	2
									1
						3	192	36	439
							12	4	28
								1	1
									1
									1
	9				18	7	1,439	258	3,441

CHARACTERISTICS OF RAILROADS.

NAME OF ROAD.	IRON AND STEEL BRIDGES.			
	Num-ber.	Aggregate length. Feet.	Minimum length. Feet.	Maximum length. Feet.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	666	51,875	6	1,798
Chicago, Burlington & Quincy.....	17	6,228	16	1,448
Chicago, Milwaukee & St. Paul.....	308	33,427	8	986
Chicago, St. Paul, Minn'polis & Omaha.....	241	16,152	14	880
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....	10	508	16	133
Elgin, Joliet & Eastern.....				
Great Northern.....	10	3,972	21	1,632
Illinois Central.....	14	1,630	17	250
Minneapolis, St. Paul & S. Ste. Marie..	86	4,105	14	1,957
Northern Pacific.....	7	1,525	40	964
Wisconsin & Michigan.....	2	735	90	372
Total.....	1,361	120,157	6	1,957
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	2	88	40	48
Ashland, Odanah & Marengo.....				
Bayfield Transfer.....				
Big Falls Ry. Co.....				
Chippewa Valley & Northern.....				
Green Bay & Western.....	13	2,092	30	624
Hazelhurst & Southeastern.....				
Iola & Northern.....				
Kewaunee, Green Bay & Western.....	5	270	30	90
La Crosse & Southeastern.....				
Lake Superior Terminal & Transfer.....				
Marquette, Tomahawk & Western.....				
Mattoon R'y Co.....				
Mineral Point & Northern.....	5	469	60	123
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....				
Tomahawk & Eastern.....				
Wisconsin & Northern.....	4	225	30	75
Wisconsin Northwestern.....	1	55		
Total.....	30	3,199	30	624
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	1,997	155,999	3	2,743
Chicago, Burlington & Quincy.....	1,077	132,375	8	2,610
Chicago, Milwaukee & St. Paul.....	1,441	156,786	8	2,633
Chicago, St. Paul, Minn'polis & Omaha.....	348	25,678	14	1,321
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....	47	2,796	16	227
Elgin, Joliet & Eastern.....	62	6,591	14	1,347
Great Northern.....	326	68,819	18	1,760
Illinois Central.....	532	81,063	14	4,128
Minneapolis, St. Paul & S. Ste. Marie..	123	23,442	14	2,682
Northern Pacific.....	552	96,247	15	4,769
Wisconsin & Michigan.....	6	1,197	50	372
Total.....	6,511	750,993	3	4,769

¹ Concrete.

YEAR ENDING JUNE 30, 1912.

STONE BRIDGES.				WOODEN BRIDGES.			
Number.	Aggregate length. Feet.	Minimum length. Feet.	Maximum length. Feet.	Number.	Aggregate length. Feet.	Minimum length. Feet.	Maximum length. Feet.
8	476	15	250	131	8,036	4	576
15	2,646	20	540	15	1,389	48	228
155	9,262	13	360	19	1,897	49	240
61	3,744	20	213				
				5	368	28	150
23	196	5	28	131	22,107	15	1,078
				2	570	110	200
262	16,324	5	540	303	34,367	4	1,078
				7	682	46	240
				2	300	125	175
				97	3,118	28	430
				1	277		
				5	437	60	120
				4	282	32	75
				65	4,494	8	325
				4	516	29	213
				2	202	42	160
				3	110	25	45
				190	10,418	8	430
21	982	8	250	321	19,607	2	576
244	20,078	6	775	35	7,867	55	995
375	27,122	12	635	40	5,005	48	750
258	12,743	8	400	26	2,402	30	240
				3	56	16	24
				14	988	16	128
93	4,562	12	767				
1	2,031			146	23,086	44	1,395
729	12,174	2	576				
2	50	20	20	699	102,227	12	1,680
				101	15,316	30	976
1,723	79,742	2	775	1,385	176,554	2	1,680

CHARACTERISTICS OF RAILROADS.

NAME OF ROAD.	COMBINATION BRIDGES.			
	Number.	Aggregate length. Feet.	Minimum length. Feet.	Maximum length. Feet.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....				
Chicago, Burlington & Quincy.....				
Chicago, Milwaukee & St. Paul.....				
Chicago, St. Paul, Minneapolis & Omaha.....				
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....				
Great Northern.....				
Illinois Central.....				
Minneapolis, St. Paul & S. Ste. Marie... 6	9,944	170	1,038	
Northern Pacific.....				
Wisconsin & Michigan.....				
Total.....	6	9,944	170	1,038
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....	1	1,463	1,463	1,463
Ashland, Odanah & Marengo.....				
Bayfield Transfer.....				
Big Falls Ry. Co.....				
Chippewa Valley & Northern.....				
Green Bay & Western.....				
Hazelhurst & Southeastern.....				
Iola & Northern.....				
Kewaunee, Green Bay & Western..... 1	1,700	1,700	1,700	
LaCrosse & Southeastern.....				
Lake Superior Terminal & Transfer... 1	567	567	567	
Marquette, Tomahawk & Western.....				
Mattoon Ry. Co.....				
Mineral Point & Northern.....				
Northwestern Coal Ry. Co.....				
Stanley, Merrill & Phillips.....				
Tomahawk & Eastern.....				
Wisconsin & Northern..... 2	84	42	42	
Wisconsin & Northwestern.....				
Total.....	5	3,814	42	1,700
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western..... 2	342	93	249	
Chicago, Burlington & Quincy..... 1	128	128	128	
Chicago, Milwaukee & St. Paul.....				
Chicago, St. Paul, Minneapolis & Omaha.....				
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....				
Great Northern..... 11	185			
Illinois Central..... 1	107	107	107	
Minneapolis, St. Paul & S. Ste. Marie ² .. 39	27,369	47	1,038	
Northern Pacific..... 13	3,044	82	404	
Wisconsin & Michigan.....				
Total.....	57	31,175	47	1,038

¹Steel highway.

1912—Continued.

TOTAL BRIDGES.				TRESTLES.			
Num-ber.	Aggregate length. Feet.	Minimum length. Feet.	Maximum length. Feet.	Num-ber.	Aggregate length. Feet.	Minimum length. Feet.	Maximum length. Feet.
805	60,387	4	1,798	1,466	122,334	6	1,652
32	8,874	16	1,448	200	18,560	8	1,260
478	44,078	8	986	1,380	100,361	7	1,362
321	21,793	14	880	641	47,756	5	2,181
15	876	16	150	32	7,629	16	1,196
10	3,972	21	1,632	9	4,038	16	1,445
37	1,826	5	250	179	14,343	13	383
223	36,156	14	1,957	612	61,663	10	1,707
9	2,095	40	964	30	7,340	13	2,492
2	735	90	372	11	997	30	350
1,932	180,792	4	1,957	4,560	385,021	5	2,492
10	2,233	40	1,463	27	1,485	24	270
				2	1,235	610	625
2	300	125	175	4	300	30	100
110	5,210	28	624				
1	277	277	277				
5	437	60	120				
10	2,252	30	1,700				
65	4,494	8	325				
5	1,083	29	567	2	80	30	50
5	469	60	123	60	2,672	16	160
				1	75	75	75
2	202	42	160	2	268	79	189
3	110	25	45				
6	309	30	42	12	3,110	52	1,258
1	55	55	55				
225	17,431	8	1,700	110	9,225	16	1,258
2,341	176,930	2	2,743	7,520	542,909	6	2,606
1,357	160,448	6	2,610	6,206	459,563	6	1,792
1,856	188,913	68	4,018	5,377	371,454	5	1,392
632	40,823	8	1,321	1,744	96,413		
3	56	16	24				
61	3,784	16	227	243	26,013	16	1,196
155	11,153	12	1,347	39	3,241	14	453
474	94,121	18	1,760	4,169	520,702	8	15,016
1,262	93,344	2	4,128	5,330	537,348	6	3,332
863	153,088	12	2,682				
666	114,607	15	4,769	2,674	401,924	4	11,729
6	1,197	50	372	29	2,599	30	592
9,676	1,038,464	2	4,769	33,331	2,962,166	4	15,016

*Trestles for entire system not reported.

CHARACTERISTICS OF

NAME OF ROAD.	TUN		
	Num-ber.	Aggregate length. Feet.	Minimum length. Feet.
A. WISCONSIN.			
<i>a. Interstate Roads.</i>			
Chicago & North Western.....	5	8,742	354
Chicago, Burlington & Quincy.....	15	22,964	
Chicago, Milwaukee & St. Paul.....	1	872	872
Chicago, St. Paul, Minneapolis & Omaha.....			
Chicago, Harvard & Geneva Lake.....			
Duluth, South Shore & Atlantic.....			
Elgin, Joliet & Eastern.....			
Great Northern.....			
Illinois Central.....	1	1,214	1,214
Minneapolis, St. Paul & Sault Ste. Marie.....			
Northern Pacific.....			
Wisconsin & Michigan.....			
Total.....	12	13,792	354
<i>b. Intrastate Roads.</i>			
Ahnapee & Western.....			
Ashland, Odanah & Marengo.....			
Bayfield Transfer.....			
Big Falls Ry. Co.....			
Chippewa Valley & Northern.....			
Green Bay & Western.....			
Hazelhurst & Southeastern.....			
Iola & Northern.....			
Kewaunee, Green Bay & Western.....			
La Crosse & Southeastern.....			
Lake Superior Terminal & Transfer.....			
Marinette, Tomahawk & Western.....			
Mattoon R'y Co.....			
Mineral Point & Northern.....			
Northwestern Coal R'y Co.....			
Stanley, Merrill & Phillips.....			
Tomahawk & Eastern.....			
Wisconsin & Northern.....			
Wisconsin Northwestern.....			
B. ENTIRE SYSTEM.			
<i>Interstate Roads.</i>			
Chicago & North Western.....	6	9,613	354
Chicago, Burlington & Quincy.....	5	1,429	130
Chicago, Milwaukee & St. Paul.....	6	3,324	
Chicago, St. Paul, Minneapolis & Omaha.....	1	872	872
Chicago, Harvard & Geneva Lake.....			
Duluth, South Shore & Atlantic.....			
Elgin, Joliet & Eastern.....	385	15,669	13
Great Northern.....	54	58,203	113
Illinois Central.....	8	4,032	258
Minneapolis, St. Paul & Sault Ste. Marie.....	2	2,827	1,280
Northern Pacific.....	46	37,413	62
Wisconsin & Michigan.....			
Total.....	513	133,382	13

¹ 3 pontoons included, trestles included.

² 1,754 feet, length pontoons included.

³ Conduits and

RAILROADS, 1912—Continued.

NELS.		OVERHEAD HIGHWAY CROSSINGS.			
Maximum length. Feet.	Height of lowest above surface of rail. Feet.	Bridges.		Conduits.	
		Number.	Height of lowest above surface of rail. Feet.	Number.	Height of lowest above surface of rail. Feet.
3,822	17	91	16		
872	19	22 11	18 17		
1,214	19	34 1 8 3	21 23 21 21		
3,822	17	140	16		
3,822	17	144	15		
694	20	62	16	2	19
872	19	61 36	15 17		
390	19	3	18		
13,813	19	2	22		
1,214	16	3179	17		
1,547	16	69	15		
9,834	18	16	216		
9,834	18	47	19		
13,813	16	619	15	2	19

⁴ Includes C. F. pipe 268, aggregate length 11,520; Vit. pipe 40, aggregate length 1,579; wooden box 77, aggregate length 2,570.

CHARACTERISTICS OF

NAME OF ROAD.	OVERHEAD HIGHWAY CROSSINGS—Concluded.			
	Trestles.		Total.	
	No.	Height of lowest above surface of rail. Feet.	No.	Height of lowest above surface of rail. Feet.
A. WISCONSIN.				
<i>a. Interstate Roads.</i>				
Chicago & North Western.....	20	18	111	16
Chicago, Burlington & Quincy.....				
Chicago, Milwaukee & St. Paul.....	34	16	56	34
Chicago, St. Paul, Minneapolis & Omaha.....			11	17
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....				
Elgin, Joliet & Eastern.....				
Great Northern.....			4	21
Illinois Central.....	5	21	6	21
Minneapolis, St. Paul & Sault Ste. Marie.....	8	21	16	21
Northern Pacific.....			3	21
Wisconsin & Michigan.....				
Total.....	67	16	207	16
<i>b. Intrastate Roads.</i>				
Ahnapee & Western.....				
Ashland, Odanah & Marengo.....				
Bayfield Transfer.....				
Big Falls Rv. Co.....				
Chippewa Valley & Northern.....				
Green Bay & Western.....				
Hazelhurst & Southeastern.....				
Iola & Northern.....				
Kewaunee, Green Bay & Western.....				
La Crosse & Southeastern.....				
Lake Superior Terminal & Transfer.....				
Marinette, Tomahawk & Western.....				
Mattoon R'y Co.....				
Mineral Point & Northern.....				
Northwestern Coal R'y Co.....				
Stanley, Merrill & Phillips.....				
Tomahawk & Eastern.....				
Wisconsin & Northern.....				
Wisconsin Northwestern.....				
Total.....				
B. ENTIRE SYSTEM.				
<i>Interstate Roads.</i>				
Chicago & North Western.....	90	18	234	15
Chicago, Burlington & Quincy.....	218	19	282	16
Chicago, Milwaukee & St. Paul.....	112	15	173	30
Chicago, St. Paul, Minneapolis & Omaha.....			36	17
Chicago, Harvard & Geneva Lake.....				
Duluth, South Shore & Atlantic.....			3	18
Elgin, Joliet & Eastern.....	2	20	4	42
Great Northern.....			179	17
Illinois Central.....	183	17	252	15
Minneapolis, St. Paul & Sault Ste. Marie....	22	17	38	17
Northern Pacific.....	45	15	92	15
Wisconsin & Michigan.....	1	22	1	22
Total.....	673	15	1,294	15

¹No details given. Includes conduits and trestles.

RAILROADS, 1912—Continued.

OVERHEAD RAILROAD CROSSINGS.

Bridges.		Conduits.		Trestles.		Total.	
No.	Height of lowest above surface of rail. Feet.	No.	Height of lowest above surface of rail. Feet.	No.	Height of lowest above surface of rail. Feet.	No.	Height of lowest above surface of rail. Feet.
12	13					12	13
1	22					1	22
10	18			2	22	12	18
2	17					2	17
.....							
2	21					2	21
.....							
1	19					1	19
5	17			6	20	11	17
1	22			2	15	3	15
1	22					1	22
35	13			10	15	45	13
.....							
				1		1	
.....							
				1	19	1	19
				1	24	1	24
.....							
				1		1	
.....							
				4	19	4	19
.....							
74	13			9	12	83	12
44	18	2	18	8	18	54	18
36	16			6	20	42	16
7	17					7	17
.....							
12	21					12	21
6	19					6	19
15	19					15	19
21	17			5	17	26	17
10	17			8	19	18	17
.....							
25	18			13	15	38	15
3	22					3	22
253	13	2	18	49	12	304	12

CHARACTERISTICS OF
TELE

NAME OF ROAD.	A. Owned by company named					
	Miles of line.	Miles of wire.	Operated by company named in margin.		Operated jointly by company named in margin and another company.	
			Miles of line.	Miles of wire.	Miles of line.	Miles of wire.
A. WISCONSIN.						
<i>Interstate Roads.</i>						
Chicago & North Western...	55.04	55.04			55.04	55.04
Chi., Burlington & Quincy...	226.17	894.99	226.17	894.99		
Chi., Milwaukee & St. Paul...	139.22	6,883.23				
Chi., St. P., Mpls. & Omaha...						
Chi., Harvard & Geneva La.						
Duluth, So. Shore & Atlantic	107.80	161.70			107.80	161.70
Elgin, Joliet & Eastern						
Great Northern	37.47	389.42	37.47	278.04		111.38
Illinois Central						
Mpls., St. Paul & S. S. Marie.	481.00	1,265.00	481.00	1,265.00		
Northern Pacific	2132.65	292.30	34.00	189.90	98.65	86.30
Wisconsin & Michigan						
Total	1,179.35	9,941.68	778.64	2,627.93	261.49	414.42
<i>b. Intrastate Roads.</i>						
Ahnapee & Western	134.00	134.00			34.00	34.00
Ashland, Odanah & Marengo	16.00	16.00	16.00	16.00		
Bayfield Transfer						
Big Falls Ry. Co.						
Chippewa Valley & North	15.00	15.00	15.00	15.00		
Green Bay & Western	260.00	260.00			260.00	260.00
Hazelhurst & Southeastern	11.00	11.00	11.00	11.00		
Iola & Northern						
Kewaunee, Gr. Bay & Wes.	132.91	132.91			32.91	32.91
La Crosse & Southeastern	35.81	71.62	35.81	71.62		
Lake Sup. Term. & Transf.						
Marinette, Tomahawk & W.						
Mattoon R'y Co.						
Mineral Point & Northern	30.60	30.60	30.60	30.60		
Northwestern Coal R'y Co.						
Stanley, Merrill & Phillips	35.91	71.82	35.91	71.82		
Tomahawk & Eastern						
Wisconsin & Northern	39.10	59.10	39.10	59.10		
Wisconsin Northwestern	15.30	15.30	15.30	15.30		
Total	525.63	617.35	198.72	290.44	326.91	326.91
B. ENTIRE SYSTEM.						
<i>Interstate Roads.</i>						
Chicago & North Western...	55.04	86.24		31.20	55.04	55.04
Chi., Burlington & Quincy...	8,382.93	46,885.64	8,382.93	46,885.64		
Chi., Milwaukee & St. Paul...	668.93	3,297.30				
Chi., St. P., Mpls. & Omaha...						
Chi., Harvard & Geneva Lk.						
Duluth, So. Shore & Atlantic	527.60	1,522.90			527.60	1,522.90
Elgin, Joliet & Eastern	185.71	502.77	185.71	502.77		
Great Northern	6,979.18	37,245.66	6,979.18	24,694.97		3,148.92
Illinois Central	1,094.07	9,613.01	102.18	8,921.05	8.00	173.55
Mpls., St. Paul & S. S. Marie.	2,723.00	11,457.00	2,723.00	11,457.00		
Northern Pacific	5,827.24	430,714.53	881.12	25,027.33	4,946.12	1,939.45
Wisconsin & Michigan						
Total	26,447.70	141,325.05	19,254.12	117,519.96	5,536.76	6,839.86

¹ Owned jointly with Western Union Telegraph Company.² Includes 98.65 miles owned jointly with Western Union Telegraph Company.

CONTRACTS AND

Names of Companies with which Railroads operating in Wisconsin have made reported to the Railroad Commission

NAME OF COMPANY.	Express companies.	Mails.	Sleeping, dining, or parlor car companies.
Ahnapee & Western.....	Wells Fargo	U. S. Mail.....	
Cazenovia & Sauk City.....			
Chicago & North Western.....			
Chicago, Burlington Quincy.....			
Chicago, Milwaukee & St. Paul.....	Wells Fargo	U. S. Mail.....	
Chicago, St. P., Minneapolis & Omaha.....		U. S. Mail.....	
Duluth, South Shore & Atlantic.....		U. S. Mail.....	Pullman.....
Dunbar & Wausaukee.....			
Fairchild & Northeastern.....		U. S. Mail.....	
Great Northern.....			
Green Bay & Western.....	Wells Fargo	U. S. Mail.....	
Hillsboro & Northeastern.....		U. S. Mail.....	
Illinois Central.....	American Exp'ss	U. S. Mail.....	
Iola & Northern.....	Wells Fargo	U. S. Mail.....	
Kewaunee, Green Bay & Western.....	Wells Fargo	U. S. Mail.....	
Minneapolis, St. Paul & S. Ste. Marie.....	Western Express	U. S. Mail.....	Pullman
Northwestern Coal Ry.....			
Stanley, Merrill & Phillips.....		U. S. Mail.....	
Wisconsin & Michigan.....	American Exp'ss	U. S. Mail.....	
Wisconsin & Northern.....		U. S. Mail.....	

AGREEMENTS, 1912.

Contracts, Agreements, or Arrangements becoming effective during the year, as for the year ending June 30, 1912.

Other railroad, freight, or transportation companies	Telegraph and telephone companies.	Other contracts.
C. & N. W. Ry. terminal facilities at LaValle, Wis.		
Ordinary arrangements for use of joint facilities, switching etc.		
Giving Baltimore & Ohio facilities for handling freight at 19th st, Chicago. Same sort of privileges given Lake Shore & Michigan Southern.		
Ordinary arrangements for use of joint facilities, switching etc.		
C. M. & St. P. traffic agreement		
Canadian Northern Pacific given trackage rights from Davis Spur, D. C. to Port Kells. G. N. given trackage rights by Duluth, Missabee & Northern over latter's Pillsbury spur, also exchange of trackage rights. Trackage rights Canadian Northern and Grand Trunk Pacific to Midland Ry. Co., owned jointly by G. N. and Northern Pacific.		
C. & N. W. joint traffic agreements. Miscellaneous traffic agreements.		
Tracks assigned for joint use to G. N., N. P., C. M. St. P. & O., M. St. P. & S. S. M., D. S. S. & A.		
Interchange of freight business agreement with C. M. & St. P., M. St. P. & S. S. M., and Lake Michigan Car Ferry Transportation Co.	Western Union.....	

DIRECTORS AND OFFICERS OF RAILWAYS OPERATING IN WISCONSIN.

Name of Company.	Post-office address of general office.	Directors.
Ahnapee & Western..... Ashland, Odanah & Marengo..... Bayfield Transfer..... Big Falls Ry. Co..... Chicago, Milwaukee & St. Paul.....	Green Bay, Wis..... Odanah, Wis..... Bayfield, Wis..... Oshkosh, Wis..... Chicago, Ill.....	S. S. Palmer, Chas. W. Cox, Wm. J. Wilson, J. A. Jordan, J. C. Thurman, L. K. Baker, Francis Beidler, F. J. Darke, E. B. Hill, Geo. F. Merrill, Geo. H. Noyes, J. M. Smith, H. C. Hale, A. W. Fairchild, B. K. Miller, J. H. Wall, T. R. Wall, O. H. Thomas, H. W. Anthes, H. P. Severson, Walter P. Bliss, A. J. Earling, Charles W. Harkness, D. G. Geddes, Roswell Miller, William Rockefeller, John V. Stewart, J. Ogden Armour, Stanley Field, L. J. Pettit, Percy A. Rockefeller, John D. Ryan.
Chicago & North Western	Chicago, Ill.....	W. K. Vanderbilt, F. W. Vanderbilt, Byron L. Smith, Cyrus H. McCormick, Chauncy Keep, Chauncy M. Depew, James C. Fargo, H. C. Frick, David P. Kimball, Marvin Hughitt, W. K. Vanderbilt, Jr., James Stillman, Oliver Ames, Zenas Craue, Wm. A. Gardner, John V. Farwell, Homer A. Miller.
Chicago, St. P., Mpls. & Omaha.....	Chicago, Ill.....	Marvin Hughitt, Byron L. Smith, Chauncy M. Depew, David P. Kimball, Oliver Ames, Zenas Crane, W. K. Vanderbilt, Jr., S. A. Lynde, Wm. K. Vanderbilt, F. W. Vanderbilt, W. A. Gardner, Jas. T. Clark, J. D. Caldwell.
Chicago, Burlington & Quincy.....	Chicago, Ill.....	Geo. F. Baker, Geo. C. Clark, Wm. P. Clough, Geo. B. Harris, Jas. J. Hill, Darius Miller, Norman B. Ream, Edw. T. Nichols, Samuel Thorne, James N. Hill, Howard Elliott.
Chicago, Lake Shore & Eastern.....	Chicago, Ill.....	E. H. Gary, J. A. Farrell, F. W. Sutton, A. F. Banks, K. K. Knapp, W. K. Allen, S. M. Rogers.
Chicago, Harvard & Geneva Lake..	Walworth, Wis.....	L. S. Owsley, L. C. Church, H. T. Windsor, G. M. Mayer, C. E. Yerkes.
Chicago & Lake Superior..... Chippewa Valley & Northern..... Drummond & Southwestern..... Duluth, South Shore & Atlantic....	Cambridge, Wis..... Grand Rapids, Wis..... Drummond, Wis..... Marquette, Mich.....	B. L. Delamater, Mrs. Frank Robinson, S. C. Delamater, V. L. Delamater, Robe Dow, D. J. Arpin, A. L. Arpin, E. P. Arpin, J. Z. Arpin, R. E. Gilchrist, F. H. Drummond, John S. Owen, A. J. Rust, A. R. Owen, W. A. Bog, Wm. F. Fitch, Geo. H. Church, Richard B. Angus, John W. Sterling, R. Y. Hebdon, Jas. O. Bloss, Allen Cameron, A. B. Eldredge, J. G. Ogden, W. W. Walker, J. A. Culbertson, J. W. Wells, A. C. Wells, Chas. H. Law, C. B. Culbertson.
Dunbar & Wausaukee.....	Menominee, Mich.....	
Elgin, Joliet & Eastern.....	Chicago, Ill.....	R. Trimble, A. F. Banks, W. K. Allen, E. H. Gary, S. M. Rogers, F. W. Sutton, R. W. Campbell, W. J. Filbert, K. K. Knapp, W. L. Louis, G. A. Farrell.
Fairchild & Northeastern..... Great Northern.....	Fairchild, Wis..... St. Paul, Minn.....	N. C. Foster, E. M. Foster, G. A. Foster, E. J. Foster, W. Foster, James J. Hill, Frederick Weyerhaeuser, Louis W. Hill, C. R. Gray, W. H. Denwoody, R. A. Jackson, William B. Dean, Samuel Thorne, E. T. Nichols.
Green Bay & Western..... Hazelhurst & Southeastern.....	Green Bay, Wis..... Arbor Vitae, Wis.....	S. S. Palmer, C. W. Cox, C. L. Blair, Wm. J. Wilson, J. A. Jordan, C. C. Yawkey, Walter Alexander, W. H. Bissell, W. H. Yawkey, F. M. White.

Hillsboro & Northeastern.....	Hillsboro, Wis.....	W. H. H. Cash, F. I. Pinch, E. Hammer, G. Weinstein, J. A. Cash.
Illinois Central.....	Chicago, Ill.....	Charles, S. Deneen, Charles A. Peabody, Alexander G. Hackstaff, J. Ogden Armour, Walter Luttgen, John W. Auchincloss, Robert Walton Goelet, Chas. H. Markham, Cornelius Vanderbilt, John G. Shedd, H. W. De Forest, Robert S. Lovett.
Iola & Northern.....	Green Bay, Wis.....	S. S. Palmer, Chas. W. Cox, Wm. J. Wilson, J. A. Jordan, J. C. Thurman.
Kewaunee Gr. Bay & Western.....	Green Bay, Wis.....	S. S. Palmer, Chas. W. Cox, C. L. Blair, J. A. Jordan, Wm. J. Wilson.
La Crosse & Southeastern.....	La Crosse, Wis.....	J. B. Taylor, P. Valier, A. S. Cargill, J. H. McMillan, F. P. Hixon.
Laona & Northern.....	Marshfield, Wis.....	R. Connor, W. D. Connor, R. L. Kraus, W. W. McCulloch, H. R. Messer.
Lake Superior Terminal & Transfer.....	St. Paul, Minn.....	D. M. Philbin, J. D. Armstrong, G. T. Slade, A. W. Trenholm, W. W. Walker, C. L. Nichols.
Marathon Co. Ry. Co.....	Marshfield, Wis.....	R. Connor, W. D. Connor, W. W. McCulloch, Herman Langer, J. C. Kieffer.
Marquette, Tomahawk & Western.....	Tomahawk, Wis.....	Edward Bradley, R. B. Tweedy, C. H. Grundy, F. P. Werner, C. C. Uber.
Mattoon Ry. Co.....	Mattoon, Wis.....	G. Huette, F. Karste, E. E. Pantzer, C. Quimby, Geo J. Posson.
Northern Pacific.....	St. Paul, Minn.....	William P. Clough, Amos Tuck French, James N. Hill, Payne Whitney, Howard Elliott, Lewis Case Ledyard, J. Pierpont Morgan, Jr., Charles Steele, George F. Baker, Wm. S. Tod, Grant B. Schley, William Sloan, T. W. Lawson, Arthur Curtiss James.
Mineral Point & Northern.....	Chicago, Ill.....	W. A. Jones, R. M. Kennedy, J. H. Janaway, Jr., Walter D. Main, E. M. Harter.
Minneapolis, St. P., & Sault Ste. M.....	Minneapolis, Minn.....	Horace Lowry, Edmund Pennington, W. D. Washburn, W. L. Martin, G. R. Newell, C. H. Pettit, Alfred H. Bright, E. A. Young, T. G. Shaughnessy, R. B. Angus, I. G. Ogden.
Northwestern Coal Ry. Co.....	Superior, Wis.....	W. K. Field, W. W. Broughton, M. H. Taylor, P. S. Ellwell, H. H. Grace.
Oshkosh Transportation Co.....	Milwaukee, Wis.....	Howard Morris, Charles M. Morris, S. C. Hauxhurst.
Roddis Lbr. & Veneer Co., Log Ry..	Marshfield, Wis.....	W. H. Roddis, H. Roddis, S. L. Roddis.
Robbins Ry. Co.....	Rhineland, Wis.....	F. S. Robbins, Hattie L. McIndoe, R. D. Caldwell, Emma B. Robbins, Chas. S. Chapman Estate.
Stanley, Merrill & Phillips.....	Eau Claire, Wis.....	J. T. Barber, S. G. Moon, C. D. Moon, F. H. L. Cotten, J. B. Galbraith.
Superior & Southeastern.....	Grand View, Wis.....	John E. Glover, Geo. C. Glover, L. E. Glover, L. A. Baker, Jno. H. Savage.
Tomahawk & Eastern.....	Tomahawk, Wis.....	Edw. Bradley, F. P. Werner, R. B. Tweedy, C. H. Grundy, C. C. Uber.
Whitcomb & Morris.....	Morris, Wis.....	J. H. Jenkins, D. C. Buckstaff, Chas. Barber, H. J. Sprague.
Winona Bridge Ry. Co.....	Chicago, Ill.....	J. A. Jordan, Chas. W. Cox, W. W. Baldwin, T. S. Howland, C. I. Sturgis.
Wisconsin Central.....	Minneapolis, Minn.....	E. Pennington, J. S. Pillsbury, C. E. Wales, A. H. Bright, W. L. Martin, C. T. Jaffray, L. W. Baldwin, S. G. Courteen, M. H. Ballou, Wm. Irvine, W. F. Fitch.
Wisconsin & Michigan.....	Peshtigo, Wis.....	J. N. Falthorn, L. E. Harding, E. Marsch, N. Marsch, J. Marsch.
Wisconsin & Northern.....	Oshkosh, Wis.....	Chas. R. Smith, M. J. Wallrich, H. F. Whitcomb, J. S. Jones, W. M. Bray, M. D. Keith, S. A. Cook.
Milwaukee, Bay View & Chicago... Waupaca-Green Bay.....	Chicago, Ill..... Waupaca, Wis.....	E. H. Gary, A. F. Banks, R. W. Campbell, K. K. Knapp, W. K. Allen, A. G. Nelson, A. M. Penny, John Gordon, A. Johnson, J. E. Christy, Nate Cohn, W. Dresser.
Wisconsin Northwestern.....	Wausauke, Wis.....	J. W. Wells, A. C. Wells, W. E. Hallenbeck.

DIRECTORS AND OFFICERS OF
General

NAME OF COMPANY.	Presid-nt.	First Vice President.
Ahnapee & Western.....	S. S. Palmer.....	J. A. Jordan.....
Ashland, Odanah & Marengo.....	L. K. Baker.....	Frances Beidler.....
Bayfield Transfer.....	George H. Noyes.....	J. M. Smith.....
Big Falls Ry. Co.....	J. H. Wall.....	O. H. Thomas.....
Chicago, Milwaukee & St. Paul ¹	A. J. Earling.....	E. W. McKenna.....
Chicago & North Western ²	W. A. Gardner.....	S. A. Lynde.....
Chicago, St. Paul, Minneapolis & Omaha ³	W. A. Gardner.....	S. A. Lynde.....
Chicago, Burlington & Quincy ⁴	D. Miller.....	C. C. Burnham.....
Chicago, Lake Shore & Eastern.....	A. F. Banks.....	S. M. Rogers.....
Chicago, Harvard & Geneva Lake.....	L. S. Owsley.....	H. T. Windsor.....
Chicago & Lake Superior.....	B. L. Delamater.....	.....
Chippewa Valley & Northern.....	D. J. Arpin.....	J. Z. Arpin.....
Duluth, South Shore & Atlantic.....	A. B. Eldredge.....	W. W. Walker.....
Dunbar & Wausaukee.....	J. A. Culbertson.....	J. W. Wells.....
Elgin, Joliet & Eastern.....	A. F. Banks.....	S. M. Rogers.....
Fairchild & Northeastern.....	N. C. Foster.....	W. Foster.....
Great Northern ⁵	C. R. Gray.....	R. A. Jackson.....
Green Bay & Western.....	S. S. Palmer.....	J. A. Jordan.....
Hazellhurst & Southeastern.....	C. C. Yawkey.....	Wal. Alexander.....
Hillsboro & Northeastern.....	E. Hammer.....	F. I. Pinch.....
Illinois Central.....	C. H. Merckham.....	F. B. Bowes.....
Iola & Northern.....	S. S. Palmer.....	J. A. Jordan.....
Kewaunee, Green Bay & Western.....	S. S. Palmer.....	J. A. Jordan.....
La Crosse & Southeastern.....	John H. McMillan ⁶	A. S. Cargill.....
Lake Superior Terminal & Transfer.....	D. M. Philbin.....	A. W. Trenholm.....
Laona & Northern.....	W. D. Connor.....	R. Connor.....
Marathon County Ry. Co.....	R. Connor.....	Herman Langer.....
Marinette Tomahawk & Western.....	Edward Bradley.....	R. B. Tweedy.....
Mattoon Ry. Co.....	G. Huette.....	.....
Mineral Point & Northern.....	W. A. Jones.....	E. M. Harter.....
Minneapolis, St. Paul & Sault Ste. Marie.....	E. Pennington.....	W. L. Martin.....
Northern Pacific.....	Howard Elliott.....	James N. Hill.....
Northwestern Coal Ry. Co.....	N. K. Field.....	W. W. Broughton.....
Oshkosh Transportation Co.....	Howard Morris.....	.....
Roddis Lumber & Veneer Co. Logging Ry.....	W. H. Roddis.....	.....
Robbins Ry.....	F. S. Robbins.....	Chas. S. Chapman.....
Stanley, Merrill & Phillips.....	S. G. Moon.....	C. D. Moon.....
Superior & Southeastern.....	Jno. E. Glover.....	Geo. C. Glover.....
Tomahawk & Eastern.....	Edward Bradley.....	R. B. Tweedy.....
Whitcomb & Morris.....	J. H. Jenkins.....	D. C. Buckstaff.....
Winona Bridge Ry. Co.....	W. W. Baldwin.....	J. A. Jordan.....
Wisconsin Central.....	E. Pennington.....	A. H. Bright.....
Wisconsin & Michigan.....	.....	Emil Marsch.....
Wisconsin & Northern.....	H. F. Whitcomb.....	C. R. Smith.....
Milwaukee, Bay View & Chicago.....	A. F. Banks.....	S. M. Rogers.....
Waupaca-Green Bay.....	A. G. Nelson.....	John Gordon.....
Wisconsin Northwestern.....	J. W. Wells.....	A. C. Wells.....

¹ Roswell Miller, chairman of the board.² Marvin Hughitt, chairman of the board.

RAILWAYS OPERATING IN WISCONSIN—Continued.

Officers.

Second Vice President.	Third Vice President.	Secretary.	Treasurer.	Chief Engineer.
.....	Chas. W. Cox...	Chas. W. Cox...	
.....	E. B. Hill.....	E. B. Hill.....	
.....	H. C. Hale.....	H. C. Hale.....	
.....	T. R. Wall.....	T. R. Wall.....	
J. H. Hiland...	E. S. Keeley...	E. W. Adams...	F. G. Ranney...	C. F. Loweth.
H. R. McCullo'gh	R. H. Aishton.	J. D. Caldwell.	M. B. VanZandt	E. C. Carter.
J. T. Clark.....	T. A. Polleys...	M. B. VanZandt	C. W. Johnson.
H. E. Bryam....	W. W. Baldwin	T. S. Howland.	T. S. Howland.	T. E. Calvert.
.....	W. K. Allen....	W. K. Allen....	
.....	H. H. Windsor.	G. M. Maher...	
.....	
.....	E. P. Arpin....	V. L. Delamater	
.....	Jas. Clarke....	E. P. Arpin....	
Geo. H. Church.	A. C. Wells....	E. W. Allen....	W. D. Simar.
.....	W. K. Allen....	W. K. Allen....	A. Mortzheimer
.....	
R. I. Farrington	E. T. Nichols.	G. A. Foster...	G. A. Foster...	W. Foster.
.....	L. E. Katzenbach	E. T. Nichols...	A. H. Hogeland
.....	C. W. Cox.....	C. W. Cox.....	
.....	W. H. Bissell..	W. H. Yawkey..	
.....	J. A. Cash.....	J. A. Cash.....	
.....	
A. G. Hackstaff	W. L. Park....	.....	E. T. H. Gibson.	A. S. Baldwin.
.....	C. W. Cox.....	C. W. Cox.....	
.....	C. W. Cox.....	C. W. Cox.....	
.....	J. B. Taylor...	J. B. Taylor...	G. P. Bradish.
.....	C. P. Brown....	H. H. Parkhouse	
.....	
.....	W. W. McCulloch	R. Connor.....	
.....	R. Connor.....	W. W. McCulloch	
.....	F. P. Werner...	R. B. Tweedy...	
.....	C. Quimby....	E. E. Hem'gway	
.....	Walter D. Main	W. D. Main....	
.....	
J. M. Hannaford	Geo. T. Slade.	G. W. Webster.	C. F. Clement..	C. M. Kalk.
F. M. Wallace...	H. H. Grace..	George H. Earl.	C. W. Clark....	W. L. Darling.
.....	T. P. Blackman	J. D. Eaton....	
.....	Chas. M. Morris	Howard Morris.	
.....	H. Roddis.....	H. Roddis.....	
.....	
.....	H. L. McIndo..	F. S. Robbins...	
.....	F. H. L. Cotten	J. T. Barber...	
.....	L. A. Baker....	L. A. Baker....	
.....	F. P. Werner...	R. B. Tweedy...	
.....	H. J. Sprague..	H. J. Sprague..	
.....	
.....	H. W. Weiss....	T. S. Howland..	
W. F. Fitch....	G. W. Webster..	C. F. Clement..	
.....	John Marsch...	C. A. Olin....	P. Strang.
.....	C. H. Hartley..	R. H. Edwards..	Wm. Cambier.
.....	W. K. Allen....	W. K. Allen....	
.....	
.....	Alfred Johnson.	Alfred Johnson.	
.....	W. E. Hallenbeck	W. E. Hallenbeck	

³ Marvin Hughitt, chairman of the board.

⁴ George B. Harris, chairman of the board and H. Holden assistant to president.

⁵ James J. Hill, chairman of the board.

⁶ Chairman of the board.

DIRECTORS AND OFFICERS OF
General

NAME OF COMPANY.	General Solicitor, Attorney or Counsel.	Solicitor, Attorney or Counsel.
Ahnapee & Western.....		
Ashland, Odanah & Marengo.....	G. F. Merrill.....	
Bayfield Transfer.....	G. H. Noyes.....	
Big Falls Ry. Co.....		
Chicago, Milwaukee & St. Paul.....	Burton Hansen.....	
Chicago & North Western.....	Carl C. Wright.....	E. M. Hyzer.....
Chicago, St. P., Mpls. & O.....	J. B. Sheean.....	
Chicago, Burlington & Quincy.....	C. M. Dawes.....	O. M. Spencer.....
Chicago, Lake Shore & Eastern.....		
Chicago, Harvard & Geneva Lake.....		
Chicago & Lake Superior.....		
Chippewa Valley & Northern.....		
Duluth, South Shore & Atlantic.....	A. B. Eldredge.....	A. E. Miller.....
Dunbar & Wausaukee.....	E. C. Eastman.....	
Elgin, Joliet & Eastern.....	K. K. Knapp.....	
Fairchild & Northeastern.....		
Great Northern.....	E. C. Lindley.....	R. A. Jackson.....
Green Bay & Western.....		
Hazelhurst & Southeastern.....		
Hillsboro & Northwestern.....		
Illinois Central.....	Blewitt Lee.....	
Iola & Northern.....		
Kewaunee, Green Bay & Western.....		
La Crosse & Southeastern.....	W. S. Burroughs.....	
Lake Superior Terminal & Transfer.....	J. A. Murphy.....	
Laona & Northern.....		
Marathon County Ry. Co.....		
Marinette, Tomahawk & Western.....		
Mattoon Ry. Co.....		
Mineral Point & Northern.....		
Mpls., St. Paul & S. Ste. Marie.....	H. B. Dike.....	A. H. Bright.....
Northern Pacific.....	F. L. Stetson.....	C. W. Bunn.....
Northwestern Coal Ry. Co.....		
Oshkosh Transportation Co.....		
Roddis Lumber & Veneer Co. Logging Ry.....		
Robbins Ry. Co.....		
Stanley, Merrill & Phillips.....		
Superior & Southeastern.....	J. H. Savage.....	
Tomahawk & Eastern.....		
Whitcomb & Morris.....		
Winona Bridge Ry. Co.....		
Wisconsin Central.....		
Wisconsin & Michigan.....		
Wisconsin & Northern.....	M. J. Wallrich.....	
Milwaukee, Bay View & Chicago.....		
Waupaca-Green Bay.....	I. P. Lord.....	
Wisconsin Northwestern.....		

¹ Traffic manager.² General superintendent of Lake district; W. C. Watrous general superintendent transportation.

RAILWAYS OPERATING IN WISCONSIN—Concluded.

Officers—Concluded.

Comptroller or Auditor.	General Manager.	General Freight Agt. or Freight Traffic Mgr.	Gen'l Passenger Agent or Passenger Traf- fic Manager.	General Superintendent.
J. C. Thurman.. D. J. McMahon..	F. B. Seymour. L. K. Baker... H. C. Hale.....	J. B. Call..... F. J. Darke.....	J. B. Call.....	Ed. Mercier.
W. N. D. Winne.	D. L. Bush.....	E. S. Keeley...	F. A. Miller...	
L. A. Robinson.. L. A. Robinson.. C. I. Sturgis.... F. W. Sutton....	W. D. Cantillon.. A. W. Trenholm F. E. Ward..... H. H. Windsor..	M. Hughitt, Jr. H. W. Pearce... G. H. Crosby....	Alex C. Johnson G. H. McRae... P. S. Eustis....	W. J. Towne. F. R. Pechin. E. S. Koller.
B. L. Delamater. L. E. Knudson... A. E. Delf..... E. G. Woodford. F. W. Sutton....	B. L. Delamater J. Z. Arpin..... W. W. Walker... J. W. Wells.....	L. E. Knudson... S. R. Lewis..... W. L. Louis.....	James Maney..	C. E. Lytle. T. H. Lovell.
C. M. Sherwood. G. R. Martin.... J. C. Thurman.. A. E. Rood..... J. A. Cash.....	N. C. Foster.... J. M. Gruber... F. B. Seymour.. F. M. White.... W. H. H. Cash..	C. M. Sherwood. W. P. Kenney ¹ J. B. Call..... A. E. Rood.....	C. M. Sherwood H. J. Noble.... J. B. Call..... A. E. Rood.....	W. Foster. W. C. Watrous. ²
M. P. Blauvelt.. J. C. Thurman.. J. C. Thurman.. S. J. Lennon.... S. R. Brown....	T. J. Foley, Ass't. F. B. Seymour.. F. B. Seymour.. P. Valier.....	D. W. Longstreet J. B. Call..... J. B. Call..... C. H. Tate.....	S. G. Hatch.... J. B. Call..... J. B. Call..... C. H. Tate.....	R. W. Baxter. P. Valier. C. P. Brown.
.....	W. D. Connor..	.....	.....	J. D. Kissinger. N. F. Goetz. C. H. Grundy.
E. C. McNaugh'n	.....	C. H. Grundy..	C. H. Grundy..	
C. C. Potter....	E. M. Harter..	W. D. Brown....	C. C. Potter....	
C. W. Gardner.. H. A. Gray..... T. P. Blackman..	G. R. Huntington G. A. Goodell... P. S. Elwell.... G. W. Campbell	T. E. Sands.... J. B. Baird.....	W. R. Callaway A. M. Cleland..	E. C. Blanchard.
Robt. L. Caldwell F. H. L. Cotten.	F. S. Robbins...	M. W. Hodge... L. E. Glover... C. H. Grundy..	M. W. Hodge... C. H. Grundy..	R. D. Caldwell. L. F. Easterly. S. Jacobson. C. H. Grundy.
E. C. McNaugh'n	.....	.....	.....	D. Cunningham'm.
Robt. Toombs... M. F. Schuize...	S. N. Harrison. ³ C. H. Hartley..	H. N. Bre'kh'mer	H. N. Br'kh'mer	C. H. Hartley.
F. W. Sutton....	.....	.....	.....
R. F. Whale.... W. E. Hallenbeck	A. M. Penney...	A. M. Penney...	A. M. Penney..	

³ Receiver.

Financial and Operating Statistics of

Italic figures denote credits.

INCOME ACCOUNT, YEAR

NAME OF ROAD.	Total operating revenues.	Total operating expenses.	Net operating revenue.	Non-operating revenue.	Gross income.
A. WISCONSIN.					
<i>Class A.</i>					
Chi. & Milwaukee Elec. R. R. Co.	\$306,407 68	\$224,283 51	\$82,124 17	\$11,889 80	\$94,013 97
Duluth St. Ry. Co.	247,243 86	166,685 74	80,558 12	3,115 10	83,673 22
Milwaukee Elec. Ry. & Light Co.	4,079,084 83	2,869,355 94	1,209,748 89	64,401 20	1,274,150 09
Milwaukee Light, Ht. & Tr. Co.	909,790 06	531,304 42	378,485 64	642,879 74	1,021,365 38
Milwaukee Northern Ry. Co.	315,631 95	178,890 36	136,741 09	954 27	137,695 36
Rockford & Interurban Ry. Co.	72,837 77	48,965 77	23,872 00	212 73	24,084 73
Total	\$5,930,996 15	\$4,019,465 74	\$1,911,530 41	\$723,452 84	\$2,634,983 25
<i>Class B.</i>					
Ashland Lt. P. & St. Ry. Co.	\$19,827 53	\$24,159 70	\$4,332 17		\$4,332 17
Chippewa Valley Ry. Lt. & P. Co.	116,790 70	81,643 78	35,146 92		35,146 92
Eastern Wisconsin Ry. & Lt. Co.	109,161 94	68,704 28	40,457 66	2,943 33	43,400 99
La Crosse City Ry. Co.	153,528 69	116,522 20	37,006 49	2,446 14	39,452 63
Sheboygan Ry. & Elec. Co.	143,925 72	109,013 48	34,912 24		34,912 24
Southern Wisconsin Ry. Co.	212,177 18	138,416 49	73,760 69		73,760 69
Wisconsin Electric Ry. Co.	194,494 26	138,467 88	56,026 38	86 46	56,112 84
Wisconsin Public Service Co.	175,748 95	117,998 14	57,750 81	4,194 81	61,945 62
Wisconsin Tr. Lt. Ht. & Pr. Co.	130,883 61	84,358 49	46,525 12	2,525 75	49,050 87
Total	\$1,256,538 58	\$879,284 44	\$377,254 14	\$12,196 49	\$389,450 63
<i>Class C.</i>					
Bay Shore St. Ry. Co.	\$5,350 95	\$6,434 85	\$1,083 90		\$1,083 90
Beloit Tr. Co.	45,200 77	21,451 90	23,748 87		23,748 87
Grand Rapids St. R. R. Co.	24,496 80	16,009 24	8,487 56	\$140 21	8,627 77
Ironwood & Bessemer Lt. & P. Co.	10,623 12	5,923 41	4,699 71		4,699 71
Janesville Traction Co.	21,119 19	16,012 00	5,107 19	2 02	5,109 21
Kenosha Elec. Ry. Co.	86,280 36	56,704 30	29,576 06	25 28	29,601 34
La Crosse & Onalaska St. R. Co.	8,752 15	12,367 07	3,614 92	299 85	3,315 07
Manitowoc & Northern Tr. Co.	37,995 38	28,404 67	9,590 71		9,590 71
Menom. & Marinette L. & T. Co.	38,608 64	33,884 62	4,724 02		4,724 02
Merrill Ry. & Ltg. Co.	9,818 94	9,084 76	734 18		734 18
Waupaca Electric Lt. & Ry. Co.	12,400 71	9,593 03	2,807 68	325 46	3,133 14
Wausau St. R. R. Co.	66,050 25	51,314 24	14,736 01		14,736 01
Total	\$366,697 26	\$267,184 09	\$99,513 17	\$792 82	100,305 99
B. ENTIRE LINE—INTERSTATE ROADS.					
<i>Class A.</i>					
Chic. & Milwaukee El. R. R. Co.	\$948,556 12	\$665,884 48	\$282,671 64	\$16,444 60	\$299,116 24
Duluth St. Ry. Co.	1,100,732 58	708,860 24	391,872 34	17,744 73	409,617 07
Rockford & Interurban Ry. Co.	393,532 19	255,794 77	137,737 42	68,974 65	206,712 07
Total	\$2,442,820 89	\$1,630,539 49	\$812,281 40	\$103,163 98	\$915,445 38
<i>Class B—None.</i>					
<i>Class C.</i>					
Ironwood & Bessemer Ry. & L. Co.					
Menom. & Marinette Lt. & Tr. Co.	\$90,981 97	\$74,035 77	\$16,946 20		\$16,946 20

¹ No separation between Wisconsin and Michigan business.

Railroad Companies.—B. Electric Railways.

ENDING JUNE 30, 1912.

DEDUCTIONS FROM GROSS INCOME					Net income or deficit.	Disposition of net income.—Dividends.	Surplus or deficit for the year.
Interest on funded debt.	Interest on mortgage and floating debt.	Amortization reserve requirements.	Miscellaneous deductions.	Total deductions.			
\$64,579 73				\$64,579 73	\$29,434 24		\$29,434 14
50,424 20			\$3,618 33	54,042 53	29,630 69	\$73,000 00	48,369 31
561,207 96	\$32,688 83			528,519 13	745,630 96	774,000 00	28,369 04
475,532 51	99,658 74			575,191 25	446,174 13	467,500 00	21,325 87
63,791 68				63,791 68	73,903 68	60,000 00	13,903 68
20,169 43	4,073 09	\$81 57		24,324 09	239 36	18,556 70	18,796 06
\$1,235,705 51	\$71,043 00	\$81 57	\$3,618 33	\$1,310,448 41	\$1,324,534 84	\$1,398,056 70	\$73,522 86
\$4,300 00			\$920 00	\$5,220 00	\$9,552 17		\$9,552 17
10,000 00				10,000 00	25,146 92	\$21,000 00	4,146 92
22,587 29	\$106 59			22,480 70	20,920 29	7,406 00	13,514 29
11,900 00	19 80			11,919 80	27,532 33	21,154 00	6,378 83
44,705 55		\$2,241 13	7,500 00	54,446 68	19,534 44		\$19,534 44
60,075 00	5,315 05		800 00	66,190 05	7,570 64		7,570 64
39,150 00	75 05			39,225 05	16,887 79		16,887 79
39,419 34	33,224 65		3,587 62	76,231 61	14,285 99		14,285 99
29,016 00				29,016 00	20,034 87		20,034 87
\$261,153 18	\$38,527 96	\$2,241 13	\$12,807 62	\$314,729 89	\$74,720 74	\$49,560 00	\$25,160 74
\$1,350 00				\$1,350 00	\$2,433 90		\$2,433 90
3,499 98	\$119 41			3,619 39	20,129 48	\$14,400 00	5,729 48
	495 25			495 25	8,132 52	7,500 00	632 52
2,083 33	2,111 07			4,194 40	4,699 71		4,699 71
					914 81		914 81
23,000 00	381 25			23,381 25	6,220 09		6,220 09
					3,315 07	2,280 00	5,595 07
5,900 00				5,900 00	3,690 71		3,690 71
2,502 71	1,049 49			3,552 20	1,171 82	1,000 00	171 82
500 00	94 50			594 50	139 68		139 68
1,397 50			\$1,250 00	2,647 50	485 64		485 64
1,577 30	415 00		875 60	2,867 30	11,868 71	10,000 00	1,868 71
\$41,810 82	\$4,665 97		\$2,125 00	\$48,601 79	\$51,704 20	\$35,180 00	\$16,524 20
\$67,657 70				\$67,657 70	\$231,458 54		\$231,458 54
151,272 60			\$10,855 00	162,127 60	247,489 47	\$234,000 00	13,489 47
108,690 84	\$21,949 42	\$439 58		131,079 84	75,632 23	100,000 00	24,367 77
\$327,621 14	\$21,949 42	\$439 58	\$10,855 00	\$360,865 14	\$554,580 24	\$334,000 00	\$220,580 24
\$5,773 69	\$2,421 15			\$8,194 84	\$8,751 36	\$10,000 00	\$1,248 64

OPERATING REVENUES,
REVENUE FROM

NAME OF ROAD.	Passenger revenue.	Baggage revenue.	Parlor and chair car revenue.
A. WISCONSIN.			
<i>Class A.</i>			
Chicago & Milwaukee Elec. R. R. Co.....	\$241,188 42	\$13 78	\$9,562 33
Duluth St. Ry. Co.....	245,505 34		
Milwaukee Elec. Ry. & Light Co.....	4,045,085 46		
Milwaukee Lt., Ht. & Tr. Co.....	894,799 59		
Milwaukee Northern Ry. Co.....	265,148 64	459 31	
Rockford & Interurban Ry. Co.....	62,468 62	178 77	
Total	\$5,754,196 07	\$651 86	\$9,562 33
<i>Class B.</i>			
Ashland Lt., P. & St. Ry. Co.....	\$19,491 38		
Chippewa Valley Ry., Lt. & P. Co.....	116,790 70		
Eastern Wisconsin Ry. & Lt. Co.....	106,187 58		
La Crosse City Ry. Co.....	152,866 63		
Sheboygan Ry. & El. Co.....	125,961 52		
Southern Wisconsin Ry. Co.....	211,184 69		
Wisconsin Elec. Ry. Co.....	189,213 13		
Wisconsin Public Service Co.....	164,645 27		
Wisconsin Tr., Lt., Ht. & P. Co.....	129,757 47		
Total	\$1,216,098 37		
<i>Class C.</i>			
Bay Shore St. Ry. Co.....	\$5,350 95		
Beloit Tr. Co.....	44,905 69		\$5 00
Grand Rapids St. R. R. Co.....	23,837 61		
Ironwood & Bessemer Lt. & Pr. Co.....	10,623 12		
Janesville Traction Co.....	17,070 88		
Kenosha Elec. Ry. Co.....	85,590 61		
La Crosse & Onalaska St. Ry. Co.....	8,752 15		
Manitowoc & Northern Tr. Co.....	35,220 09		
Menominee & Marinette Lt. & Tr. Co.....	38,259 64		
Merrill Ry. & Ltg. Co.....	9,818 94		
Waupaca Electric Lt. & Ry. Co.....	11,674 25	\$389 11	
Wausau St. R. R. Co.....	58,992 64		
Total	\$350,096 57	\$389 11	\$5 00
B. ENTIRE LINE—INTERSTATE ROADS.			
<i>Class A.</i>			
Chicago & Milwaukee Elec. R. R. Co.....	\$826,614 61	\$31 25	\$20,552 09
Duluth St. Ry. Co.....	1,092,597 68		
Rockford & Interurban Ry. Co.....	336,636 48	963 35	
Total	\$2,255,848 77	\$994 60	\$20,552 09
<i>Class B.—None.</i>			
<i>Class C.</i>			
Ironwood & Bessemer Ry. & Lt. Co. ¹	\$90,128 26		
Menominee & Marinette Lt. & Tr. Co.....	90,128 26		

¹ No separation between Wisconsin and Michigan business.

YEAR ENDING JUNE 30, 1912.

TRANSPORTATION.

Special car revenue (chartered cars)	Mail revenue.	Express revenue.	Milk revenue.	Freight revenue.	Miscellaneous revenue from transportation.	Total transportation revenue.
\$4,393 90		\$18,874 96		\$823 69		\$274,857 08
200 25	\$195 70					245,901 29
6,281 79	495 12				\$1,042 63	4,052,905 00
9,021 89	192 96				2,049 92	906,064 36
1,022 00	3,251 19	22,636 99	\$16,877 40	371 13	973 00	310,739 66
25 00		869 85	150 00	6,053 79	23 56	69,769 59
\$20,944 83	\$4,134 97	\$42,381 80	\$17,027 40	\$7,248 61	\$4,089 11	\$5,860,236 98
\$33 00						\$19,524 38
						116,790 70
155 50	\$150 00	\$1,906 27	\$162 55			108,561 90
662 06						153,528 69
238 00	269 04	1,644 39	538 97	\$6,893 94		135,545 86
212 50						211,397 19
527 15	355 41	2,969 65	125 40			193,190 74
606 75		2,588 81				167,840 83
114 81				35 60	\$1 93	129,909 81
\$2,549 77	\$774 45	\$9,109 12	\$826 92	\$6,929 54	\$1 93	\$1,236,290 10
	\$100 00					\$5,350 95
		\$383 10				45,010 69
						24,220 71
						10,623 12
						17,070 88
\$10 00						85,600 61
	659 10			\$357 20		8,752 15
25 00						26,236 39
						38,284 64
						9,818 94
	229 13				\$75 00	12,267 49
50 75		529 30			1,175 20	60,747 89
\$85 75	\$988 23	\$912 40		\$357 20	\$1,250 20	\$354,084 46
\$9,813 00		\$41,117 57		\$12,584 31		\$910,712 83
455 00	\$535 82					1,093,588 50
502 95	274 21	4,687 50	\$3,689 26	32,623 18	\$126 94	379,503 87
\$10,770 95	\$810 03	\$45,805 07	\$3,689 26	\$45,207 49	\$126 94	\$2,383,805 20
\$50 65						\$90,178 91

OPERATING
REVENUES FROM OPERATION

NAME OF ROAD.	Station and car privileges.	Parcel room receipts.	Storage.
A. WISCONSIN.			
<i>Class A.</i>			
Chicago, Milwaukee Electric R. R. Co.....	\$2,551 65		\$1 25
Duluth, Street Ry. Co.....	1,185 76		
Milwaukee Elec. Ry. & Light Co.....	26,179 83		
Milwaukee Lt., Ht. & Tr. Co.....	3,725 79		
Milwaukee Northern Ry. Co.....	938 20	\$384 90	7 62
Rockford & Interurban Ry. Co.....	201 50		
Total.....	\$34,782 64	\$384 90	\$8 87
<i>Class B.</i>			
Ashland Lt. P. & St. Ry. Co.....	\$279 15		
Chippewa Valley Ry. Lt. & Power Co.....			
Eastern Wisconsin Ry. & Lt. Co.....	600 04		
La Crosse City Ry. Co.....			
Sheboygan Ry. & El. Co.....	767 20		
Southern Wisconsin Ry. Co.....	779 99		
Wisconsin Elec. Ry. Co.....	902 95		
Wisconsin Public Service Co.....	670 00		
Wisconsin Tr. Lt. Ht. & P. Co.....	660 00		
Total.....	\$4,659 33		
<i>Class C.</i>			
Bay Shore St. Ry. Co.....			
Beloit Tr. Co.....	\$190 08		
Grand Rapids St. R. R. Co.....	236 00		
Ironwood & Bessemer Lt. & Pr. Co.....			
Janesville Traction Co.....	120 00		
Kenosha Elec. Ry. Co.....	679 75		
La Crosse & Onalaska St. Ry. Co.....			
Manitowoc & Northern Tr. Co.....			
Menominee & Marinette Lt. & Tr. Co.....	324 00		
Merrill Ry. & Ltg. Co.....			
Waupaca Electric Lt. & Ry. Co.....			
Wausau St. R. R. Co.....			
Total.....	\$1,549 83		
B. ENTIRE LINE- INTERSTATE ROADS.			
<i>Class A.</i>			
Chicago & Milwaukee Elec. R. R. Co.....	\$6,225 96		\$5 55
Duluth St. Ry. Co.....	5,000 02		
Rockford & Interurban Ry. Co.....	1,085 86		
Total.....	\$12,311 84		\$5 55
<i>Class B—None.</i>			
<i>Class C.</i>			
Ironwood & Bessemer Ry. & Lt. Co. ²			
Menominee & Marinette Lt. & Tr. Co.....	720 00		

¹Advertising.

REVENUES, 1912--Concluded.

OTHER THAN TRANSPORTATION.

Rents from tracks and terminals.	Rent from equipment.	Rent from lands, buildings, etc.	Sale of power.	Miscellaneous revenue.	Total of other than transportation.	Total operating revenue.
	\$6,405 00	\$69 50	\$22,523 20		\$31,550 60	\$306,407 68
	12 00	128 30		\$16 51	1,342 57	247,243 86
					26,179 83	4,079,084 83
					3,725 70	909,790 06
\$325 51		450 00	2,624 31	161 75	4,892 29	315,631 95
2,515 14			351 54		3,068 18	72,837 77
\$2,840 65	\$6,417 00	\$647 80	\$25,499 05	\$178 26	\$70,759 17	\$5,930,956 15
				\$24 00	\$303 15	\$19,827 53
					600 04	116,790 70
						109,161 94
\$5,380 77			\$1,161 49	1,070 40	8,379 86	153,528 69
						143,925 72
					779 99	212,177 18
250 00	\$117 65		32 92		1,303 52	194,494 26
	2,530 82		4,191 47	515 83	7,908 12	175,748 95
			313 80		973 80	130,883 61
\$5,630 77	\$2,648 47		\$5,699 68	\$1,610 23	\$20,248 48	\$1,256,538 58
					\$190 08	\$5,350 95
				\$40 09	276 09	45,200 77
						24,496 80
\$3,892 23				36 08	4,048 31	10,628 12
						21,119 19
					679 75	86,280 36
						8,752 15
			\$1,506 99	252 00	1,758 99	37,995 38
					324 00	38,608 64
						9,818 94
		\$32 22			33 22	12,400 71
		35 00		5,267 36	5,302 36	66,050 25
\$3,892 23		\$68 22	\$1,506 99	\$5,595 53	\$12,612 80	\$366,697 26
	\$6,405 00	\$1,344 67	\$23,862 11		\$37,843 29	\$948,556 12
	300 93	295 80	1,151 79	\$395 54	7,144 08	1,100,732 58
\$2,524 14	865 20	8,095 07	1,458 05		14,028 32	393,532 19
\$2,524 14	\$7,571 13	\$9,735 54	\$26,471 95	\$395 54	\$59,015 69	\$2,442,820 89
		\$83 06			\$803 06	\$90,981 97

²No figures reported.

OPERATING EXPENSES, CLASS A ROADS
MAINTENANCE OF WAY

Italic figures denote credits.

NAME OF ROAD.	Superintendence.	Ballast.	Ties.	Rails.
WISCONSIN.				
Chicago & Milwaukee Elec. R. R. Co.	\$1,323 29	\$1,484 28	\$4,574 66	\$92 04
Duluth St. Ry. Co.	979 01	195 92	140 76	86 64
Milwaukee Elec. Ry. & Lt. Co.	13,799 20	811 73	486 59	2,232 51
Milwaukee Lt. Ht. & Tr. Co.	3,350 99	298 52	74 81	373 40
Milwaukee Northern Ry. Co.				
Rockford & Interurban Ry. Co.	234 03		36 08	34
Total	\$19,686 52	\$569 95	\$5,312 90	\$2,784 93
ENTIRE LINE—INTERSTATE ROADS.				
Chicago & Milwaukee Elec. R. R. Co.	\$3,934 84	\$4,413 58	\$13,602 90	\$273 69
Duluth St. Ry. Co.	4,205 26	844 42	593 01	373 66
Rockford & Interurban Ry. Co.	1,261 17		194 44	1 80
Total	\$9,401 27	\$5,258 00	\$14,390 35	\$649 15

MAINTENANCE OF WAY

NAME OF ROAD.	<i>Way</i>		
	Maintenance of tunnels, bridges, trestles, culverts and subways.	Maintenance of crossings, fences, cattle-guards and signs.	Maintenance of signals and interlocking systems.
WISCONSIN.			
Chicago & Milwaukee Elec. R. R. Co.	\$1,225 73	\$1,050 17	\$586 98
Duluth St. Ry. Co.	363 21	68 64	
Milwaukee Elec. Ry. & Lt. Co.	6,078 96	1,911 48	
Milwaukee Lt., Ht. & Tr. Co.	1,397 55	393 13	
Milwaukee Northern Ry. Co.	27 00	2 99	
Rockford & Interurban Ry. Co.	105 42	32 21	192 97
Total	\$9,197 87	\$3,458 62	\$779 95
ENTIRE LINE—INTERSTATE ROADS.			
Chicago & Milwaukee Elec. R. R. Co.	\$3,644 74	\$3,122 71	\$1,745 43
Duluth St. Ry. Co.	1,556 91	289 61	
Rockford & Interurban Ry. Co.	568 09	173 60	1,039 88
Total	\$5,769 74	\$3,585 92	\$2,785 31

YEAR ENDING JUNE 30, 1912.
AND STRUCTURES.
Way.

Rail fastenings and joints.	Special work.	Roadway and track.	Maintenance of paving.	Miscellaneous roadway and track expenses.	Cleaning and sanding track.	Removal of snow, ice and sand from track.
\$175 47	\$157 07	\$8,083 35	\$169 51	\$301 52	\$537 32	\$1,036 09
129 00	96 17	2,581 51	397 19	330 59	2,919 28	1,064 73
3,597 01	5,856 66	32,424 40	16,174 73	3,508 09	18,397 55	17,773 86
579 95	962 56	6,327 02	2,622 31	804 91	3,598 84	8,890 01
48	51 18	7,202 58	150 56	291 33	848 73	1,965 58
28 55	139 18	1,043 81	.....	41 64	153 35	457 75
\$4,509 50	\$7,262 82	\$57,662 67	\$19,514 30	\$5,278 08	\$26,455 07	\$31,188 12
\$521 78	467 05	\$24,036 12	\$504 04	\$896 59	\$1,598 01	\$3,080 86
548 07	407 40	11,066 10	1,674 04	1,419 80	12,439 98	4,572 63
153 86	750 00	5,625 00	.....	224 37	826 41	2,466 74
\$1,223 71	\$1,624 45	\$40,727 22	\$2,178 08	\$2,540 76	\$14,864 40	\$10,120 23

AND STRUCTURES—Continued.

Concluded.			<i>Electric Line.</i>			
Maintenance of telephones and telegraph systems.	Miscellaneous way expenses.	Total way.	Maintenance of transmission system.	Maintenance of distribution system.	Miscellaneous electric line expenses.	Total electric line.
\$454 76	\$0 05	\$21,252 29	\$362 62	\$3,579 03	\$48 63	\$3,991 18
9 96	10 66	9,373 27	.....	1,069 68	75 01	1,144 69
12,064 46	1,832 14	135,326 01	8,749 85	27,671 59	1,982 34	38,403 78
1,883 81	766 16	31,726 93	1,865 32	7,170 33	409 18	9,444 83
370 74	44 03	10,954 24	653 38	873 18	1,160 30	2,686 86
45 04	.....	2,510 37	62 73	217 73	16 38	296 84
\$14,828 77	\$2,653 04	\$211,143 11	\$11,693 90	\$40,582 44	\$3,691 84	\$55,968 18
\$1,352 26	\$0.15	\$63,194 75	\$1,078 25	\$10,645 05	\$144 61	\$11,867 91
77 39	45 24	40,113 52	.....	4,736 85	320 85	5,057 70
242 75	.....	13,528 11	338 02	1,173 34	88 23	1,599 59
\$1,672 40	\$45 39	\$116,836 38	\$1,416 27	\$16,555 24	\$553 69	\$18,525 20

OPERATING EXPENSES.

Italic figures denote credits.

NAME OF ROAD.	MAINTENANCE OF WAY AND STRUCTURES			
	<i>Maintenance of Buildings, Fixtures and</i>			
	Way buildings, fixtures and grounds.	Shop buildings, fixtures and grounds.	Car house buildings, fixtures and grounds.	Miscellaneous buildings, fixtures and grounds.
WISCONSIN.				
Chi. & Milwaukee Elec. R. R. Co.....	\$648 66	\$110 60	\$128 75	\$93 79
Duluth St. Ry. Co.....		62 62	202 39	41 04
Milwaukee Elec. Ry. & Lt. Co.....	558 98	199 63	12,512 28	693 66
Milwaukee Lt., Ht. & Tr. Co.....	178 31	27 94	2,042 60	186 92
Milwaukee Northern Ry. Co.....	939 70			
Rockford & Interurban Ry. Co.....	17 89			
Total.....	\$2,343 54	\$400 79	\$14,886 02	\$1,015 41
ENTIRE LINE— INTERSTATE ROADS.				
Chi. & Milwaukee Elec. R. R. Co.....	\$1,928 80	\$328 88	\$382 84	\$278 89
Duluth St. Ry. Co.....		270 71	872 76	176 37
Rockford & Interurban Ry. Co.....	96 43			
Total.....	\$2,025 23	\$599 59	\$1,255 60	\$455 26

NAME OF ROAD.	EQUIPMENT—		
	Maintenance of electric equipment of revenue locomotives.	Maintenance of utility equipment.	Shop expenses.
WISCONSIN.			
Chicago & Milwaukee Elec. R. R. Co.....	\$168 63	\$157 54	\$1,030 67
Duluth St. Ry. Co.....		255 99	747 80
Milwaukee Elec. Ry. & Lt. Co.....		2,022 38	33,097 78
Milwaukee Lt., Ht. & Tr. Co.....		355 46	5,838 68
Milwaukee Northern Ry. Co.....	83 38		880 26
Rockford & Interurban Ry. Co.....	36 70	32 48	634 24
Total.....	\$121 95	\$2,823 85	\$42,229 43
ENTIRE LINE— INTERSTATE ROADS.			
Chicago & Milwaukee Elec. R. R. Co.....	\$501 44	\$468 48	\$3,064 74
Duluth St. Ry. Co.....		1,093 84	3,210 89
Rockford & Interurban Ry. Co.....	197 76	175 04	3,417 84
Total.....	\$699 20	\$1,737 36	\$9,693 47

CLASS A ROADS, 1912.—Continued.

EXPENSES—Concluded.		EQUIPMENT.				
Grounds.	Total way and structures.	Superintendence.	Maintenance of revenue, passenger and combination cars.	Maintenance of revenue freight and mail cars.	Maintenance of locomotives.	Maintenance of electric equipment of cars.
\$981 80	\$26,225 27	\$1,312 29	\$7,934 07	\$446 90	\$123 60	\$3,839 77
306 05	10,824 01	1,018 57	6,802 94	.....	.....	2,340 50
13,964 55	187,694 34	10,154 69	91,665 83	.....	.....	82,278 76
2,435 77	43,607 53	1,802 99	16,196 34	.....	.....	14,728 36
939 70	14,580 80	1,970 72	7,880 58	255 93	472 87	4,126 35
17 89	2,825 10	343 56	867 36	85 33	188 64	1,006 20
\$18,645 76	\$285,757 05	\$16,602 82	\$131,347 12	\$788 16	\$785 11	\$108,819 94
\$2,919 41	\$77,982 07	\$3,902 14	\$23,592 23	\$1,328 87	\$367 52	\$11,417 68
1,319 84	46,491 06	4,364 14	29,191 25	.....	.....	12,200 41
96 43	15,224 13	1,851 40	4,674 08	459 85	1,016 56	5,422 28
\$4,335 68	\$139,697 26	\$10,117 68	\$57,457 56	\$1,788 72	\$1,384 08	\$29,040 37

Concluded.		TRAFFIC EXPENSES.				
Miscellaneous equipment expenses.	Total equipment.	Superintendence.	Advertising.	Parks, resorts and attractions.	Miscellaneous traffic expenses.	Total traffic expenses.
.....	\$15,013 47	\$190 00	\$494 64	.....	.....	\$684 64
\$26 38	11,692 18	.....	172 82	.....	.....	172 82
612 04	219,831 48	.....	1,979 76	.....	.....	1,979 76
99 31	39,021 14	.....	277 24	.....	.....	277 24
.....	15,503 33	.....	1,680 26	.....	\$389 13	2,069 39
7 90	3,202 41	187 00	381 51	.....	.....	568 51
\$745 63	\$304,264 01	\$377 00	\$472 23	.....	\$389 13	1,238 36
.....	\$44,643 10	\$564 97	\$1,470 83	.....	.....	\$2,035 80
\$113 11	50,173 64	.....	737 66	.....	.....	737 66
42 62	17,257 43	1,007 73	2,055 90	.....	.....	3,063 63
\$155 73	\$112,074 17	\$1,572 70	\$4,264 39	.....	.....	\$5,837 09

OPERATING EXPENSES, CLASS

Italic figures denote credits.

CONDUCTING

NAME OF ROAD.	Power.				Total power.
	Maintenance of power, equipment (including power build'gs.)	Operation of power equipment	Power purchased.	Power apportioned—Dr.—Ry.	
WISCONSIN.					
Chi. & Mil. Elec. R. R. Co...	\$2,652 20	\$26,230 82	\$37,129 03	.....	\$66,012 95
Duluth St. Ry. Co.....	.....	.....	30,986 02	.....	30,986 02
Mil. Elec. Ry. & Lt. Co.....	.....	.....	.....	\$395,138 02	395,138 02
Milw. Lt., Ht. & Tr. Co.....	.....	.....	.....	69,117 68	69,117 68
Milwaukee Northern Ry. Co.	1,968 31	35,558 77	.....	.....	37,527 08
Rockford & Interurb. Ry. Co	.....	.....	10,598 29	.....	10,598 29
Total	\$4,620 51	\$61,789 59	\$78,714 24	\$464,255 70	\$609,380 04
ENTIRE LINE—INTERSTATE ROADS.					
Chi. & Mil. Elec. R. R. Co...	\$7,886 41	\$77,998 28	\$110,407 18	.....	\$196,291 87
Duluth St. Ry. Co.....	.....	.....	148,601 23	.....	148,601 23
Rockford & Interurb. Ry. Co	.....	.....	57,112 96	.....	57,112 96
Total	\$7,886 41	\$77,998 28	\$316,121 37	.....	\$402,006 06

NAME OF ROAD.	CONDUCTING TRANSPORTATION.—				
	Operation of				
	Wages car house employes.	Miscellaneous car house expenses.	Operating signal and interlocking systems.	Operating telephone and telegraph systems.	Express and freight collection and delivery.
WISCONSIN.					
Chi. & Mil. Elec. R. R. Co...	\$4,637 61	\$617 73	\$2,039 13	.....	.....
Duluth St. Ry. Co.....	3,604 15	598 44	.....	.....	.....
Mil. Elec. Ry. & Lt. Co.....	99,007 25	11,999 18	.....	\$3,176 49	.....
Mil. Lt., Ht. & Tr. Co.....	16,752 96	1,973 92	.....	536 93	.....
Mil. Northern Ry. Co.....	3,587 37	125 19	.....	18 77	\$14,191 78
Rockford & Interurb. Ry. Co.	821 63	.....	370 04	53 98	43 77
Total	\$128,410 97	\$15,314 46	\$2,409 17	\$3,786 17	\$14,235 55
ENTIRE LINE—INTERSTATE ROADS.					
Chi. & Mil. Elec. R. R. Co...	\$13,790 10	\$1,836 84	\$6,063 43	.....	.....
Duluth St. Ry. Co.....	14,745 14	2,573 56	.....	.....	.....
Rockford & Interurb. Ry. Co.	4,427 69	.....	1,994 12	\$290 88	\$235 85
Total	\$32,962 93	\$4,410 40	\$8,057 55	\$290 88	\$235 85

A ROADS, 1912—Continued.

TRANSPORTATION.

Operation of cars.

Superintendence.	Wages passenger trainmen.	Wages freight and express trainmen.	Wages misc. car service employes.	Miscellaneous car service expenses.	Wages station employes.	Miscellaneous station expenses.
\$2,034 50	\$30,291 38	\$2,796 13	\$120 98	\$3,502 84	\$3,860 71	\$1,846 42
3,853 69	49,730 56	.....	2 75	3,852 05	.....	.....
46,309 42	793,611 88	.....	2,038 19	46,460 60	2,267 12	2,443 87
7,830 89	123,643 19	.....	355 03	7,855 51	381 65	404 33
3,862 50	32,373 48	2,730 10	272 20	4,188 19	6,525 38	3,215 44
948 80	6,069 66	1,085 10	86	1,253 56	2,891 65	1,562 72
\$64,839 80	\$1,035,720 15	\$6,611 33	\$2,790 01	\$67,112 75	\$15,926 51	\$9,472 78
\$6,049 66	\$90,072 48	\$9,314 39	\$359 75	\$10,415 82	\$11,479 96	\$5,490 41
15,364 67	\$213,709 58	.....	11 86	16,574 44	.....	.....
5,112 99	32,708 74	5,847 47	4 64	6,755 32	15,582 83	8,421 34
\$26,527 32	\$336,490 80	\$14,161 86	\$376 25	\$33,745 58	\$27,062 79	\$13,911 75

Concluded.

GENERAL.

Cars.—Concluded.

Loss and damages.	Miscellaneous transportation expenses.	Total operation of cars.	Total conducting transportation.	Salaries general officers.	Salaries general office clerks.	Miscellaneous general office supplies and expenses.	Law expenses—general.
.....	\$185 85	\$51,933 28	\$117,946 23	\$10,809 09	\$4,147 27	\$758 37	\$4,073 19
.....	29 78	61,671 42	92,657 44	6,152 31	3,606 94	351 42	2,233 19
.....	20,197 57	1,027,511 57	1,422,649 59	14,099 55	19,688 58	607 70	10,681 18
.....	3,416 16	163,150 57	232,268 25	2,383 99	3,340 23	71 50	2,269 37
\$282 85	104 87	71,478 12	109,005 20	4,537 50	2,951 91	1,442 54	.....
48 07	43 39	15,193 23	25,791 52	1,782 83	936 72	383 19	141 58
\$330 92	\$23,977 62	\$1,390,938 19	\$2,000,318 23	\$39,765 27	\$34,671 65	\$2,399 32	\$19,398 51
.....	\$555 71	\$154,428 55	\$350,720 42	\$32,141 22	\$12,332 06	\$2,255 03	\$12,111 78
.....	128 03	263,107 28	411,708 51	26,383 05	15,468 93	1,507 56	9,465 46
\$259 02	233 79	81,874 68	138,987 64	9,607 50	5,047 88	2,064 94	762 95
\$259 02	\$917 53	\$499,410 51	\$901,416 57	\$68,131 77	\$32,848 87	\$5,827 53	\$22,340 19

Italic figures denote credits.

OPERATING EXPENSES, CLASS A

NAME OF ROAD.	GENERAL—Concluded,			
	Miscellaneous general expenses.	Maintenance of general office equipment.	Maintenance general office buildings fixtures and grounds.	Total general.
WISCONSIN.				
Chic. & Milwaukee Elec. R. R. Co.	\$1,332 10		\$44 42	\$21,164 44
Duluth St. Ry. Co.	¹ 1,317 37		44 06	13,705 29
Milwaukee Elec. Ry. & Lt. Co.	20,672 36	\$446 94	5,606 51	70,587 42
Milwaukee Lt., Ht. & Tr. Co.	3,672 01	71 75	900 54	12,709 39
Milwaukee Northern Ry. Co.	524 16			9,456 11
Rockford & Interurban Ry. Co.	372 97			3,617 29
Total	\$27,890 97	\$518 69	\$6,595 53	\$131,239 94
ENTIRE LINE-INTERSTATE ROADS.				
Chic. & Milwaukee Elec. R. R. Co.	\$3,961 05		\$132 08	\$62,933 22
Duluth St. Ry. Co.	² 5,637 39		190 76	58,653 15
Rockford & Interurban Ry. Co.	2,009 89			19,493 16
Total	\$11,608 33		\$322 84	\$141,679 53

SUMMARY OF

NAME OF ROAD.	Way and structures.	Equipment.	Traffic.	Conducting transportation.
WISCONSIN.				
Chic. & Milwaukee Elec. R. R. Co.	\$26,225 27	\$15,013 47	\$684 64	\$117,946 23
Duluth St. Ry. Co.	10,824 01	11,692 18	172 82	92,657 44
Milwaukee Elec. Ry. & Lt. Co.	187,694 34	219,831 48	1,979 76	1,422,649 59
Milwaukee Lt., Ht. & Tr. Co.	43,607 53	39,021 14	277 24	232,268 25
Milwaukee Northern Ry. Co.	14,580 80	15,503 33	2,069 39	109,005 20
Rockford & Interurban Ry. Co.	2,825 10	3,202 41	568 51	25,791 52
Total	\$285,757 05	\$304,264 01	\$1,238 36	\$2,000,318 23
ENTIRE LINE-INTERSTATE ROADS.				
Chic. & Milwaukee Elec. R. R. Co.	\$77,982 07	\$44,643 10	\$2,035 80	\$350,720 42
Duluth St. Ry. Co.	46,491 06	50,173 64	737 66	411,708 51
Rockford & Interurban Ry. Co.	15,224 13	17,257 43	3,063 63	138,987 64
Total	\$139,697 26	\$112,074 17	\$5,837 09	\$901,416 57

¹ Includes rent of equipment.² Includes maintenance.

ROADS, 1912.—Concluded.

UNDISTRIBUTED.

Injuries and damages.	Insurance.	Stationery and printing.	Operation of stores department.	Operation of utility equipment.	Rent of tracks and terminals.	Rent of equipment.	Total undistributed.
\$8,006 53	\$1,855 97	\$573 12	\$453 72	.....	\$14,860 11	.....	\$25,749 45
5,044 57	861 32	485 73	839 98	\$296 91	.....	.....	7,528 51
173,245 41	14,100 45	12,455 42	² 16,027 77	.....	¹ 1,445 70	.....	217,274 75
38,428 92	7,504 19	2,089 34	² 2,693 09	.....	¹ 246 49	.....	50,962 03
2,918 44	2,381 80	1,162 65	612 96	.....	2,980 77	.....	10,056 68
1,899 24	511 62	318 26	239 77	29	6,464 08	\$62 47	9,495 24
\$229,543 11	\$27,215 41	\$17,084 52	\$20,867 29	\$296 71	\$25,997 15	\$62 47	\$321,066 66
\$23,807 72	\$5,518 81	\$1,704 19	\$1,349 13	.....	\$44,180 04	.....	\$76,569 89
10,992 45	3,796 72	2,085 41	3,596 51	\$1,273 59	.....	.....	21,744 68
10,234 78	2,757 08	1,715 09	1,292 09	1 06	34,834 21	\$336 63	51,168 82
\$45,034 95	\$12,072 61	\$5,504 69	\$6,237 73	\$1,272 53	\$79,024 25	\$336 63	\$149,483 39

OPERATING EXPENSES.

General.	Undis-tributed.	Total of foregoing items.	Depre-ciation.	Conti-nu-gencies (extra-ordinary.)	Taxes.	Total operating expenses.
\$21,164 44	\$25,749 45	\$206,783 50	.....	.....	\$17,500 01	\$224,283 51
13,705 29	7,528 51	136,580 25	\$18,235 32	.....	11,870 17	166,685 74
70,537 42	217,274 75	2,116,057 82	457,544 47	10,197 72	285,535 93	2,869,335 94
12,709 39	50,962 03	378,291 10	87,053 56	2,274 46	63,685 30	531,304 42
9,456 11	10,056 68	160,671 51	.....	.....	18,218 85	178,890 36
3,617 29	9,495 24	45,500 07	.....	.....	3,465 70	48,965 77
\$131,239 94	\$321,066 66	\$3,043,884 25	\$562,833 35	\$12,472 18	\$400,275 96	\$4,019,465 74
\$62,933 22	\$76,569 89	\$614,884 50	.....	.....	\$50,999 98	\$665,884 48
53,653 15	21,744 68	589,508 70	\$58,287 88	.....	61,063 66	708,860 24
19,493 16	51,168 82	245,194 81	.....	.....	10,599 96	255,794 77
\$141,079 53	\$149,483 39	\$1,449,588 01	\$58,287 88	.....	\$122,663 60	\$1,630,539 49

³ Railroad commission expenses.

OPERATING EXPENSES, CLASS B ROADS,
WAY AND

NAME OF ROAD.	Way.			
	Superintendence.	Maintenance roadway and track.	Miscellaneous maintenance of way.	Total way.
WISCONSIN. ¹				
Ashland Lt. P. & St. Ry. Co.....	\$314 55	\$2,221 65	.....	\$2,536 20
Chippewa Valley Ry. Lt. & P. Co.....	.....	10,802 45	\$50 80	10,853 25
Eastern Wisconsin Ry. & Lt. Co.....	.....	3,424 41	340 75	3,765 16
La Crosse City Ry. Co.....	564 20	5,417 84	.....	5,982 04
Sheboygan Ry. & Electric Co.....	420 60	9,941 04	75 54	10,436 58
Southern Wisconsin Ry. Co.....	889 61	8,149 88	1,587 79	10,627 28
Wisconsin Elec. Ry. Co.....	.....	8,991 09	1,271 38	10,262 47
Wisconsin Public Service Co.....	310 64	12,755 30	1,351 46	14,417 40
Wisconsin Tr. Lt. Ht. & P. Co.....	800 29	5,536 24	17 80	6,354 33
Total.....	\$3,299 29	\$67,229 90	\$4,695 52	\$75,234 71

NAME OF ROAD.	WAY AND STRUCTURES—Concluded.		
	Buildings, Fixtures and Grounds—Concluded.		Total way and structures.
	Miscellaneous buildings, fixtures and grounds.	Total buildings, fixtures and grounds.	
WISCONSIN. ¹			
Ashland Lt. P. & St. Ry. Co.....	\$41 31	\$459 92	\$3,090 21
Chippewa Valley Ry. Lt. & P. Co.....	21 47	21 47	11,878 78
Eastern Wisconsin Ry. & Lt. Co.....	115 90	115 90	4,895 54
La Crosse City Ry. Co.....	.....	466 15	7,230 48
Sheboygan Ry. & Elec. Co.....	223 78	223 78	12,320 76
Southern Wisconsin Ry. Co.....	.....	230 47	12,714 15
Wisconsin Elec. Ry. Co.....	.....	645 03	13,601 41
Wisconsin Public Service Co.....	.....	720 87	17,468 62
Wisconsin Tr. Lt. Ht. & Pr. Co.....	5 66	76 87	7,977 30
Total.....	\$408 12	\$2,960 46	\$91,177 25

¹ All class B roads operate entirely within the state.

YEAR ENDING JUNE 30, 1912.
STRUCTURES.

<i>Electric Line.</i>				<i>Buildings, Fixtures and Grounds.</i>		
Mainten- ance transmission sys- tem.	Mainten- ance distri- bution sys- tem.	Miscella- neous el- ectric line expense.	Total el- ectric line.	Mainten- ance way, buildings, fixtures and grounds.	Mainten- ance shop buildings, fixtures and grounds.	Mainten- ance car house build- ings, fix- tures and grounds.
	\$94 09		\$94 09	\$418 61		
\$1 75	831 67	\$170 64	1,004 06			
6 58	1,007 90		1,014 48			
	782 29		782 29			\$466 15
27 13	1,473 59	159 68	1,660 40			
395 35	1,351 81	109 24	1,856 40			230 47
30 45	2,660 12	3 34	2,693 91	645 03		
151 85	2,162 23	16 27	2,330 35	720 87		
25	1,543 70	2 15	1,546 10			71 21
\$613 36	\$11,907 40	\$461 32	\$12,982 08	\$1,784 51		\$767 83

EQUIPMENT.					TRAFFIC EXPENSES, TOTAL.	CONDUCTING TRANS- PORTATION.	
Superin- tendence.	Mainten- ance revenue cars and locomotives.	Mainten- ance elec- tric equip- ment of revenue cars and locomotives.	Miscella- neous equipment expenses.	Total equip- ment.		<i>Power.</i>	
						Mainten- ance power equipment (including power build- ings.)	Opera- tion power equip- ment.
	\$828 49	\$812 18	\$135 00	\$1,775 67			
		6,344 80		6,344 80	\$2,478 34	\$172 60	\$2,832 28
	3,980 05	2,526 43	194 76	6,710 24	493 42	102 61	1,995 71
	3,790 22	1,009 29	728 83	5,528 34	999 90	979 42	11,692 39
\$1,200 00	7,227 23	4,318 68	2,441 25	15,187 16	1,393 93	304 16	13,926 31
883 32	5,087 00	1,762 94	574 67	8,307 93	370 70	2,690 80	
2,555 56	3,718 56	4,256 65	1,812 78	12,343 55	1,286 52		25,482 41
308 34	8,826 40	3,936 57	1,111 09	14,182 40	1,346 70	1,787 03	878 63
1,140 00	3,474 41	1,575 13	244 70	6,434 24	83 17		
\$6,087 22	\$36,941 36	\$26,542 67	\$7,243 08	\$76,814 33	\$8,452 68	\$6,036 62	\$56,808 73

OPERATING EXPENSES, CLASS
CONDUCTING

NAME OF ROAD.	Power.—Concluded.				Total power.
	Power purchased.	Power exchanged, balance	Power apportioned (proportion of cost of power.)		
			Dr. (railway.)	Cr. (other than railway.)	
WISCONSIN.¹					
Ashland Lt., P. & St. Ry. Co.					\$3,004 88
Chippewa Valley Ry., Lt. & P. Co.					2,098 32
Eastern Wisconsin Ry. & Lt. Co.	\$4,789 20				17,461 01
La Crosse City Ry. Co.	5,628 03				19,858 50
Sheboygan Ry. & Elec. Co.			\$17,323 58		20,014 38
Southern Wisconsin Ry. Co.	23,865 22				23,865 22
Wisconsin Elec. Ry. Co.	4,189 86				31,459 30
Wisconsin Public Service Co.	11,213 23		2,989 98		15,081 84
Wisconsin Tr., Lt., Ht. & Pr. Co.			12,171 39		12,171 39
Total	\$49,685 54		\$32,484 95		\$145,014 84

NAME OF ROAD.	CONDUCTING TRANSPORTATION.—Concluded.			
	Operation of Cars.—Concluded.			Total conducting transportation.
	Operation signal interlocking telephone and telegraph systems.	Miscellaneous transportation expenses.	Total operation of cars.	
WISCONSIN.¹				
Ashland Lt., P. & St. Ry. Co.		\$936 06	\$6,805 64	\$9,810 52
Chippewa Valley Ry., Lt. & P. Co.		1,858 76	31,876 92	33,975 24
Eastern Wisconsin Ry. & Lt. Co.	\$68 60	17 84	20,962 97	38,423 98
La Crosse City Ry. Co.			49,545 34	69,403 84
Sheboygan Ry. & Elec. Co.	330 52	515 69	27,789 85	47,804 23
Southern Wisconsin Ry. Co.		1,992 01	48,487 29	72,352 51
Wisconsin Elec. Ry. Co.	41 03	189 10	50,632 21	82,091 51
Wisconsin Public Service Co.	697 07	285 32	43,902 19	58,984 03
Wisconsin Tr., Lt., Ht. & P. Co.		91 20	23,862 44	36,033 83
Total	\$1,137 22	\$5,885 98	\$303,864 85	\$448,879 69

¹ All class B roads operate entirely within the state.

B ROADS, 1912.—Continued.
TRANSPORTATION.—Continued.

Operation of Cars.

Superintendence.	Wages passenger trainmen.	Wages freight and express trainmen.	Miscellaneous car service wages and expenses.	Wages station employes and station expenses.	Wages car house employes and car house expenses.
.....	\$5,860 58	.....	.....	.....	.....
\$1,500 00	23,354 76	.....	.....	\$30 00	\$5,133 40
1,274 00	14,841 57	.....	\$1,821 63	288 16	2,651 17
564 20	43,228 36	\$1,117 47	.....	.....	4,635 31
1,200 00	21,484 50	.....	.....	.....	4,259 14
.....
3,707 91	35,720 44	.....	1,717 03	.....	5,349 90
2,033 91	38,941 44	.....	5,138 49	275 93	4,012 31
1,830 90	33,890 76	.....	3,054 94	1,433 39	2,709 81
780 00	16,884 64	.....	2,045 68	.....	4,060 92
\$12,890 92	\$234,216 05	\$1,117 47	\$13,777 77	\$2,027 48	\$32,811 96

GENERAL.

Salaries, general officers.	Salaries general office clerks.	General office supplies and expenses.	Law expenses, general.	Miscellaneous general expenses.	Railroad Commission expenses.	Maintenance general office equipment.
\$2,676 20	.....	.....	.....	\$282 00	.....	\$383 19
1,500 00	\$1,237 50	\$33 62	\$1,800 00	157 41	.....	150 00
2,509 91	1,505 19	631 65	509 24	1,905 43	\$173 29	62
3,050 84	115 00	97 25	.....	631 04	.....	.....
3,667 82	2,176 91	943 67	2,819 71	878 01	.....	2,430 91
.....
4,974 98	2,363 33	2,585 09	2,860 00	1,163 46	1,650 40	.....
5,309 60	1,390 66	1,802 22	1,557 35	929 55	1,459 13	.....
2,006 27	1,663 02	1,006 16	210 92	1,954 68	359 78	.....
1,940 00	1,536 23	555 98	1,308 81	700 47	.....	14 10
.....	.....	.....	.....	.....	.....	17 26
\$27,635 62	\$11,987 84	\$7,657 64	\$11,066 03	\$8,602 05	\$3,642 60	\$2,996 08

OPERATING EXPENSES

NAME OF ROAD.	GENERAL—Concluded.		UN-	
	Maintenance general office buildings, fixtures and grounds.	Total general.	Injuries and damages.	Insurance.
WISCONSIN. ¹				
Ashland Lt. P. & St. Ry. Co.....		\$3,341 39	\$5 00	\$586 64
Chippewa Valley Ry. Lt. & P. Co.....		4,878 53	3,576 33	890 88
Eastern Wis. Ry. & Lt. Co.....	\$81 33	7,318 66	3,239 05	620 84
La Crosse City Ry. Co.....		3,894 13	1,948 09	3,677 44
Sheboygan Ry. & Elec. Co.....		12,917 03	2,687 75	2,813 06
Southern Wisconsin Ry. Co.....		15,597 26	3,400 00	1,406 25
Wisconsin Elec. Ry. Co.....	117 64	12,566 15	6,198 74	1,393 36
Wisconsin Public Service Co.....	41 48	7,256 41	4,399 86	2,103 12
Wisconsin Tr. Lt. Ht. & P. Co.....	30 98	6,089 73	3,926 49	2,009 17
Total.....	\$271 43	\$73,859 29	\$29,381 31	\$15,510 76

SUMMARY OF

NAME OF ROAD.	Way and structures.	Equip-ment.	Traffic.	Conducting transportation.
WISCONSIN. ¹				
Ashland Lt. P. & St. Ry. Co.....	\$3,090 21	\$1,775 67		\$9,810 52
Chippewa Valley Ry. Lt. & Pr. Co....	11,878 78	6,344 80	\$2,478 34	33,975 24
Eastern Wis. Ry. & Lt. Co.....	4,895 54	6,710 24	493 42	38,423 98
La Crosse City Ry. Co.....	7,230 48	5,528 34	999 90	69,403 84
Sheboygan Ry. & Elec. Co.....	12,320 76	15,187 16	1,393 93	47,804 23
Southern Wisconsin Ry. Co.....	12,714 15	8,307 93	370 70	72,352 51
Wisconsin Electric Ry. Co.....	13,601 41	12,343 55	1,286 52	82,091 51
Wisconsin Public Service Co.....	17,468 62	14,182 40	1,346 70	58,984 03
Wisconsin Tr. Lt. Ht. & P. Co.....	7,977 30	6,434 24	83 17	36,033 83
Total.....	\$91,177 25	\$76,814 33	\$8,452 68	\$448,879 69

¹ All class B roads operate entirely within the state.

CLASS B ROADS, 1912.—Concluded.

DISTRIBUTED.

Stationery and printing.	Operation stores department.	Operation utility equipment.	Rent tracks and terminals.	Rent equipment	Maintenance utility equipment buildings, fixtures and grounds.	Total undistributed.
.....	\$100 50	.....	\$313 82	.....	.....	\$1,015 96
\$386 58	.....	\$25 50	245 00	.....	.....	5,124 29
164 95	.....	4 50	250 00	.....	.....	4,279 34
.....	.....	.....	.....	.....	.....	5,625 53
1,542 97	723 65	.....	2,400 00	.....	\$868 01	11,035 44
.....
884 08	1,186 45	1,007 63	.....	\$757 18	.....	8,641 59
87 32	1,137 25	215 75	.....	.....	142 09	9,174 51
196 03	500 88	1 70	25 00	30 96	2279 19	7,536 74
271 60	222 59	153 56	.....	28 87	186 59	6,798 87
.....
\$3,533 53	\$3,871 32	\$1,408 64	\$3,233 82	\$817 01	\$1,475 88	\$59,232 27

OPERATING EXPENSES.

General.	Undistributed.	Total of foregoing items.	Depreciation.	Contingencies (extraordinary).	Taxes.	Total operating expenses.
\$3,341 39	\$1,015 96	\$19,033 75	\$3,990 00	.....	\$1,135 95	\$24,159 70
4,878 53	5,124 29	64,679 98	10,500 00	.....	6,463 80	81,643 78
7,318 66	4,279 34	62,121 18	.....	.....	6,583 10	68,704 28
3,894 13	5,625 53	92,682 22	19,157 82	.....	4,682 16	116,522 20
12,917 03	11,035 44	100,658 55	.....	.....	8,354 93	109,013 48
.....
15,597 26	8,641 59	117,984 14	9,041 25	.....	11,391 10	138,416 49
12,566 15	9,174 51	131,063 65	.....	.....	7,404 23	138,467 88
7,256 41	7,536 74	106,774 90	.....	.....	11,223 24	117,998 14
6,089 73	6,798 87	63,417 14	13,088 35	.....	7,853 00	84,358 49
.....
\$73,859 29	\$59,232 27	\$758,415 51	\$55,777 42	.....	\$65,091 51	\$879,284 44

² Includes \$13.41 maintenance of stores department.

OPERATING EXPENSES, CLASS C

NAME OF ROAD.	WAY AND			
	Way.			Maintenance of electric line.
	Superintendence.	Maintenance of way.	Total way.	
WISCONSIN.				
Bay Shore St. Ry. Co.....		\$220 63	\$220 63	.....
Beloit Tr. Co.....		990 43	990 43	\$91 58
Grand Rapids St. R. R. Co.....		1,009 35	1,009 35	118 46
Ironwood & Bessemer Ry. & Lt. Co.....	\$55 84	1,033 09	1,088 93	43 03
Janesville St. Ry. Co.....	125 84	331 40	457 24	13 59
Kenosha Elec. Ry. Co.....	225 00	3,376 48	3,601 48	302 10
La Crosse & Onalaska St. Ry. Co.....	60 00	7,489 91	7,549 91	916 38
Manitowoc & Northern Tr. Co.....		2,659 78	2,659 78	.....
Menominee & Marinette Lt. & Tr. Co.....		2,058 96	2,058 96	233 67
Merrill Ry. & Ltg. Co.....		114 78	114 78	36 78
Waupaca Elec. Lt. & Ry. Co.....		1,012 66	1,012 66	15 90
Wausau St. R. R. Co.....	262 50	3,086 03	3,348 53	326 21
Total	\$729 18	\$23,383 50	\$24,112 68	\$2,097 70
ENTIRE LINE—INTERSTATE ROADS.				
Ironwood & Bessemer Ry. & Lt. Co. ¹				
Menominee & Marinette Lt. & Tr. Co.....		\$4,085 08	\$4,085 08	\$552 42

NAME OF ROAD.	TRAFFIC EXPENSES, TOTAL.	CONDUCTING		
		Power		
		Maintenance of power equipment (including power buildings.)	Operation of power equipment.	Power purchased.
WISCONSIN.				
Bay Shore St. Ry. Co.....				\$1,238 58
Beloit Tr. Co.....				3,955 93
Grand Rapids St. R. R. Co.....	\$340 67	\$30 30		2,779 00
Ironwood & Bessemer Ry. & Lt. Co.....				2,166 86
Janesville St. Ry. Co.....	3 00			3,673 47
Kenosha Elec. Ry. Co.....				212,941 70
La Crosse & Onalaska St. Ry. Co.....				1,020 00
Manitowoc & Northern Tr. Co.....		2,751 21	\$5,657 62	.....
Menominee & Marinette Lt. & Tr. Co.....	806 93	37 29	249 87	4,192 93
Merrill Ry. & Ltg. Co.....				1,800 00
Waupaca Elec. Lt. & Ry. Co.....	465 28	105 48	499 33	.....
Wausau St. R. R. Co.....	5,941 89			5,660 25
Total	\$7,557 77	\$2,924 28	\$6,406 82	\$38,428 72
ENTIRE LINE—INTERSTATE ROADS				
Ironwood & Bessemer Ry. & Lt. Co. ¹				
Menominee & Marinette Lt. & Tr. Co.....	\$1,159 90	\$88 18	\$590 73	\$9,960 44

¹No figures reported.

STATISTICS—ELECTRIC RAILWAYS.

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ROADS, YEAR ENDING JUNE 30, 1912.

STRUCTURES.		EQUIPMENT.				
Maintenance of buildings, fixtures and grounds.	Total maintenance of way and structures.	Superintendence.	Maintenance revenue, cars and locomotives.	Maintenance electric equipment of revenue cars.	Miscellaneous equipment expenses.	Total maintenance of equipment.
.....	\$220 63	.....	\$77 92	.....	.....	\$77 92
.....	1,082 01	.....	907 62	.....	.....	1,356 84
\$0 25	1,128 06	.....	1,239 17	\$445 43	\$3 79	1,465 55
.....	1,131 96	.....	588 35	202 14	24 24	983 26
57 24	528 07	\$120 00	1,196 42	394 91	.....	2,334 76
.....	.....	.....	.....	807 14	211 20	.....
67 25	3,970 83	275 00	2,060 33	767 12	103 53	3,205 98
.....	8,466 29	.....	577 79	.....	.....	577 79
.....	2,659 78	.....	.....	687 61	2,627 55	3,315 16
64 77	2,357 40	.....	1,647 49	822 43	61 77	2,531 69
11 19	162 75	.....	718 72	326 72	82 59	1,128 03
.....
36 91	1,065 47	.....	782 78	836 13	38 11	1,657 02
98 76	3,773 50	250 00	6,137 05	191 31	84 61	6,662 97
.....
\$336 37	\$26,546 75	\$645 00	15,933 64	\$5,480 94	\$3,237 39	25,296 97
.....
\$153 11	\$4,790 61	.....	\$3,894 99	\$1,944 25	146 02	\$5,985 26

TRANSPORTATION.

Total power.	Operation of Cars.				Total transportation expenses.
	Superintendence.	Wages conductors, motormen and trainmen.	Miscellaneous transportation expenses.	Total operation of cars.	
\$1,238 58	.....	\$1,047 03	.....	\$1,047 03	\$2,285 61
3,955 93	\$605 62	7,799 46	\$1,939 83	\$10,344 91	14,300 84
2,809 30	.....	3,098 97	1,623 58	4,722 55	7,531 85
1,166 86	.....	1,848 77	454 96	2,303 73	3,470 59
3,673 47	618 49	5,246 64	577 65	6,442 78	10,116 25
.....
12,941 70	856 25	20,739 11	2,057 93	23,653 29	36,594 99
1,020 00	300 00	1,529 45	.....	1,829 45	2,849 45
8,408 83	.....	4,689 56	.....	4,689 56	13,098 39
4,480 09	333 46	10,958 11	2,235 44	13,527 01	18,007 10
1,800 00	.....	1,678 30	640 48	2,318 78	4,118 78
.....
604 81	.....	1,200 46	194 11	1,394 57	1,999 38
5,660 25	852 50	11,122 88	2,222 79	14,198 17	19,858 42
.....
\$47,759 32	\$3,566 32	\$70,958 74	\$11,946 77	86,471 83	\$134,231 65
.....
\$10,639 35	\$788 32	\$25,114 04	\$5,284 48	\$31,186 84	\$41,826 19

²Power apportioned Dr. railway.

OPERATING EXPENSES.

NAME OF ROAD.	GEN		
	General office salaries.	Miscellaneous general expenses.	Railroad commission expenses.
WISCONSIN.			
Bay Shore St. Ry. Co.....	\$1,930 00		
Beloit Traction Co.....	405 00	\$635 53	
Grand Rapids St. R. R. Co.....	1,890 00	269 48	
Ironwood & Bessemer Ry. & Lt. Co.....			
Janesville Tr. Co.....	360 85	97 08	
Kenosha Elec. Ry. Co.....	1,031 65	1,780 06	\$33 00
La Crosse & Onalaska St. Ry. Co.....	145 00	104 95	
Manitowoc & Northern Tr. Co.....	4,000 00	3,190 16	
Menominee & Marinette Lt. & Tr. Co.....	1,243 69	928 66	45
Merrill Ry. & Ltg. Co.....	600 00	38 50	
Waupaca Elec. Lt. & Ry. Co.....	1,924 75	592 88	155 37
Wausau St. R. R. Co.....	2,772 15	622 77	120 83
Total	\$16,303 09	\$8,260 07	\$309 65
ENTIRE LINE.—INTERSTATE ROADS.			
Ironwood & Bessemer Ry. & Lt. Co. ¹	\$2,926 34	\$2,037 28	\$0 45
Menominee & Marinette Lt. & Tr. Co.....			

SUMMARY OF OPER

NAME OF ROAD.	Way and structures.	Equip-ment.	Traffic.	Conducting transportation.
WISCONSIN.				
Bay Shore St. Ry. Co.....	\$220 62	\$77 92		\$2,285 61
Beloit Traction Co.....	1,082 01	1,356 84		14,300 84
Grand Rapids St. R. R. Co.....	1,128 06	1,465 55	\$340 67	7,531 85
Ironwood & Bessemer Ry. & Lt. Co...	1,131 96	983 26		3,470 59
Janesville Tr. Co.....	528 07	2,334 76	3 00	10,116 25
Kenosha Elec. Ry. Co.....	3,970 83	3,205 98		36,594 99
La Crosse & Onalaska St. Ry. Co.....	8,466 29	577 79		2,849 45
Manitowoc & Northern Tr. Co.....	2,659 78	3,315 16		13,098 39
Menominee & Marinette Lt. & Tr. Co.	2,357 40	2,531 69	806 93	18,007 10
Merrill Ry. & Ltg. Co.....	162 75	1,128 03		4,118 78
Waupaca Elec. Lt. & Ry. Co.....	1,065 47	1,657 02	465 28	1,999 38
Wausau St. R. R. Co.....	3,773 50	6,662 97	5,941 89	19,858 42
Total	\$26,546 75	\$25,296 97	\$7,557 77	\$134,231 65
ENTIRE LINE.—INTERSTATE ROADS.				
Ironwood & Bessemer Ry. & Lt. Co. ¹	\$4,790 61	\$5,985 26	\$1,159 90	\$41,826 19
Menominee & Marinette Lt. & Tr. Co.				

¹No figures reported.²Stores expense.

CLASS C ROADS, 1912—Concluded.

ERAL.		UNDISTRIBUTED.				
Maintenance general office equipment, buildings, fixtures and grounds.	Total general.	Injuries and damages.	Insurance.	Stationery and printing.	Rent, tracks and terminals.	Total undistributed.
	\$1,930 00			\$20 00	\$160 69	\$180 69
	1,040 53	\$900 00	\$450 00	50 08	931 80	2,331 88
	2,159 48	194 68	193 70	16 60		404 98
		17 60	80 00			97 60
	457 93	276 03	271 99	32 65	1,583 34	2,164 01
	2,844 71	2,386 33	475 13	88 73	166 56	3,116 75
	249 95					
\$23 26	7,213 42	447 25	329 11			776 36
8 75	2,181 55	3,048 73	640 44	101 32	48 23	3,838 72
	638 50	311 00	315 65	10 05		636 70
80	2,673 80	413 89	586 57	74 97	45 00	1,120 43
15 30	3,531 05	876 12	466 10	129 99		1,472 21
\$48 11	\$24,920 92	\$8,871 63	\$3,808 69	\$524 39	\$2,935 62	\$16,140 33
\$21 07	\$4,985 14	\$3,565 31	\$1,372 26	\$239 58	\$114 03	\$5,291 18

ATING EXPENSES.

General.	Undistributed	Total of foregoing items.	Depreciation.	Taxes.	Total operating expenses.
\$1,930 00	\$180 69	\$4,694 85	\$1,200 00	\$540 00	\$6,434 85
1,040 53	2,331 88	120,112 10		1,339 80	21,451 90
2,159 48	404 98	13,030 59	2,000 00	978 65	16,009 24
	97 60	5,683 41		240 00	5,923 41
457 93	2,164 01	15,604 02		407 98	16,012 00
2,844 71	3,116 75	49,733 26	4,223 03	2,748 01	56,704 30
249 95		12,143 48		223 59	12,367 07
7,213 42	776 36	27,063 11		1,341 56	28,404 67
2,181 55	3,838 72	29,723 39	1,877 56	2,283 67	33,884 62
638 50	636 70	6,684 76	2,000 00	400 00	9,084 76
2,673 80	1,120 43	8,981 38		611 65	9,593 03
3,531 05	1,472 21	41,240 04	8,000 00	2,074 20	51,314 24
\$24,920 92	\$16,140 33	\$234,694 39	\$19,300 59	\$13,189 11	\$267,184 09
\$4,985 14	\$5,291 18	\$64,038 25	\$4,994 43	\$5,003 06	\$74,035 77

*Includes \$300 contingencies.

POWER ACCOUNTS, CLASS A ROADS,
STEAM POWER

NAME OF ROAD.	OPERA					
	Superintendence.	Engine labor.	Electrical labor.	Miscellaneous labor.	Steam generated.	Lubricants.
Chi. & Milw. El. R. R. Co.....	\$3,409 44	\$1,638 85	\$13,434 29	\$2,563 71	\$60,081 98	\$1,357 13
Milw. El. Ry. & Lt. Co., The ¹	7,504 63	29,685 66	16,297 35	823 47	592,936 53	5,703 65
Rockford & Inter. Ry. Co.....	.....	.....	.....	4,330 43	.....	.....
Total.....	\$10,914 07	\$31,324 51	\$29,731 64	\$7,717 61	\$653,018 51	\$7,060 78

GAS POWER

NAME OF ROAD.	OPER				
	Superintendence.	Engine house labor.	Substation employes.	Power gas produced.	Substation supplies and expenses.
Milwaukee Northern Ry. Co...	\$939 68	\$3,390 11	\$3,384 92	\$25,223 61	\$207 17

HYDRAULIC POWER

NAME OF ROAD.	OPERATION.				
	Superintendence.	Hydraulic labor.	Electrical labor.	Miscellaneous power plant supplies and expenses.	Total operation.
Milwaukee El. Ry. & Light Co. ¹	\$271 25	\$855 00	\$405 00	\$39 36	\$1,570 61

APPORTIONMENT OF

NAME OF ROAD.	Total power generation.	Electric current purchased.	Total cost of power.
Chicago & Milwaukee El. R. R. Co.....	\$85,884 69	\$110,407 18	\$196,291 87
Duluth Street Ry. Co.....	.....	148,601 23	148,601 23
Milwaukee Elec. Ry. & Light Co.....	684,084 37	178,289 18	862,373 55
Milwaukee Light, Ht. & Tr. Co. ².....	.....	.....	.....
Milwaukee Northern Ry. Co.....	37,527 08	.....	37,527 08
Rockford & Interurban Ry. Co.....	4,447 37	57,112 96	61,560 33
Total.....	\$811,943 51	\$494,410 55	\$1,306,354 06

¹ Includes Milwaukee Light, Heat & Traction Co. and Watertown Gas & Electric Co.² Included in Milwaukee Electric Railway & Light Co.

ENTIRE LINE, YEAR ENDING JUNE 30, 1912.
GENERATION.

OPERATION.		MAINTENANCE.					Total steam power generation.	
Miscellaneous power plant expenses.	Total operation.	Steam engines and turbines.	Auxiliary power plant equipment.	Generators.	Auxiliary power plant electric equipment.	Power plant bldgs. fixtures and grounds.		Total maintenance.
\$1,366 45	\$83,851 85	\$971 52	.....	\$60 44	\$858 21	\$142 67	\$2,032 84	\$85,884 69
5,440 66	658,391 95	4,045 62	\$2,114 14	6,051 65	9,858 80	1,973 54	24,045 75	682,435 70
116 94	4,447 37	.....	.....	.....	.....	.....	.....	4,447 37
\$6,924 05	\$746,691 17	\$5,017 14	\$2,114 14	\$6,112 09	\$10,717 01	\$2,116 21	\$26,076 59	\$772,767 76

GENERATION.

OPERATION.		MAINTENANCE.				Total gas power generation.	
Lubricants.	Miscellaneous power plant supplies and expenses.	Total operation.	Gas engines and turbines.	Substation equipment.	Electric plant equipment.		Total maintenance.
\$1,531 66	\$881 62	\$35,558 77	\$449 95	\$1,070 00	\$448 36	\$1,968 31	\$37,527 08

GENERATION.

MAINTENANCE.					Total hydraulic power generation.
Dams, canals and flumes.	Turbines and water wheels.	Generator.	Auxiliary power plant electric equipment.	Total maintenance.	
\$1 07	\$43 29	\$25 92	\$7 78	\$78 06	\$1,648 67

COST OF POWER.

Total transformation.	Total storage.	Total cost of power including transformation and storage.	Apportionment of total cost of power.	
			Amount charged to railway dept.	Amount charged to other dept's.
.....	.....	\$196,291 87	\$196,291 87	.....
.....	.....	148,601 23	148,601 23	.....
\$34,007 49	\$11,096 42	907,477 46	464,255 70	³ \$443,221 76
.....	.....	37,527 08	37,527 08	.....
.....	.....	61,560 33	61,560 33	.....
\$34,007 49	\$11,096 42	\$1,351,457 97	\$908,236 21	\$443,221 76

³ Includes \$397,776.31 lighting; \$38,137.97 T. M. E. R. & L., other purposes; \$7,307.48 Watertown Gas & Electric Co.

POWER ACCOUNTS, CLASS B ROADS,
STEAM POWER

NAME OF ROAD.	OPERA					
	Superinten- dence.	Engine labor.	Elec- trical labor.	Miscel- laneous labor.	Steam gener- ated.	Lubri- cants.
Ashland L., P. & St. Ry. Co.	\$310 37				\$2,521 91	
Eastern Wis. Ry. & Lt. Co...	1,380 00	\$1,126 29	\$822 89	\$337 96	30,446 33	\$294 83
La Crosse City Ry. Co.....		1,500 00			12,276 58	140 73
Sheboygan Ry. & Elec. Co..	720 00	2,237 97	2,230 24	515 87	32,119 39	718 26
Wisconsin Elec. Ry. Co.....	679 20	1,332 46	710 50	389 16	27,484 94	417 79
Wisconsin T., L., H. & P. Co.	138 57	152 41	130 60	2 38	6,069 57	334 13
Total.....	\$3,228 14	\$6,340 13	\$3,894 23	\$1,245 37	\$110,918 72	\$1,914 74

HYDRAULIC POWER

NAME OF ROAD.	OPERA					
	Superinten- dence.	Hydrau- lic labor.	Elec- trical labor.	Hydraulic power purchas'd.	Lubri- cants.	Miscellan- eous power plant sup- plies and expenses.
Chip. Valley Rr. L. & P. Co	\$780 00		\$1,179 60			\$36 11
Wis. Pub. Service Co.....	286 67	\$998 75	1,080 42	\$3,900 72	\$1 75	\$1,217 48
Wis. Tr. Lt., Ht., & Pr. Co..	925 87	8 49	1,090 69	19,500 00		\$2,330 80
Total.....	\$1,992 54	\$1,007 24	\$3,356 71	\$23,400 72	\$1,75	\$3,584 39

APPORTIONMENT OF COST OF POWER.

NAME OF ROAD.	Total power generated.	Electric power purchas'd.	Total cost of power.	Apportionment of total cost of power.	
				Amount charged to ry. dept's.	Amount charged to other dept's.
Ashland Lt., Pr. & St. Ry. Co.	\$3,004 88		\$3,004 88	\$3,004 88	
Chipp. Valley Ry., L. & P. Co.	2,098 32		2,098 32	2,098 32	
Eastern Wis. Ry. & Lt. Co....	35,840 54		35,840 54	12,671 81	\$23,168 73
La Crosse City Ry. Co.....	14,220 47	\$5,628 03	19,858 50	19,858 50	
Sheboygan Ry. & Elec. Co....	46,113 49		46,113 49	20,014 38	26,099 11
Southern Wisconsin Pr. Co..		23,865 22	23,865 22	23,865 22	
Wisconsin Elec. Ry. Co.....	32,069 54		32,069 54	27,269 54	4,800 00
Wisconsin Pub. Service Co..	8,353 38		8,353 38	2,989 98	5,363 40
Wis. Tr., Lt., Ht., & Pr. Co..	31,954 22		31,954 22	12,171 39	19,782 83
Total.....	\$173,664 84	\$29,493 25	\$203,158 09	\$123,944 02	\$79,214 07

¹ Includes \$1,500.00 rent of Green Bay substation and equipment and \$2,072.00 substation labor besides minor transmission system expenses; no costs for power purchased.

² Includes \$738.00 miscellaneous labor.

ENTIRE LINE, YEAR ENDING JUNE 30, 1912.
GENERATION.

OPERATION.		MAINTENANCE.						Total steam power generation.
Miscellaneous power plant supplies and expenses.	Total operation.	Steam engines and turbines.	Auxiliary power plant equipment.	Generators.	Auxiliary power plant electrical equipment.	Power plant bldgs. fixtures and grounds.	Total maintenance.	
.....	\$2,832 28	\$172 60	.....	.....	.....	.....	\$172 60	\$3,004 88
\$558 81	34,967 11	342 88	\$23 51	\$92 39	\$34 62	\$380 03	873 43	35,840 54
.....	13,926 81	139 89	.....	.....	89 84	74 43	304 16	14,230 47
1,422 60	39,964 33	2,134 81	478 25	152 69	294 45	3,088 96	6,149 16	46,113 49
544 14	31,558 19	157 48	7 44	57 71	42 39	246 33	511 35	32,069 54
760 07	7,587 75	75 01	233 05	4 54	47 32	14 09	374 01	7,961 74
\$3,285 62	\$130,835 95	\$3,022 67	\$742 25	\$307 33	\$508 62	\$3,803 84	\$8,384 71	\$139,220 66

GENERATION.

OPERATION.		MAINTENANCE.					Total hydraulic power generation.	
Current used by company.	Total operation.	Dams, canals and flumes.	Turbines and water wheels.	Generators.	Auxiliary power plant equipment.	Power plant buildings fixtures & grounds.		Total maintenance.
.....	\$1,995 71	.....	.....	.....	.....	\$102 61	\$102 61	\$2,098 32
.....	7,491 79	\$151 11	\$19 05	\$121 34	\$88 51	2415 58	795 59	8,287 38
.....	23,855 85	29 60	18 12	7 82	44 36	36 73	136 63	23,992 48
.....	\$33,343 35	\$180 71	\$37 17	\$129 16	\$132 87	\$554 92	\$1,034 83	\$34,378 18

³ Includes \$148.93 for transmission system.

⁴ Includes \$1,406.36 for miscellaneous labor.

⁵ Includes \$66.00 for steam generation.

POWER ACCOUNTS, CLASS C ROADS,
STEAM POWER

NAME OF ROAD.	OPERATION.		
	Operating labor.	Steam generated.	Steam purchased.
Kenosha Electric Railway Co.....	\$3,053 52	\$15,846 14	.....
Ironwood & Bessemer Ry. & Lt. Co.....	248 75	910 57	.....
Manitowoc & Northern Traction Co.....	.....	5,657 62	.....
Menominee & Marinette Lt. & Tr. Co.....	159 58	49 01	.....
Waupaca Electric Light & Ry. Co.....	.....	989 06	.....
Total.....	\$3,461 85	\$23,452 40	.....

HYDRAULIC POWER

NAME OF ROAD.	OPERATION.			
	Operating labor.	Hydraulic power generated.	Miscellaneous power plant supplies and expenses.	Total operation.
Waupaca Electric Lt. & Ry. Co.....	\$1,164 15	.....	\$17 60	\$1,181 75

APPORTIONMENT OF COST OF POWER.

NAME OF ROAD.	Total power generation.	Electric current purchased.	Total cost of power.	Apportionment of total cost of power.	
				Amount charged to railway department.	Amount charged to other departments.
Bay Shore Street Railway Co.....	.....	\$1,238 58	\$1,238 58	\$1,238 58	.....
Beloit Traction Co.....	.....	3,955 93	3,955 93	3,955 93	.....
Grand Rapids St. Railroad Co.....	\$30 30	2,779 00	2,809 30	2,809 30	.....
Ironw'd & Bessemer R. & L.Co.....	1,166 86	.....	1,166 86	1,166 86	.....
Janesville Traction Co.....	.....	3,673 47	3,673 47	3,673 47	.....
Kenosha Electric Ry. Co.....	19,734 30	4,214 24	23,948 54	12,159 53	11,789 01
La Crosse & Onal. St. Ry. Co.....	.....	1,020 00	1,020 00	1,020 00	.....
Manitowoc & Northern Tr. Co.....	8,408 83	.....	8,408 83	8,408 83	.....
Men. & Marinette L. & T. Co.....	287 16	4,192 93	4,480 09	4,480 09	.....
Merrill Ry. & Ltg. Co.....	.....	1,800 00	1,800 00	1,800 00	.....
Waupaca El. Lt. & Ry. Co.....	2,650 76	.....	2,650 76	604 81	2,045 95
Wausau Street Railroad Co.....	.....	5,660 25	5,660 25	5,660 25	.....
Total.....	\$32,278 21	\$28,534 40	\$60,812 61	\$46,977 65	\$13,834 96

ENTIRE LINE, YEAR ENDING JUNE 30, 1912.
GENERATION.

Miscellaneous power plant supplies and expenses.	Total operation.	MAINTENANCE.			Total steam power generation.
		Power plant equipment.	Power plant buildings fixtures and grounds.	Total maintenance.	
\$240 10	\$19,139 76	\$496 46	\$98 08	\$594 54	\$19,734 30
7 54	1,166 86				1,166 86
.....	5,657 62	2,751 21	.....	2,751 21	8,408 83
41 28	249 87	14 44	22 85	37 29	287 16
17 60	1,006 66	.....	11 14	11 14	1,017 80
\$306 52	\$27,220 77	\$3,262 11	\$132 07	\$3,394 18	\$30,614 95

GENERATION.

Hydraulic power works.	MAINTENANCE.			Total hydraulic power generation.
	Power plant equipment.	Power plant buildings, fixtures and grounds. •	Total maintenance.	
\$256 26	\$183 80	\$11 15	\$451 21	\$1,632 96

POWER APPORTIONMENT ACCOUNTS, ENTIRE LINE,
STEAM

NAME OF ROAD.	OPERATION.				Total operation.
	Operating labor.	Fuel.	Water.	Miscellaneous steam supplies and expenses.	
Ashland Lt. Pr. & St. Ry. Co.		\$2,521 91			\$2,521 91
Chicago & Milw. El. R. Co.	\$7,568 86	43,492 46	\$2,814 78	\$352 31	54,228 41
Eastern Wis. Ry. & Lt. Co.	2,327 14	25,677 57	18 52	749 81	28,773 04
Ironwood & B. Ry. & Lt. Co. . . .	248 75	910 57		7 54	1,166 86
Kenosha Electric Ry. Co.	1,612 87	12,832 37		171 74	14,616 98
La Crosse City Railway Co.	1,128 68	10,737 09	57 19	211 69	12,134 65
Menom. & Mar. Lt. & T. Co.	159 58	44 72	2 66	42 91	249 87
Milwaukee El. Ry. & Lt. Co. . . .	62,216 72	544,468 83	11,408 01	6,491 39	624,584 95
Milwaukee Lt. Ht. & Tr. Co. . . .					
Sheboygan Ry. & Electric Co. . . .	3,967 79	27,951 97		199 63	32,119 39
Waupaca Elec. Lt. & Ry. Co. . . .	272 50	669 89	11 74	23 87	978 00
Wisconsin Electric Ry. Co.	2,085 03	23,885 03		155 62	26,125 68
Wisconsin Public Service Co. . . .		49 50		16 50	66 00
Wisconsin Tr. Lt. H. & P. Co . . .	878 01	4,911 95		154 88	5,944 84
Total.....	\$82,465 93	\$698,153 86	\$14,312 90	\$8,577 89	\$803,510 58

POWER GAS

NAME OF ROAD.	OPERATION.				Total operation.
	Gas production operating labor.	Gas production fuel.	Gas producer water.	Miscellaneous gas producer supplies and expenses.	
Milwaukee Northern Ry. Co.	\$5,966 84	\$18,139 56	\$4 38		\$24,110 78

¹ Railway and lighting.² Electric generation—railway and lighting.

ALL CLASSES, YEAR ENDING JUNE 30, 1912.
POWER.

MAINTENANCE.				Total cost of steam.	Apportioned to	
Boilers and boiler auxiliary equipment.	Coal and ash handling equipment.	Boiler plant buildings, fixtures and grounds.	Total maintenance.		Street railway account.	Other accounts.
\$4,771 25	\$817 37	\$264 95	\$5,853 57	\$2,521 91	\$2,521 91	.....
1,669 81	.....	3 48	1,673 29	60,081 98	60,081 98	.....
.....	.....	.....	.....	30,446 33	30,446 33	.....
.....	.....	.....	.....	1,166 86	1,166 86	.....
1,081 73	67 63	79 80	1,229 16	15,846 14	15,846 14	.....
136 56	5 37	.....	141 93	12,276 58	12,276 58	.....
14 44	.....	22 85	37 29	287 16	287 16	.....
28,759 39	2,729 58	1,167 92	32,656 89	657,241 84	592,936 53	64,305 31
1,655 31	.....	116 94	1,772 25	33,891 64	14,524 99	19,366 65
3 75	.....	7 31	11 06	989 06	225 72	763 34
1,359 24	.....	02	1,359 26	27,484 94	27,484 94	.....
.....	.....	.....	.....	66 00	66 00	.....
110 56	10	14 07	124 73	6,069 57	2,311 90	3,757 67
\$39,562 04	\$3,620 05	\$1,677 34	\$44,859 48	\$848,370 01	\$760,177 04	\$88,192 97

PRODUCTION.

MAINTENANCE.				Total cost of power gas.	Apportioned to	
Gas producer equipment.	Coal and ash handling equipment.	Gas producer buildings, fixtures and grounds.	Total maintenance.		Street railway account.	Other accounts.
\$1,112 83	\$1,112 83	\$25,223 61	\$25,223 61	.....

³ \$62,547.27 Milwaukee Central Heating Co. steam cost; \$1,758.04 other accounts.

BALANCE SHEET, ENTIRE
As-*Italic figures denote credits.*

NAME OF ROAD.	Property and plant.		Treasury securities.	Stocks, bonds and other investments.	Reserve sinking and special fund assets.
	Cost beginning of year.	Construction and equipment current year.			
<i>Class A.</i>					
Chi. & Milw. Elec. R. R. Co...	\$1,057,176 95	\$179,272 40	.....	\$294,014 00	.....
Duluth St. Ry. Co.....	5,448,771 33	200,907 82	.....	.....	\$273,493 20
Milw. Elec. Ry. & Light Co....	22,890,982 95	2,125,040 13	.....	100,080 00	840,000 00
Milw. Lt., Ht. & Trac. Co....	8,135,303 65	211,795 97	.....	11,903,633 75	42,500 00
Milwaukee Northern Ry. Co....	3,502,841 09	29,241 11	.....	.....	.....
Rockford & Interurban Ry. Co.	4,591,654 85	51,920 28	\$188,000 00	2,100,150 00	11,860 97
Total.....	\$45,626,730 82	\$2,798,177 71	\$188,000 00	\$14,397,877 75	\$1,167,854 17
<i>Class B.</i>					
Ashland Lt., P. & St. Ry. Co..	\$138,890 39	1,695 77	\$6,000 00	.....	.....
Chipp. Val. Ry., Lt. & Pr. Co..	540,941 28	10,469 64	.....	.....	.....
Eastern Wis. Ry. & Lt. Co....	660,204 14	21,624 94	32,586 40	\$75,767 55	.....
La Crosse City Ry. Co.....	561,236 74	13,901 67	377,800 00	.....	.....
Sheboygan Ry. & Elect. Co....	1,324,899 38	26,985 60	.....	.....	\$59,892 75
Southern Wisconsin Ry. Co....	1,345,608 00	54,164 25	39,000 00	.....	.....
Wisconsin Elec. Ry. Co.....	1,163,416 09	17,392 89	83,000 00	.....	.....
Wisconsin Public Service Co..	2,922,732 28	5,808 46	.....	196,140 70	2,664 58
Wis. Tr., Lt. Ht. & Pr. Co....	1,020,783 97	19,079 28	117,234 00	1,605 00	35,100 00
Total.....	\$9,678,712 27	\$168,730 96	\$655,620 40	\$273,513 25	\$97,657 33
<i>Class C.</i>					
Bay Shore Street Ry. Co.....	\$31,302 89	.....	.....	.....	.....
Beloit Traction Co.....	133,490 02	\$68 58	\$40,000 00	.....	.....
Grand Rapids St. R. R. Co....	146,866 31	2,736 87	.....	.....	.....
Ironw'd & Bessemer L. & P.Co. ²	224,520 00	.....	.....	\$1,043,555 00	\$24,000 00
Janesville Traction Co.....	211,583 80	125 35	.....	.....	.....
Kenosha Elect. Ry. Co.....	701,812 86	10,374 68	.....	.....	.....
La Cr. & Onalaska St. Ry. Co..	38,000 00	.....	.....	.....	.....
Manitowoc & Northern Tr. Co.	244,117 85	1,914 99	.....	.....	.....
Menom. & Marin. Lt. & Tr. Co.	468,860 52	4,554 78	.....	500 00	2,331 58
Merrill Ry. & Ltg. Co.....	30,000 00	.....	.....	300 00	.....
Waupaca Elec. Lt. & Ry. Co..	58,038 00	283 80	.....	.....	.....
Wausau Street R. R. Co.....	224,824 05	55,120 60	.....	.....	.....
Total.....	\$2,513,416 30	\$69,455 21	\$40,000 00	\$1,044,355 00	\$26,331 58

¹ Includes \$3,362.24 material sold—credit.

STATISTICS—ELECTRIC RAILWAYS.

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LINE, JUNE 30, 1912.

SETS.

Cash.	Notes and bills receivable.	Accounts receivable.	Materials and supplies.	Miscellaneous assets.	Prepaid accounts.	Open accounts.	Deficit.	Total assets.
\$150,883 25		\$17,990 38	\$28,295 77	\$1,980 00	\$2,092 21	\$414,766 06		\$2,146,471 02
16,300 51		12,621 41	100,952 92	2,412 48	817 19	4,905 19		6,061,182 05
104,302 46	\$286,342 58	2,134,716 67	518,178 82	3,963 34	8,090 30	24,965 38		29,036,662 63
28,575 22	12,000 00	8,213 36	14,846 30	115,812 50	2,579 98	5,347 09		20,416,972 94
39,073 38	101,105 00	5,266 93	62,513 42	5,768 39	10,025 59			7,167,338 81
\$339,134 82	\$399,447 58	\$2,178,808 75	\$724,787 23	\$129,936 71	\$25,771 36	\$449,983 72		\$68,426,510 62
\$80 00			\$1,018 62	\$716 05	\$965 86	\$3,219 71		\$150,194 86
1,911 89			2,167 08		127 00			555,616 89
9,093 84	\$14,560 10	\$3,524 32	9,533 77	1,193 75	1,210 95			829,299 76
	8,986 40	611 70	11,798 73		8,257 36			982,592 60
181 79	1,110 49		12,900 26		4,263 32	2,524 87		1,432,758 46
3,478 55		19,811 44	5,097 30		354 95			1,467,514 49
12,254 70		2,959 33	17,723 03		1,898 41			1,298,644 45
7,275 50	\$41,650 00	28,398 59	3,746 39	3,456 25	1,047 07	9,495 92		3,222,415 74
79 25		457 65	12,413 20		478 03			1,207,230 38
\$34,355 52	\$66,306 99	\$55,763 03	\$76,398 38	\$5,366 05	\$18,602 95	\$15,240 50		\$11,146,267 63
\$819 22						\$16 69		\$32,138 71
6,127 36		\$72 95		\$57 50	\$219 03		\$3,487 53	183,522 97
1,271 36			\$355 83		91 80			145,848 43
986 65		228,245 01				216,605 36		1,737,912 02
1,130 55		1,076 00	553 89					214,218 89
884 94		2,070 93			52 38	705 63		715,901 42
3,126 15						175 00		41,301 15
214 97						3,840 80		250,088 61
2,845 48		2,708 37	886 05		2,925 17			485,611 95
22 00						6,935 67		37,257 67
201 84			591 50					59,115 14
1,855 49	\$5,006 00		488 16					287,288 30
\$19,486 01	\$5,000 00	\$234,173 26	\$2,875 43	\$57 50	\$3,288 38	\$228,279 06	\$3,487 53	\$4,190,205 26

² Includes railway and lighting.

BALANCE SHEET, ENTIRE
LIABIL

NAME OF ROAD.	Capital liabilities.			Mortgage liabilities.
	Capital stock preferred.	Capital stock common.	Funded debt.	
<i>Class A.</i>				
Chicago & Mil. Elec. R. R. Co.....			\$1,097,871 71	
Duluth St. Ry. Co.....		\$1,800,000 00	3,057,000 00	
Milwaukee Elec. Ry. & Lt. Co.....	\$3,600,000 00	7,200,000 00	12,982,400 00	
Milwaukee Lt., Ht. & Tr. Co.....		8,500,000 00	9,510,650 00	
Milwaukee Northern Ry. Co.....	1,000,000 00	1,000,000 00		\$1,500,000 00
Rockford & Interurban Ry. Co.....		4,000,000 00	2,368,000 00	
Total.....	\$4,600,000 00	\$22,500,000 00	\$29,015,921 71	\$1,500,000 00
<i>Class B.</i>				
Ashland Lt. P. & St. Ry. Co.....	\$39,000 00		\$92,000 00	
Chippewa Valley Ry. Lt. & P. Co.....		\$300,000 00	200,000 00	
Eastern Wisconsin Ry. & Lt. Co.....		185,150 00	514,161 55	
La Crosse City Ry. Co.....		500,000 00	400,000 00	\$5,567 71
Sheboygan Ry. & El. Co.....		742 00	894,110 00	
Southern Wisconsin Ry. Co.....		50,000 00	1,185,000 00	55,000 00
Wisconsin Elec. Ry. Co.....		350,500 00	866,000 00	
Wisconsin Public Service Co.....	420,000 00	700,000 00	1,575,000 00	
Wisconsin Tr. Lt. Ht. & P. Co.....		390,000 00	579,150 00	
Total.....	\$459,000 00	\$2,475,892 00	\$6,305,421 55	\$60,567 71
<i>Class C.</i>				
Bay Shore St. Ry. Co.....	\$11,500 00		\$15,000 00	
Beloit Tr. Co.....		\$100,000 00	70,000 00	
Grand Rapids St. R. R. Co.....		125,000 00		
Ironwood & Bessemer Lt. & P. Co. ¹	124,500 00	500,000 00	909,000 00	
Janesville Traction Co.....		125,000 00	50,000 00	
Kenosha Elec. Ry. Co.....		124,500 00	415,000 00	
La Crosse & Onalaska St. Ry. Co.....		38,000 00		
Manitowoc & Northern Tr. Co.....		100,000 00	118,000 00	
Menom. & Marinette Lt. & Tr. Co.....		287,840 00	115,320 00	
Merrill Ry. & Ltg. Co.....		20,000 00	10,000 00	
Waupaca Elec. Lt. & Ry. Co.....		28,500 00	29,000 00	
Wausau St. R. R. Co.....		133,300 00	87,500 00	
Total.....	\$136,000 00	\$1,582,140 00	\$1,818,820 00	

¹ Includes railway and lighting.

LINE, 1912.—Continued.

ITIES.

Reserve, sinking and special fund liabilities.			Current liabilities.				
Depreciation reserve fund.	Sinking fund.	Special funds.	Notes and bills payable.	Matured interest on funded debt unpaid.	Accounts unpaid.	Deposits	Miscellaneous current liabilities
		\$54,370 98			\$128,891 92	\$5,140 00	
\$285,222 39		20,911 26	\$54,229 30	\$25,475 00	87,009 93	1,836 00	\$5,027 47
1,264,301 85		1,046,651 51	160,000 00	130,852 00	872,746 70	10,433 29	99,490 56
149,478 29		66,128 89		8,988 75	1,542,741 98		
			27,911 35		15,025 04		
3,264 22		4,938 92	446,634 05		15,894 63	267 50	
\$1,702,266 75		\$1,193,001 56	\$688,774 70	\$165,315 75	\$2,662,310 20	\$17,676 79	\$104,518 03
		\$920 00	\$6,579 80		\$4,899 73		
\$5,712 67					7,841 76		
40,500 00		3,164 30			4,802 76	\$66 00	\$48 33
41,137 94	\$450 67		24,400 20		11,114 96	203 50	
22,823 04	1,066 35		65,500 00		47,122 90		
		4,488 15			12,417 21	200 25	4 50
		535 28			41,438 89		453 23
5,691 42		25,488 02			3,528 62		
\$115,865 07	\$1,517 02	\$34,595 75	\$96,480 00		\$133,166 83	\$469 75	\$506 06
		\$451 35			\$1,408 24		
\$3,600 00					1,221 17		
10,800 00			7,000 00				
			146,552 74		43,823 70		\$5,300 00
		1 50	34,000 00		2,169 79		
4,223 03	\$3,284 54		73,746 19	\$62,250 00	4,066 14		
			2,500 00				
		1,539 74	44,033 69		1,377 18		
17,355 63		849 00			3,129 93		3,192 70
2,000 00					1,112 19		
17,056 57	875 00						
\$55,035 23	\$4,159 54	\$2,841 59	\$307,832 62	50 00	\$58,308 34		\$8,492 70

BALANCE SHEET, ENTIRE
LIABILITIES

NAME OF ROAD.	Accrued		
	Taxes accrued.	Unmatured interest on funded debt accrued.	Unmatured interest on notes and bills payable accrued.
<i>Class A.</i>			
Chicago & Milwaukee Elec. R. R. Co.....	\$32,819 97	\$13,426 31	.....
Duluth St. Ry. Co.....	119,800 70	.....	.....
Milwaukee Elec. Ry. & Light Co.....	309,907 25	118,333 33	.....
Milwaukee Lt. Ht. & Tr. Co.....	42,923 19	57,336 04	.....
Milwaukee Northern Ry. Co.....	9,146 65	16,541 68	.....
Rockford & Interurban Ry. Co.....	1,378 20	24,645 83	.....
Total.....	\$515,975 96	\$230,283 19	.....
<i>Class B.</i>			
Ashland Lt. P. & St. Ry. Co.....	\$376 92	.....	.....
Chippewa Valley Ry. Lt. & P. Co.....	2,477 95	.....	.....
Eastern Wisconsin Ry. & Lt. Co.....	3,532 48	\$5,100 34	.....
La Crosse City Ry. Co.....	5,543 42	.....	.....
Sheboygan Ry. & El. Co.....	4,452 00	5,500 11	.....
Southern Wisconsin Ry. Co.....	7,675 68	19,033 34	.....
Wisconsin Elec. Ry. Co.....	3,675 92	16,312 50	\$9 64
Wisconsin Public Service Co.....	7,237 40	3,469 40	.....
Wisconsin Tr. Lt. Ht. & P. Co.....	5,771 48	1,764 75	.....
Total.....	\$40,743 25	\$51,180 44	\$9 64
<i>Class C.</i>			
Bay Shore St. Ry. Co.....	.....	.....	.....
Beloit Tr. Co.....	\$606 80	\$875 00	.....
Grand Rapids St. R. R. Co.....	600 00	.....	\$71 17
Ironwood & Bessemer Lt. & P Co.....	.....	.....	.....
Janesville Traction Co.....	.....	239 33	.....
Kenosha Elec. Ry. Co.....	1,726 17	10,375 00	.....
La Crosse & Onalaska St. Ry. Co.....	.....	.....	.....
Manitowoc & Northern Tr. Co.....	.....	.....	.....
Menominee & Marinette Lt. & Tr. Co.....	2,309 05	2,416 97	920 30
Merrill Ry. & Ltg. Co.....	.....	.....	.....
Waupaca Elec. Lt. & Ry. Co.....	.....	163 30	.....
Wausau St. R. R. Co.....	949 90	.....	.....
Total.....	\$6,191 92	\$14,069 60	\$991 47

LINE, 1912—Concluded.

Concluded.

Liabilities.		Open accounts.	Surplus.	Total liabilities.
Dividends accrued.	Miscellaneous accrued liabilities.			
.....	\$4,565 40	\$107,445 41	\$701,939 32	\$2,146,471 02
.....	1,456 00	.....	603,214 00	6,061,182 05
\$144,000 00	575 82	129,497 49	967,472 83	29,036,662 63
.....	.....	74,118 30	464,607 50	20,416,972 94
6,000 00	.....	.....	23,258 45	3,597,883 17
.....	27,704 58	.....	274,610 88	7,167,338 81
150,000 00	\$34,301 80	\$311,061 20	\$3,035,102 98	\$68,426,510 62
.....	\$705 74	.....	.....	\$150,194 86
.....	837 34	.....	\$4,797 18	555,616 89
.....	2,738 43	.....	112,436 66	829,299 76
.....	2,694 00	.....	27,401 60	982,592 60
.....	.....	.....	489,294 52	1,432,758 46
.....	1,051 35	.....	14,293 18	1,467,514 49
.....	.....	.....	44,484 93	1,298,644 45
.....	3,249 98	\$3,853 37	470,428 17	3,222,415 74
.....	.....	.....	192,586 11	1,207,230 38
.....	\$11,276 84	\$3,853 37	\$1,355,722 35	\$11,146,267 63
.....
.....	\$20 00	.....	\$179 12	\$32,138 71
.....	317 18	.....	12,860 08	183,522 97
.....	178 16	.....	8,735 58	145,848 43
.....	.....	.....	2,630 11	1,737,912 02
.....	124 50	.....	16,605 85	214,218 89
.....	.....	.....	801 15	715,901 42
.....	90 00	\$8 75	30,702 68	41,301 15
.....	.....	.....	7,463 94	250,088 61
.....	.....	.....	3,296 48	485,611 95
.....	.....	.....	.....	37,257 67
.....	.....	.....	1,451 84	59,115 14
.....	.....	.....	47,606 83	287,288 30
.....	\$729 84	\$8 75	\$132,333 66	\$4,190,205 26

STATION EQUIPMENT
CENTRAL STATION

NAME OF ROAD.	Boilers.		Steam engines reciprocating.		Steam turbines.	
	No.	Total capacity in h. p.	No.	Total capacity in h. p.	No.	Total capacity in h. p.
<i>Class A.</i>						
Chicago & Milwaukee Elec. R. R. Co.....	9	3,648	3	4,150		
Duluth St. Ry. Co.....	141	124,484	113	125,125	19	166,330
Milwaukee Elec. Ry. & Light Co.....	16	1,600	2	4,020	12	13,350
Milwaukee Lt. Ht. & Tr. Co.....						
Milwaukee Northern Ry. Co.....						
Rockford & Interurban Ry. Co.....	3	1,500	2	1,200		
Total.....	59	31,232	20	24,495	11	69,680
<i>Class B.</i>						
Ashland Lt., P. & St. Ry. Co.....	4	500	2	200		
Chippewa Valley Ry. Lt. P. Co.....	4	400	1	400		
Eastern Wisconsin Ry. & Lt. Co.....	4	1,790	3	1,600		
La Crosse City Ry. Co.....	4	625	2	600		
Sheboygan Ry. & El. Co.....	5	1,250	2	1,500	1	1,000
Southern Wisconsin Ry. Co.....						
Wisconsin Elec. Ry. Co.....	3	750	3	1,800		
Wisconsin Public Service Co.....	4	1,070	3	1,650		
Wisconsin Tr. Lt. Ht. & Pr. Co. ¹	4	1,380	2	2,000	2	3,351
Total.....	32	7,765	18	9,750	3	4,351
<i>Class C.</i>						
Bay Shore St. Ry. Co.....						
Beloit Tr. Co.....						
Grand Rapids St. R. R. Co.....						
Ironwood & Bessemer Lt. & P. Co.....						
Janesville Traction Co.....						
Kenosha Elec. Ry. Co. ¹	2	400			2	950
LaCrosse & Onalaska St. Ry. Co.....						
Manitowoc & Northern Tr. Co.....						
Menominee & Marinette Lt. & Tr. Co. ²	4	370	2	425		
Merrill Ry. & Ltg. Co. ¹	4	400	1	250		
Waupaca Elec. Lt. & Ry. Co.....	2	140	1	165		
Wausau St. Ry. Co. ²						
Total.....	12	1,310	4	840	2	950

¹Railway and lighting.²Central station equipment not used.

STATION EQUIPMENT,

NAME OF ROAD.	CENTRAL STATION					
	Exciters.		Rotaries.		Motor generators.	
					Used as motor,	Used as generator.
	No.	Total capacity in kw.	No.	Total capacity in kw.	No.	Total capacity in kw.
<i>Class A.</i>						
Chi. & Milw. El. R. R. Co. ⁶	2	160	3	1,100		
Duluth St. Ry. Co.....						
Milw. Elec. Ry. & Light Co.....	6	250	1	1,000	1	500
Milw. Light. Ht. & Tr. Co.....	2	75	2	600		
Milw. Northern Ry. Co.....						
Rockford & Inter. Ry. Co.....	2	80				
Total.....	12	565	6	2,700	1	500
<i>Class B.</i>						
Ashl'd Light, Pr. & St. Ry. Co.....					1	200
Chip. Val. Ry. Lt. & P. Co. ^{2,1}	6	277½				
Eastern Wis. Ry. & Lt. Co.....	4	24			1	150
La Crosse City Ry. Co.....						
Sheboygan Ry. & El. Co.....	2		1	200		150
Southern Wis. Ry. Co.....						
Wis. Electric Ry. Co.....			1	150		
Wis. Public Service Co.....	2	70	2	600		
Wis. Tr. Lt. Ht. & Pr. Co. ¹	2	70				50
Total.....	16	441½	4	950	2	350
<i>Class C.</i>						
Bay Shore St. Ry. Co.....						
Reloit Tr. Co.....						
Grand Rapids St. R. R. Co.....						200
Ironw'd & Bessemer L. & P. Co.....						
Janesville Tr. Co.....						
Kenosha Elec. Ry. Co.....	2	60	2	500		1
La Cr. & Onalaska St. Ry. Co.....						
Manitowoc & Northern Tr. Co.....						
Men. & Mar. Lt. & Tr. Co. ⁴						
Merrill Ry. & Ltg. Co. ¹						4
Waupaca Elec. Lt. & Ry. Co.....	2	4				
Wausau St. R. R. Co. ³						
Total.....	4	64	2	500		6
						207½

¹ Railway & lighting.² Substation equipment at Eau Claire: 2 motor generators as generators, 600 kw. and 1 booster set, 100 kw.³ Purchased 754,700 kw. hr. @ 1 per kw-hr. from light and power plant.⁴ Substation equipment at Menominee: 2 motor generators as motors, 440 h. p. 2 motor generators as generators, 300 kw.

ENTIRE LINE, 1912.—Concluded.

EQUIPMENT—Concluded.						SUBSTATION AND TRANSFORMER EQUIPMENT.					
Storage batteries at 1 hour rating.		Booster sets.		Step-up transformers.		Step-down transformers.		Rotaries.		Step-down transformers.	
No.	Total capacity in kw.	No.	Total capacity in kw.	No.	Total capacity in kw.	No.	Total capacity in kw.	No.	Total capacity in kw.	No.	Total capacity in kw.
1	.....^(e)	1	53	3	750	9	1,215	15	7,900	45	8,790
.....	6	15,000	19	1,605	8	11,500	24	12,915
.....	4	2,000	.....	.....	23	10,100	50	23,785
.....	6	1,350	.....	.....	9	3,100	27	3,000
.....	10	2,100	730	.....
1	.....^(e)	1	53	19	19,100	18	2,820	65	34,700	176	48,490
.....	6	6,800	3	600	.....	.....	3	600
.....	6	3,600	.....	.....	.....	.....
.....	1	75	2	220	.....	.....	1	200	2	400
.....	3	180	.....	.....	.....	.....	.....	.....
.....	2	666	8	1,116	1	150	3	180
.....	3	135	3	45	2	400	6	450
.....	1	45
.....	1	75	16	8,001	20	5,361	4	750	15	1,675
.....
.....	3	30	.....	.....	.....	.....
.....	7	4,725
1	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....
1	50	.....	.....	.....	.....	3	30	.....	.....	7	4,725

⁵ 440 amp.-hr.

⁶ 5 booster sets, 395 kw. capacity, 4 storage batteries, at 1 hr. rating, 744 kw. capacity, additional substation equipment.

⁷ Three for every rotary.

EQUIPMENT, CARS AND LOCOMOTIVES.

NAME OF ROAD.	PASSENGER SERVICE CARS.					Total cars in passenger service.
	Closed.	Open.	Combination closed and open.	Combination passenger and baggage.	Other passenger service cars.	
<i>Class A.</i>						
Chi & Mil. Elec. R. R. Co...	48	7	21	5		81
Duluth St. Ry. Co.....	115					115
Mil. Elec. Ry. & Lt. Co.....	513	8				521
Mil. Lt., Ht. & Tr. Co.....	133					133
Milwaukee Northern Ry. Co	20					20
Rock'd & Interurban Ry. Co	27			4	1	32
Total.....	856	15	21	9	1	902
<i>Class B.</i>						
Ashland Lt. P. & St. Ry. Co.	7	6				13
Chipp. Val. Ry. Lt. & P. Co..	14	11				25
Eastern Wis. Ry. & Lt. Co..						
La Crosse City Ry. Co.....	37					37
Sheboygan Ry. & Elect. Co.	14	2				16
Southern Wis. Ry. Co.....	21	10				31
Wisconsin Electric Ry. Co..	22	20				42
Wis Public Service Co.....	20	8				28
Wis. Tr. Lt. Ht. & P. Co.....	17	2				19
Total.....	152	59				211
<i>Class C.</i>						
Bay Shore St. Ry. Co.....	1					1
Beloit Tr. Co.....	6					6
Grand Rapids St. R. R. Co..	4					4
Ironw'd & Bess. L. & P. Co..						
Janesville Traction Co.....	9					9
Kenosha Elec. Ry. Co.....						
La Crosse & Onal St. Ry. Co	2					2
Manitowoc & North Tr. Co.	7	1				8
Menom. & Mar. Lt. & Tr. Co	20	29				49
Merrill Ry. & Ltg. Co.....	4					4
Waupaca Elec. Lt. & Ry. Co	1	6				7
Wausau St. R. R. Co.....	10	4				14
Total.....	64	40				104

ENTIRE LINE, JUNE 30, 1912.

OTHER REVENUE SERVICE CARS.

Mail cars.	Express cars.	Freight cars.					Total in other revenue service.
		Box cars.	Gondolas.	Flat cars.	Other freight cars.	Total freight cars.	
	4	3	29	18	62	112	116
	1			1		1	2
	4			7		7	11
	9	3	29	26	62	120	129
				2		2	2
	1						1
	1			1		1	2
	2			3		3	5
		1	2	1			4
		1	2	1			4

EQUIPMENT CARS AND LOCOMOTIVES,

NAME OF ROAD.	UTILITY EQUIPMENT (SERVICE) CARS.				
	Snow plows.	Sprink- lers.	Sweep- ers.	Work cars.	Total utility equip- ment service.
<i>Class A.</i>					
Chicago & Milwaukee Elec. R. R. Co.	2	2	3	10	17
Duluth St. Ry. Co.	3			7	10
Milwaukee El. Ry. & Lt. Co.	3	9	14	233	259
Milwaukee Lt. Ht. & Tr. Co.			4		4
Milwaukee Northern Ry. Co.	2		1	1	4
Rockford & Interurban Ry. Co.	2			34	36
Total	12	11	22	285	330
<i>Class B.</i>					
Ashland Lt. Pr. & St. Ry. Co.	1				1
Chippewa Valley Ry. Lt. & P. Co.	1				1
Eastern Wisconsin Ry. & Lt. Co.					
La Crosse City Ry. Co.					
Sheboygan Ry. & Elec. Co.	2		1	7	10
Southern Wisconsin Ry. Co.	2	1		9	12
Wisconsin Elec. Ry. Co.	1		1	1	3
Wisconsin Public Service Co.	3	1		1	5
Wisconsin Tr. Lt. Ht. & Pr. Co.				1	1
Total	10	2	2	19	33
<i>Class C.</i>					
Bay Shore St. Ry. Co.					
Beloit Tr. Co.					
Grand Rapids St. R. R. Co.				1	1
Ironwood & Bessemer Lt. & P. Co.					
Janesville Traction Co.					
Kenosha Elec. Ry. Co.					
La Crosse & Onalaska St. Ry. Co.					
Manitowoc & Northern Tr. Co.					
Menominee & Marinette Lt. & Tr. Co.	2			2	4
Merrill Ry. & Lighting Co.	1				1
Waupaca Elec. Lt. & Ry. Co.					
Wausau St. R. Co.	1				1
Total	4			3	7

¹Hot water heaters.

ENTIRE LINE, 1912—Continued.

ELECTRIC LOCOMOTIVES.			No. of passenger cars equipped with electric heaters.	No. of car houses.	Capacity of car houses in cars.
Passenger service.	Freight service.	Total electric locomotives.			
	2	2		3	39
			1	2	90
		1		6	328
				4	42
			(1)	2	20
			2	2	50
	2	3	3	19	569
			14	3	25
				1	14
				2	38
			6	1	6
				1	35
				1	16
				2	42
			3	1	20
			23	12	196
			4	1	6
				1	6
			5	2	16
			2	3	50
				1	4
			1	1	10
			7	1	12
			19	10	104

EQUIPMENT, CARS AND LOCOMOTIVES.

NAME OF ROAD.	CARS IN PASSENGER SERVICE.							
	Trail cars.		Motor cars.					
	No. owned.	No. leased.	No. owned.	No. leased.	Total number motors.	Total capacity in kw.	No. equipped with fenders.	No. with power brakes.
<i>Class A.</i>								
Chicago & Milw. El. R. R. Co.	15		66		262	12,503	110	66
Duluth Street Ry. Co.			115		414		115	92
Milw. El. Ry. & Light Co.			521		1,974	56,181	521	312
Milw. Lt., Ht. & Tr. Co.	63		70		240	12,712	70	50
Milwaukee Northern Ry. Co.			20		80	3,360	20	20
Rockford & Interurban Ry. Co.	12		20		80	2,984	132	20
Total	90		812		3,050	87,740	768	560
<i>Class B.</i>								
Ashland Lt. Pr. & St. Ry. Co.			13		18	379	13	
Chippewa V. Ry., Lt. & Pr. Co.					55	2,450	25	7
Eastern Wisc. Ry. & Lt. Co.	6		16		52		16	9
La Crosse City Ry. Co.	8		29		29	1,278	29	
Sheboygan Ry. & Elec. Co.	6		16		60	1,940	16	8
Southern Wisconsin Ry. Co.			31		62	149.2	31	
Wisconsin Elect. Ry. Co.	12		30		80		26	10
Wisconsin Public Service Co.	4		24		64	1,754	24	9
Wis. Tr., Lt., Ht. & P. Co.			19		66	2,115	19	14
Total	36		178		486	10,065.2	199	57
<i>Class C.</i>								
Bay Shore St. Ry. Co.			1				1	1
Beloit Traction Co.			6		12	59.68	6	2
Grand Rapids St. R. R. Co.	2		2		8	240	2	2
Ironw'd & Bessemer L. & P. Co.								
Janesville Traction Co.				9	18	470	9	
Kenosha Elec. Ry. Co.					2			
La Cr. & Onalaska St. Ry. Co.								
Manitowoc & Northern Tr. Co.					22	850	8	3
Menom. & Marin. Lt. & Tr. Co.	26		23		43		20	
Merrill Ry. & Ltg. Co.			4		5	100	4	
Waupaca El. Lt. & Ry. Co.	3		4		10		4	
Wausau Street R. R. Co.	5		9		24	626.64	9	3
Total	36		49	9	144	2,346.32	63	11

¹ Cars equipped with truck pilots.

EQUIPMENT, CARS AND LOCOMOTIVES.

NAME OF ROAD.	UTILITY EQUIPMENT (Service)				
	Trail Cars.		Motor		
	Number owned.	Number leased.	Number owned.	Number leased.	Total number motors.
<i>Class A.</i>					
Chicago & Milwaukee Elec R. R. Co.....	2		15		41
Duluth St. Ry. Co.....			10		36
Milwaukee Elec Ry. & Light Co.....	193		66		188
Milwaukee Lt., Ht. & Tr. Co.....			4		8
Milwaukee Northern Ry. Co.....			1		6
Rockford & Interurban Ry. Co.....	32		4		14
Total	227		100		293
<i>Class B.</i>					
Ashland Lt., P. & Sr. Ry. Co.....	1				2
Chippewa Valley Ry. Lt. & P. Co.....			1		3
Eastern Wisconsin Ry. & Lt. Co.....			2		
La Crosse City Ry. Co.....			14		10
Sheboygan Ry. & El. Co.....					
Southern Wisconsin Ry. Co.....			12		10
Wisconsin Elec. Ry. Co.....					2
Wisconsin Public Service Co.....			5		14
Wisconsin Tr. Lt. Ht. & P. Co.....			1		4
Total	1		35		45
<i>Class C.</i>					
Bay Shore St. Ry. Co.....					
Beloit Tr. Co.....					
Grand Rapids St. R. R. Co.....			1		4
Ironwood & Bessemer Lt. & P. Co.....					
Janesville Traction Co.....					
Kenosha Elec. Ry. Co.....					
La Crosse & Onalaska St. Ry. Co.....					
Manitowoc & Northern Tr. Co.....					
Menominee & Marinette Lt. & Tr. Co.....			4		4
Merrill Ry. & Ltg. Co.....					
Waupaca Elec. Lt. & Ry. Co.....					
Wausau St. R. R. Co.....					
Total			5		8

¹Cars equipped with truck pilots.

ENTIRE LINE, 1912—Concluded.

CARS.			ELECTRIC LOCOMOTIVES.					
Cars.			Number owned.	Number leased.	Total number motors.	Total capacity in kw.	Total equipped with fenders.	Number equipped with power brakes.
Total capacity in kw.	Number equipped with fenders.	Number equipped with power brakes.						
1,529	(1) 7	9	2		8	597		2
6,307	33	11	1		4	195		1
210								
180	1	1						
522	1	3						
8,748	42	32	3		12	792		3
52								
67								
460		2						
223.8	12							
525		2						
90	1	1						
1,417.8	13	5						
165		1						
165		1						

POWER STATION STATISTICS, ALL CLASSES—

CLASSIFICATION.	NAME				
	Ashland Lt. Pr. & St. Ry Co.	Bay Shore St. Ry. Co. ¹	Beloit Tr. Co. ¹	Chicago & Milwaukee El. R. R. Co.	Chippe- wa Val- ley Ry. Lt. & P. Co.
STEAM POWER GENERATION:					
No. of kw-hr. generated by steam.....				7,261 440	
Average cost of coal of 2000 lb. at plant.....	\$3.08			\$1.834	
Lb. of coal consumed.....	1,592,000			45,800,000	
Lb. of coal consumed per kw-hr. (switchboard).....				6.30	
Watts per lb. of coal consumed.....					
B. t. u. per lb. of coal consumed.....					
B. t. u. per switchboard kw-hr.....					
Maximum output in any one day:					
Kw-hr.....				41,050	
Date.....				July 4, 1911	
Minimum output in any one day:					
Kw-hr.....				10,960	
Date.....				Mch. 31, 1912	
GAS POWER GENERATION:					
No. kw-hr. generated by gas....					
Avg. cost of generator fuel per T. M cubic ft. of gas produced for power.....					
M cu. ft. of gas consumed in generation of electricity.....					
Maximum output in any one day:					
Kw-hr.....					
Date.....					
Minimum output in any one day:					
Kw-hr.....					
Date.....					
HYDRAULIC POWER GENERATION:					
Number of kw-hr. generated.....					901,410
Maximum output in any one day:					
Kw-hr.....					
Date.....					
Minimum output in any one day:					
Kw-hr.....					
Date.....					
POWER PURCHASED:					
Number of kw-hr. purchased....				8,946,972	
Rate per kw-hr. purchased.....				\$0.01234	
Maximum amount purchased in any one day:					
Kw-hr.....				33,372	
Date.....				Sept. 3, 1911	
Minimum amount purchased in any one day:					
Kw-hr.....				13,128	
Date.....				Feb. 10, 1912	
TOTAL STATION STATISTICS:					
Total No. of kw-hr. generated and purchased.....	(²)			16,208 412	901,410
Maximum station output in any one day:					
Kw-hr.....				41,050	
Date.....				July 4, 1911	
Minimum station output in any one day:					
Kw-hr.....				10,960	
Date.....				Mch. 31, 1912	

¹ No data.² Includes electric lighting.

POWER STATION STATISTICS.

CLASSIFICATION,	NAME OF				
	Menominee & Marinette Lt. & Tr. Co.	Merrill Ry. & Ltg. Co. ²	Milwaukee Electric Ry. & Lt. Co. ³	Milwaukee Lt. Ht. & Tr. Co.	Milwaukee Northern Ry. Co.
STEAM POWER GENERATION:					
No. of kw-hr. generated by steam plant.....		5,000	91,345,955		
Avg. cost of coal of 2,000 lb. at plant.....			\$2.89		
Lb. of coal consumed.....			7,335,572.60		
Lb. of coal consumed per kw-hr. (switchboard).....			3.91		
Watts per lb. of coal consumed.....			255.8		
B. t. u. per lb. of coal consumed.....			12,342		
B. t. u. per switchboard kw-hr.....			48,257		
Maximum output in any one day:					
Kw-hr.....		160	212,660		
Date.....		12 24 '11	Feb. 14, 1912		
Minimum output in any one day:					
Kw-hr.....			108,050		
Date.....			May 19, 1912		
GAS POWER GENERATION:					
No. kw-hr. generated by gas.....					5,600,625
Avg. cost of generator fuel per T. M cu. ft. of gas produced for power.....					
M cu. ft. of gas consumed in generation of electricity.....					
Maximum output in any one day:					21,025
Kw-hr.....					July 4, 1911
Date.....					
Minimum output in any one day:					12,425
Kw-hr.....					Feb. 26, '12
Date.....					
HYDRAULIC POWER GENERATION:					
Number of kw-hr. generated.....		639,485	569,135		
Maximum output in any one day:					
Kw-hr.....		1,800	4,423		
Date.....		12-24-1911	11-12, 1911		
Minimum output in any one day:					
Kw-hr.....		1,000	3		
Date.....		6-22-1912	July, 22 1911		
POWER PURCHASED:					
Number of kw-hr. purchased.....	1,063,596		30,595,800		
Rate per kw-hr. purchased.....			\$0.00583		
Maximum amount purchased in any one day:					
Kw-hr.....			127,200		
Date.....			12-25-1911 to 12-26-1911		
Minimum amount purchased in any one day:					
Kw-hr.....			6,000		
Date.....			10-10-1911 to 10-11-1911		
TOTAL STATION STATISTICS:					
Total number of kw-hr. generated and purchased.....	1,063,596	644,485	122,510,890		5,600,625
Maximum station output in any one day:					21,025
Kw-hr.....	3,660	1,960	212,660		July 4, '11
Date.....	July 2, '11	12-24-1911	Feb. 14, 1912		
Minimum station output in any one day:					Feb. 12, 425
Kw-hr.....	2,500	1,060	108,050		26, '12
Date.....	Oct. 11, 1911	6-22-1912	May 19, 1912		

¹No data.²Includes lighting³Includes Milwaukee Lt. Ht. & Tr. Co.

ALL CLASSES—WISCONSIN, 1912—Concluded.

ROAD.

Rockford & Interurban Ry. Co.	Sheboygan Ry. & El. Co.	Southern Wisconsin Ry. Co. ¹	Waupaca Elec. Lt. & Ry. Co. ¹	Wausau St. R. R. Co.	Wisconsin Elec. Ry. Co.	Wisconsin Public Service Co.	Wisconsin Tr. Lt. Ht. & Pr. Co.
	4,215,800		No record.		2,129,599		255,739
	\$2.57		\$4.55		\$3.75		\$3.20
	21,662,222		262,700		12,322,570		1,173,572
	5.14		.983		5.79		4.59
	195				172		217.92
					14,000		
					72,380		
	15,506				9,240		
	Nov. 28, 1911				July 1911		
	7,355				4,200		
	June 16, 1912				Aug. 1911		
			No record			\$3,146,247	1,303,647
						13,044	10,500
						Oct. 7, 1911	July 4, 1911
						7,863	2,400
						Dec. 10, 1911	Aug. 28, 1911
5,303,191 (⁶)						2,894,335	
						\$0.01 to 0.012	
					25,500		
					Feb. 1912		
					9,920		
					Aug. 1911		
5,303,191	4,215,800		267,261	*754,700	2,339,092	4,612,897	1,559,386
	15,506				9,240	32,120	10,500
	Nov. 28, 1911				July 1911	Jan. 10, 1912	July 4, 1911
	7,355				4,200	16,720	2,400
	June 16, '12				Aug. 1911	Apr. 21, 1912	Aug. 28, 1911

⁴Power furnished by light and power department.

⁶Substation power generation statistics.

¹.01¢ for first 15,000 kw-hr. per day and .01¢ per kw-hr. over 15,000.

GENERAL STATISTICS

NAME OF ROAD.	Per cent of ordinary operating expenses to gross earnings.	Per cent of operating expenses taxes and depreciation to gross earnings.	Average number of miles of single track operated.	Ordinary operating expenses per mile of single track.
A. WISCONSIN.				
<i>Class A.</i>				
Chi. & Milwaukee Elec. R. R. Co.	67.40	73.20	61.96	\$3,337 37
Duluth St. Ry. Co.	54.55	66.58	23.54	5,802 05
Milwaukee Elec. Ry. & Lt. Co.	51.88	70.34	141.55	14,949 19
Milwaukee Lt., Ht. & Tr. Co.	41.58	58.40	222.57	1,677 05
Milwaukee Northern Ry. Co.	50.90	56.68	63.50	2,530 26
Rockford & Interurban Ry. Co.	61.62	64.29	14.40	3,159 73
Total	327.93	389.49	527.52	\$31,455 65
<i>Class B.</i>				
Ashland Lt., P. & St. Ry. Co.			7.00	
Chippewa Val. Ry., Lt. & P. Co.	55.00	30.00	21.03	\$3,052 96
Eastern Wis. Ry. & Lt. Co.	58.61	62.94	25.28	2,457 32
La Crosse City Ry. Co.	60.36	75.89	15.88	5,836 41
Sheboygan Ry. & El. Co.	72.00		33.48	3,000 00
Southern Wis. Ry. Co.	55.60	65.61	14.486	8,140 00
Wis. Electric Ry. Co.	67.43	71.24	43.04	3,047 48
Wis. Public Service Co.	59.30	65.50	37.817	2,823 46
Wis. Tr., Lt., Ht. & P. Co.	48.45	64.45	20.455	3,100 33
Total	476.75	435.63	218.468	\$31,457 96
<i>Class C.</i>				
Bay Shore St. Ry. Co.			1.50	
Beloit Tr. Co.	44.50	47.46	6.60	\$3,047 29
Grand Rapids St. R. R. Co.	53.00	65.00	8.00	1,628 82
Ironwood & Bessemer L. & P. Co.			2.25	2,525 95
Janesville Tr. Co.	73.84	75.82	6.109	2,554 26
Kenosha Elec. Ry. Co. ¹				
La Cr. & Onalaska St. Ry. Co.			2.50	
Manitowoc & Northern Tr. Co. ¹				
Men. & Mar. Lt. & Tr. Co.	76.9	87.7	8.00	3,715 42
Merrill Ry. & Ltg. Co.			1.736	3,850 06
Waupaca Elec. Lt. & Ry. Co.			5.21	1,724 00
Wausau St. R. R. Co.	62.44	77.69	9.08	4,541 85
Total	310.68	353.67	50.985	\$23,587 65
B. ENTIRE LINE—INTERSTATE ROADS.				
<i>Class A.</i>				
Chi. & Milwaukee El. R. R. Co.	64.80	70.20	153.99	\$3,992 75
Duluth St. Ry. Co.	52.76	63.38	80.51	7,322 18
Rockford & Inter. Ry. Co.	62.31	65.00	77.60	3,159 73
Total	179.87	198.58	312.10	\$14,474 66
<i>Class B.—None.</i>				
<i>Class C.</i>				
Ironwood & Bessemer Ry. & L. Co. ¹				
Men. & Mar. Lt. & Tr. Co.	79.10	91.40	19.00	\$3,370 43

¹ No data.

YEAR ENDING JUNE 30, 1912.

Ordinary operating expenses, taxes and depreciation per mile of single track.	PASSENGERS CARRIED.				Tons of freight carried.	Per cent transfer passengers to total passengers.
	Revenue passengers.	Transfer passengers.	Free passengers.	Total passengers.		
\$3,619 81	952,507		28,241	*980,748	24	
7,080 96	4,910,107	624,301	14,365	5,548,773		12.72
20,270 83	94,924,904	35,349,575	574,558	130,849,037		27.02
2,355 38	10,730,646	1,656,580	77,449	12,464,675		13.29
2,817 17	2,262,020	84,078	16,401	2,362,499		3.56
3,296 32	425,598	786	7,396	433,780	.....(1)....	.18
\$39,440 47	114,205,782	37,715,320	718,410	152,639,512	24	56.77
	389,827		3,367	393,194		
\$3,880 80	1,806,844	310,879	61,163	2,178,886		17.00
2,717 73	1,362,260	3,470	16,625	1,382,355		.25
7,337 07	3,169,338	942,755	15,806	4,127,899		22.80
	1,719,261	112,000	48,500	1,879,761		5.90
9,600 00	4,264,943	390,250	20,760	4,675,953		8.34
3,219 51	2,833,470	433,155	18,646	3,285,271		13.18
3,120 24	2,620,661	321,928	501,268	3,443,857		9.30
4,124 10	2,595,482	134,552	.....	2,730,034	1.78	4.93
\$33,999 45	20,762,086	2,648,989	686,135	24,097,210	1.78	81.70
	107,019	4,866		111,885		4.34
\$3,250 29	941,344	13,612	952	955,908		1.42
2,001 15	320,635		2,609	323,244		
2,632 61	213,849			213,849		
2,621 05	328,626	44,402	.....(1)....	373,028		13.51
	112,953		1,148	114,101		
4,260 58	842,528	223,104	10,975	1,076,607		20.70
	216,016			216,016		
1,841 00	132,972		1,608	134,580		
5,651 85	960,359	179,539	65,906	1,205,804		14.88
\$22,258 03	4,176,301	465,523	83,198	4,725,022		54.85
	7,198,698	459,228	212,383	7,870,309	47.133	5.83
\$4,323 92	21,851,954	3,814,442	120,857	25,787,253	.....(1)....	14.79
8,804 62	1,981,072	33,464	56,224	2,070,760		1.62
3,296 32						
\$16,424 86	31,031,724	4,307,134	389,464	35,728,322	47.133	22.24
\$3,896 62	1,991,794	527,671	25,946	2,545,411		20.70

GENERAL STATISTICS.

NAME OF ROAD.	PASSENGER			CAR-
	motor.	trail.	Total passenger.	Chartered.
A. WISCONSIN.				
<i>Class A.</i>				
Chicago & Milwaukee Elec. R. R. Co.	683,234	10,248	693,482	10,948
Duluth St. Ry. Co.	1,026,416		1,026,416	
Milwaukee Elec. Ry. & Lt. Co.	14,380,490		14,380,490	
Milwaukee I., Ht. & Tr. Co.	3,188,941		3,188,941	
Milwaukee Northern Ry. Co.	1,048,033		1,048,033	
Rockford & Interurban Ry. Co.	195,347	3,746	199,093	20
Total	20,522,461	13,994	20,536,455	10,968
<i>Class B.</i>				
Ashland Lt., P. & St. Ry. Co.	223,465		223,465	
Chippewa Valley Ry. Lt. & P. Co.	545,533		545,533	
Eastern Wisconsin Ry. & Lt. Co.	473,795		473,795	
La Crosse City Ry. Co.	803,422		803,422	
Sheboygan Ry. & El. Co.	513,528		513,528	257
Southern Wisconsin Ry. Co.	707,959		707,959	632
Wisconsin Elec. Ry. Co.	1,004,080		1,004,080	
Wisconsin Public Service Co.	924,398	2,188	926,586	737
Wisconsin Tr. Lt., Ht. & P. Co.	495,889		495,889	211
Total	5,692,069	2,188	5,694,257	1,837
<i>Class C.</i>				
Bay Shore St. Ry. Co.				
Beloit Tr. Co.	164,505		164,505	
Grand Rapids St. R. R. Co.	101,531	984	102,515	
Ironwood & Bessemer Lt. & P. Co.	50,735		50,735	
Janesville Tr. Co.	157,706		157,706	
Kenosha Elec. Ry. Co. ¹				
La Crosse & Onalaska St. Ry. Co.	61,254		61,254	
Manitowish & Northern Tr. Co. ¹				
Menom. & Marinette Lt. & Tr. Co.	277,922	22,200	300,122	
Merrill Ry. & Ltg. Co.	83,100		83,100	
Waupaca Elec. Lt. & Ry. Co.	44,497	780	45,277	
Wausau St. R. R. Co.	288,193	8,482	296,675	
Total	1,229,443	32,446	1,261,889	
B. ENTIRE LINE—INTERSTATE R'DS.				
<i>Class A.</i>				
Chicago & Milwaukee Elec. R. R. Co.	2,298,010	43,807	2,341,817	21,897
Duluth St. Ry. Co.	4,345,233		4,345,233	
Rockford & Interurban Ry. Co.	1,052,705	20,186	1,072,891	682
Total	7,695,948	63,993	7,759,941	22,579
<i>Class B—None.</i>				
<i>Class C.</i>				
Ironwood & Bessemer Ry. & Lt. Co. ¹				
Menom. & Marinette Lt. & Tr. Co.	669,650	41,013	710,663	

¹ No data.

1912.—Concluded.

MILES.				PASSENGER CAR-HOURS.		
Freight.	Express.	Total revenue car mileage.	Utility equipment car mileage.	Passenger motor.	Passenger trail.	Total car-hours.
5,643	70,559	780,632	48,067	50,529		50,529
		1,026,416		110,935		110,935
		14,380,490		1,608,568		1,608,568
		3,188,941		270,389		270,389
33,091		1,081,124		66,005		66,005
19,858		218,971		12,026	184	12,210
58,592	70,559	20,676,574	48,067	2,118,452	184	2,118,636
		223,465				
		545,533		58,464		58,464
		473,795		39,959		39,959
		803,422				
15,477		529,232	4,919			
		708,591	5,260	92,666		92,666
		1,004,080		105,970		105,970
	7,406	934,729	7,842	84,302	478	84,780
		496,100	6,214	46,608		46,608
15,447	7,406	5,718,947	24,235	427,969	478	428,447
		164,505		19,828		19,828
		102,515		26,407		26,407
		50,735		13,140		13,140
		157,706		22,112		22,112
		61,254		6,530		6,530
		300,122		36,093	2,882	38,975
		83,100		11,200		11,200
	2,850	48,127				
		296,675		29,055	1,669	30,724
	2,850	1,264,739		144,365	4,551	148,916
47,634	154,183	2,565,531	144,203	168,430		168,430
		4,345,233		481,704		481,704
107,011		1,180,584		58,797	897	59,694
154,645	154,183	8,091,348	144,203	708,931	897	709,828
		710,663		87,783	5,677	93,460

? Based on estimate of 16 miles per hr. average speed.

MILEAGE.

NAME OF ROAD.	MILES OF ROAD (FIRST MAIN TRACK).				
	Total operated (including trackage rights).	Owned.	Leased.	Trackage rights.	Total added during year.
A. WISCONSIN.					
<i>Class A.</i>					
Chicago & Milw. El. R. R. Co.....	39.26	35.80		3.46	
Duluth St. Ry. Co.....	22.23	22.23			0.08
Milwaukee Elec. Ry. & Lt. Co.....	71.18	71.18			1.21
Milwaukee Lt. Ht. & Tr. Co.....	166.97	166.97			1.27
Milwaukee Northern Ry. Co.....	57.46	55.56	1.90		
Rockford & Interurban Ry. Co....	14.40	12.70		1.70	
Total.....	371.50	364.44	1.90	5.16	2.56
<i>Class B.</i>					
Ashland Lt. P. & St. Ry. Co. ¹					
Chippewa Valley Ry. Lt. & P. Co	20.00	20.00			
Eastern Wisconsin Ry. & Lt. Co..	21.071	21.071			
La Crosse City Ry. Co.....	16.08	16.08			
Sheboygan Ry. & Elec. Co.....	33.48	25.48	8.00		
Southern Wisconsin Ry. Co.....	10.99	10.99			0.91
Wisconsin Elec. Ry. Co.....	39.33	39.33			
Wisconsin Public Service Co.....	37.25	37.25			
Wisconsin Tr. Lt. Ht. & P. Co....	19.391	19.391			0.29
Total.....	197.592	189.592	8.00		1.20
<i>Class C.</i>					
Bay Shore St. Ry. Co.....	1.50	1.50			
Beloit Tr. Co.....	6.60	5.56		1.04	
Grand Rapids St. R. R. Co.....	8.00	8.00			
Ironwood & Bessemer L. & P. Co. ¹					
Janesville Tr. Co.....	5.997	4.847		1.15	
Kenosha Elec. Ry. Co.....					
La Crosse & Onalaska St. R. Co. ¹					
Manitowoc & Northern Tr. Co.....	8.71	8.71			
Men. & Marinette Lt. & Tr. Co..	6.174	6.174			
Merrill Ry. & Ltr. Co.....	1.656	1.656			
Waupaca Elec. Lt. & Ry. Co.....	4.77	4.77			
Wausau St. R. R. Co.....	6.355	6.355			
Total.....	49.762	47.572		2.19	
B. ENTIRE LINE—INTERSTATE ROADS.					
<i>Class A.</i>					
Chicago & Milw. El. R. R. Co.....	89.69	83.41		6.28	
Duluth St. Ry. Co.....	75.80	75.80			0.64
Rockford & Interurban Ry. Co....	77.60	68.50		9.10	
Total.....	243.09	227.71		15.38	0.64
<i>Class B—None.</i>					
<i>Class C.</i>					
Ironwood & B. Ry. & L. Co. ¹					
Menomonie & Mar. Lt. & Tr. Co.	14.791	14.791			

¹ No data.

JUNE 30, 1912.

TRACK MILEAGE OPERATED (INCLUDING TRACKAGE RIGHTS).

Main Line Tracks.				Miles of sidings and turnouts.	Total miles of track.	Total miles of track added during year.
Miles of first main track.	Miles of second main track.	Miles of additional main track.	Total miles of main track.			
39.26	32.98		72.24	1.10	73.34	
22.23			22.23	1.81	23.54	0.09
71.18	69.45	0.92	141.55	11.38	152.93	4.31
166.97	50.50	8.10	225.57	8.57	229.14	1.65
57.46	4.506		61.966	4.06	66.026	
14.40			14.40	0.50	14.90	
371.50	157.436	9.02	537.956	21.92	559.876	6.05
20.00			20.00	1.03	21.03	
21.071	2.507		23.578	1.702	25.280	
16.08			16.08		16.08	
33.48			33.48	0.50	33.98	
10.99	1.44		12.43	2.06	14.49	
39.33	1.77		41.10	1.94	43.04	
37.25	2.249		39.499	1.55	41.049	0.051
19.391			19.391	1.064	20.455	0.308
197.592	7.966		205.558	9.846	215.404	0.359
1.50			1.50		1.50	
6.60			6.60	0.17	6.77	
8.00			8.00	0.25	8.25	
5.997			5.997	0.112	6.109	
8.71			8.71		8.71	
6.174	1.366		7.540	0.833	8.373	
1.656			1.656	0.080	1.736	
4.77			4.77	0.44	5.21	
6.355	1.133	0.573	8.061	1.019	9.080	
49.762	2.499	0.573	52.834	2.904	55.738	
89.69	76.89		166.58	5.75	172.33	
75.80			75.80	4.71	80.51	0.64
77.60			77.60	2.59	80.19	
243.09	76.89		319.98	13.05	333.03	0.64
14.731	2.971		17.762	1.597	19.359	

LOCATION OF TRACKS,

NAME OF ROAD.	INSIDE OF CITY			
	Miles of first main track.	Miles of second main track.	Miles of additional main track.	Total miles of main track.
A. WISCONSIN.				
<i>Class A.</i>				
Chicago & Milw Elec. R. R. Co.	3.87	3.46		7.33
Duluth Street Ry. Co.	22.23			22.23
Milwaukee Elec. Ry. & Lt. Co.	71.18	69.45	0.92	141.55
Milwaukee Lt., Ht. & Tr. Co.	40.52	20.71	4.05	65.28
Milwaukee Northern Ry. Co.	3.29	2.97		6.26
Rockford & Interurban Ry. Co.	4.00			4.00
Total.....	145.09	96.59	4.97	246.65
<i>Class B.</i>				
Ashland Lt., P. & St. Ry. Co.				
Chippewa Val. Ry., Lt. & P. Co.	14.13			14.13
Eastern Wisconsin Ry. & Lt. Co.	6.892	1.739		8.631
La Crosse City Ry. Co.	16.08			16.08
Sheboygan Ry. & El. Co.	10.42			10.42
Southern Wisconsin Ry. Co.	9.33	1.44		10.77
Wisconsin Electric Ry. Co.	16.95	1.77		18.72
Wisconsin Public Service Co.	11.304	2.249		13.553
Wisconsin Tr., Lt., Ht. & P. Co.	13.316			13.316
Total.....	98.422	7.198		105.62
<i>Class C.</i>				
Bay Shore Street Ry. Co.	0.50			0.50
Beloit Traction Co.	5.56			5.56
Grand Rapids St. R. R. Co.	2.00			2.00
Iron'w'd & Bessemer Lt. & Pr. Co.				
Janesville Traction Co.	5.997			5.997
Kenosha Elec. Ry. Co.				
La Crosse & Onalaska St. Ry. Co.				
Manitowoc & Northern Tr. Co.	8.71			8.71
Menomi. & Marin. Lt. & Tr. Co.	5.934	1.366		7.30
Merrill Ry. & Ltg. Co.	1.656			1.656
Waupaca Elec. Lt. & Ry. Co.	1.49			1.49
Wausau Street R. R. Co.	2.855	1.133	0.573	4.561
Total.....	34.702	2.499	0.573	37.774
B. ENTIRE LINE—INTERSTATE ROADS.				
<i>Class A.</i>				
Chicago & Milw. Elec. R. R. Co.	36.31	34.60		70.91
Duluth Street Ry. Co.	75.80			75.80
Rockford & Interurban Ry. Co.	6.82			6.82
Total.....	118.93	34.60		153.53
<i>Class B.—None.</i>				
<i>Class C.</i>				
Iron'w'd & Bessem. Ry. & Lt. Co.				
Menom. & Marin. Lt. & Tr. Co.	14.551	2.971		17.522

! No data.

JUNE 30, 1912.

LIMITS.		OUTSIDE OF CITY LIMITS.					
Miles of siding and turnouts.	Total miles of track.	Miles of first main track.	Miles of second main track.	Miles of additional main track.	Total miles of main track.	Miles of sidings and turnouts.	Total miles of track.
	7.33	35.39	29.52		64.91	1.10	66.01
1.31	23.54						
11.38	152.93						
1.43	66.71	126.45	29.79	4.05	160.29	2.14	162.43
.21	6.47	52.27	1.54		53.81	3.85	57.66
.45	4.45	10.40			10.40	.05	10.45
14.78	261.43	224.51	60.85	4.05	289.41	7.14	296.55
	14.13	5.87			5.87		5.87
1.065	9.696	14.179	0.768		14.947	0.637	15.584
	16.08						
	10.42	23.06			23.06	.50	23.56
1.38	12.15	1.66			1.66	.68	2.34
1.44	20.16	22.38			22.38	.50	22.88
.406	13.959	25.946			25.946	1.144	27.09
.727	14.043	6.075			6.075	.337	6.412
5.018	113.638	99.170	0.768		99.938	3.798	103.736
	0.50	1.00			1.00		1.00
.09	5.65						
	2.00	6.00			6.00	0.25	6.25
.112	6.109						
	8.71						
.683	7.983	.24			.24	.15	.39
.080	1.736						
.15	1.64	3.28			3.28	.29	3.57
.797	5.358	3.50			3.50	.222	3.722
1.912	39.686	14.02			14.02	0.912	14.932
	70.91	53.38	41.54		94.92	5.75	100.67
4.71	80.51						
1.99	8.81	70.78			70.78	.60	71.38
6.70	160.23	124.16	41.54		165.70	6.35	172.05
1.447	18.969	0.240			0.240	0.150	0.390

LINE CONSTRUCTION, RAIL AND TELEPHONE

NAME OF ROAD.	INSIDE OF CITY LIMITS.				Miles of con- duits.
	Electric line, miles track operated by overhead trolley.	Pole Line Construction.			
		Miles road with wooden poles.	Miles road with iron poles.	Average number of poles per mile.	
A. WISCONSIN.					
<i>Class A.</i>					
Chicago & Milw. Elec. R. R. Co.	7.33		3.46	104	
Duluth St. Ry. Co.	23.54	12.51	1.69	90	
Milwaukee Elec. Ry. & Light Co.	152.93	16,100.00	3,716.00 ²	98	² 171.00
Milwaukee Lt., Ht. & Tr. Co.	66.71				
Milwaukee Northern Ry. Co.	6.46		3.29	110	
Rockford & Interurban Ry. Co.	4.45			52	
Total	261.42	16,112.51	3,724.43		171.00
<i>Class B.</i>					
Ashland, Lt., P. & St. Ry. Co.					
Chp. Valley Ry., Lt. & P. Co.	15.07	13.98	1.09	54	
Eastern Wisconsin Ry. & Lt. Co.	9.696	8.519	1.42		
La Crosse City Ry. Co.	16.08		(¹)	(¹)	
Sheboygan Ry. & El. Co.	10.42	9.42	1.00	52	
Southern Wisconsin Ry. Co.	12.15	10.39	1.75	52	
Wisconsin Elec. Ry. Co.	20.16	15.75	1.20	44	
Wisconsin Public Service Co.	13.73	13.73		52	
Wisconsin Tr., Lt. Ht. & P. Co.	14.043	13.913	.13	52	
Total	111.349	85.702	6.59		
<i>Class C.</i>					
Bay Shore St. Ry. Co. . . . .	.50	0.50			
Beloit Tr. Co.	6.77	5.65		104	
Grand Rapids St. R. R. Co.	2.00	8.00		36	
Ironwood & Bess'm'r Lt. & Pr. Co. ¹					
Janesville Traction Co.		(¹)			
Keno-sha Elec. Ry. Co.					
La Crosse & Onalaska St. Ry. Co.					
Manitowoc & Northern Tr. Co.	8.71	8.21	0.50	106	
Menominee & Mar. Lt. & Tr. Co.	7.983	7.983			
Merrill Ry. & Ltg. Co.	1.736	1.736		100	
Waupaca Electric Lt. & Ry. Co.	1.64	1.64		60	
Wausau St. R. R. Co.	5.358	5.358		52	
Total	34.697	39.077	0.50		
B. ENTIRE LINE—INTERSTATE ROADS.					
<i>Class A.</i>					
Chicago & Milw. Elec. R. R. Co.	70.91	31.35	4.96	104	
Duluth St. Ry. Co.	79.39	32.38	11.48	90	54.64
Rockford & Interurban Ry. Co.	8.81			52	
Total	159.11	63.73	16.44		54.64
<i>Class B.—None.</i>					
<i>Class C.</i>					
Ironwood & Bessemer R. & L. Co. ¹					
Menominee & Mar. Lt. & Tr. Co.	18.969	18.969			

¹No data.²No. of poles—not miles—used for railway and lighting.

DATA, YEAR ENDING JUNE 30, 1912.

OUTSIDE OF CITY LIMITS.

Electric line, miles track operated by overhead trolley.	Pole Line Construction.			Miles of conduits	Rails laid during year.	
	Miles road with wooden poles.	Miles road with iron poles.	Average number of poles per mile.		Number of tons laid.	Average price per ton.
66.01	35.39		104			
	19,432.00	572.00	66	23.8	720.63	\$42.00
57.66	56.12		55		232.32	35.00
					150.00	28.40
10.45			52		10.36	
134.12	19,523.51	572.00		23.8	1,113.31	
15.58	15.58					
23.06	23.06		52			
2.34	1.66		52		105.00	\$42.00
22.88	22.38		44			
27.07	27.07		52			
6.412	6.412		52			
97.342	96.162				105.00	
1.00	1.00					
6.00	(1)	(1)			5.65	(1)
.390	.390		53		28.00	\$28.75
3.57	3.57		52			
3.722	3.722		52			
14.682	8.682				33.65	
100.67	53.28		104			
71.33			52		10.36	
172.05	53.38				10.36	
0.39	0.39				28.00	\$28.75

*Railway and lighting.

*No. of poles including "Within city limits" & lighting.

Financial and Operating Statistics of Railroad Companies—C. Express Companies.
CAPITAL STOCK AND FUNDED DEBT, ENTIRE SYSTEM.—JUNE 30, 1912.

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REPORT OF THE RAILROAD COMMISSION.

DETAILS.	NAME ON COMPANY.					
	Adams.	American. ³	Northern.	United States.	Wells Fargo.	Western.
CAPITAL STOCK:						
Number of shares authorized.....	120,000	180,000	50,000	100,000	240,000	1,000
Par value of one share.....		\$100 00	\$100 00	\$100 00	\$100 00	\$100 00
Total par value authorized.....		\$18,000,000 00	\$5,000,000 00	\$10,000,000 00	\$24,000,000 00	\$100,000 00
Total par value outstanding:						
Held by respondent.....		\$330,000 00				
Not held by respondent.....		17,670,000 00	\$5,000,000 00	\$10,000,000 00	\$23,967,400 00	\$50,000 00
Total.....		\$18,000,000 00	\$5,000,000 00	\$10,000,000 00	\$23,967,400 00	\$50,000 00
Dividends declared during year:						
Rate, per cent.....	(1)	12	5	6	10	
Amount.....	\$1,210,080 00	\$2,119,800 00	\$250,000 00	\$600,000 00	\$2,396,740 00	
Capital stock issued during the year (cash realized).....						
FUNDED DEBT:						
Total par value outstanding:						
Mortgage bonds.....	\$36,000,000 00					
Collateral trust bonds.....						
Plain bonds, debentures and notes.....						
Income bonds.....						
Miscellaneous obligations.....						
Total.....	\$36,000,000 00					
Total par value held by respondent corporation:						
In treasury.....	\$412,200 00					
In sinking or other funds.....	\$15,347,900 00					
Total.....	\$15,760,100 00					
Interest accrued during year.....	\$816,610 67					
Interest paid during year.....	\$17,324 00					
Funded debt issued during year.....						

¹\$12.00 per share.

²Pledged as collateral.

³Includes National Express Co. as agent.

Italic figures denote deficits.

INCOME ACCOUNT, ENTIRE SYSTEM, YEAR ENDING JUNE 30, 1912.

CLASSIFICATION.	NAME OF COMPANY.					
	Adams.	¹ American.	Northern.	United States.	Wells Fargo.	Western.
OPERATING INCOME:						
Gross receipts from operation.....	\$34,191,955 71	\$43,714,874 32	\$2,994,057 13	\$21,131,508 39	\$32,465,970 55	\$1,162,106 02
Express privileges—Dr.....	17,833,972 09	21,076,806 20	1,623,335 10	9,927,777 05	15,439,708 15	563,063 18
Operating revenues.....	\$16,357,983 62	\$22,638,068 12	\$1,370,722 03	\$11,203,731 34	\$17,026,262 40	\$599,042 84
Operating expenses.....	15,152,593 56	20,926,046 86	1,083,935 68	11,130,703 35	14,483,415 46	513,934 87
Net operating revenues.....	\$1,205,390 06	\$1,712,021 26	\$286,786 35	\$73,027 99	\$2,542,846 94	\$85,107 97
Outside operations:						
Revenues.....	\$98,722 18				\$137,952 94	
Expenses.....	147,494 98				139,459 04	
Net revenue, outside operations.....	\$48,772 80				\$1,506 10	
Total net revenue.....	\$1,156,617 26	\$1,712,021 26	\$286,786 35	\$73,027 99	\$2,541,340 84	\$85,107 97
Taxes accrued.....	224,398 73	371,606 09	58,079 69	134,040 79	356,764 21	9,500 37
Operating income.....	\$932,218 53	\$1,340,415 17	\$228,706 66	\$61,012 80	\$2,184,576 63	\$75,607 60
OTHER INCOME:						
Operations of subsidiary companies—Net Cr. Bal.				\$72,268 97		
Dividends declared on stock owned or controlled.....	\$969,672 67	\$1,166,424 91	\$8,800 00	21,316 72	\$427,837 05	
Interest accrued on funded debt owned or controlled.....	850,880 92	207,694 93	37,735 00	197,201 69	519,781 56	
Interest on other securities, loans and discounts.....		82,808 81		12,885 54	81,354 60	
Miscellaneous income.....	106,529 65	79,228 99	3,971 26	15,931 67	240,002 26	
Total other income.....	\$1,927,083 24	\$1,536,157 64	\$50,506 26	\$319,604 49	\$1,268,975 47	
Gross corporate income.....	\$2,859,301 77	\$2,876,572 81	\$279,212 92	\$258,591 69	\$3,453,552 10	\$75,607 60
DEDUCTIONS FROM GROSS CORPORATE INCOME:						
Interest accrued on funded debt.....	\$816,610 67					
Other interest.....	99,635 38	\$36,791 53		\$2,100 00		
Other deductions.....	65,626 97	26,521 60	\$11,626 02	23,262 97	\$11,877 79	\$51,047 75
Total deductions from gross corporate income.....	\$981,873 02	\$63,813 13	\$11,626 02	\$25,362 97	\$11,877 79	\$51,047 75
Net corporate income.....	\$1,877,428 75	\$2,813,259 68	\$267,586 90	\$233,228 72	\$3,441,674 31	\$24,559 85
DISPOSITION OF NET CORPORATE INCOME:						
Dividends declared.....	\$1,210,080 00		\$250,000 00		\$2,396,740 00	
Appropriations to reserves.....						\$85,054 89
Miscellaneous appropriations.....						
Total.....	\$1,210,080 00		\$250,000 00		\$2,396,740 00	\$85,054 89
Balance for year carried to "Profit and Loss"—Cr.....	\$667,348 75	\$2,813,259 68	\$17,586 90	\$233,228 72	\$1,044,934 31	\$19,504 96

¹ Includes National Express Co. as agent.

² Accrued depreciation.

PROFIT AND LOSS ACCOUNT, ENTIRE SYSTEM, YEAR ENDING JUNE 30, 1912.

ITEMS.	NAME OF COMPANY.					
	Adams.	¹ American.	Northern.	United States.	Wells Fargo.	Western.
DEBIT:						
Balance June 30, 1911.....						
Balance for year brought forward from income account.....						
Deductions for year.....	\$9,068 18	\$330,411 62	\$2,850 58	\$135,444 61	\$125,982 64	\$16,946 14
Dividends declared out of surplus.....		2,119,800 00		600,000 00		
Balance credit, June 30, 1912.....	\$26,726 685 53	21,499,301 47	515,322 90	1,170,858 40	5,935,045 88	33,991 16
Total.....	\$26,735,753 71	\$23,949,513 09	\$518,233 48	\$1,906,303 01	\$6,061,028 53	\$50,937 30
CREDIT:						
Balance June 30, 1911.....	\$25,941,419 15	\$20,758,071 87	\$199,551 01	\$1,585,196 54	\$4,673,790 94	\$31,432 34
Balance for year brought forward from income account.....	667,348 75	2,813,259 68	17,586 90	233,228 72	1,044,934 31	19,504 96
Additions for year.....	126,985 81	378,181 54	1,095 57	87,877 75	342,303 28	
Total.....	\$26,735,753 71	\$23,949,513 09	\$518,233 48	\$1,906,303 01	\$6,061,028 53	\$50,937 30

¹Includes National Express Co., as agent.

OPERATING REVENUES, ENTIRE SYSTEM, YEAR ENDING JUNE 30, 1912.

Italic figures denote deficits.

CLASSIFICATION.	NAME OF COMPANY.					
	Adams.	¹ American.	Northern.	United States.	Wells Fargo.	Western.
REVENUES FROM TRANSPORTATION:						
Express revenue.....	\$33,756,833 95	\$41,954,581 39	\$2,954,158 79	\$20,808,974 33	\$31,923,923 28	\$1,140,911 83
Miscellaneous transportation revenue.....	125,586 50				4,893 19	2,156 86
Total revenue from transportation.....	\$33,882,420 45	\$41,954,581 39	\$2,954,158 79	\$20,808,794 33	\$31,928,816 47	\$1,143,068 69
REVENUES FROM OPERATIONS OTHER THAN TRANSPORTATION:						
Custom house and brokerage fees.....		\$109,157 52	\$129 75	\$12,922 38	\$13,823 42	\$738 65
Order and commission department.....		973 00			1,852 19	1 50
Rents of buildings and other property.....	\$3,678 23	51,221 74		15,319 33	1,143 87	
Money orders—domestic.....	71,604 05	311,126 70	14,358 46	91,888 25	184,576 14	9,177 98
Money orders—foreign.....			201 71	996 68	1,203 15	229 97
Travelers' cheques—domestic.....	² 158 37	13,513 37		1,557 69	16,100 98	19 16
Travelers' cheques—foreign.....		39,938 15		1,039 88		23 21
"C. O. D." checks.....	215,318 14	338,767 64	25,208 42	173,878 91	301,497 31	7,522 55
Telegraph transfers.....		3,749 21		584 88	5,282 18	56
Letters of credit.....		3,920 62		136 48		
Other revenue—financial department.....		688,659 26		25,339 92	3,456 12	127 14
Miscellaneous revenue.....	18,776 47	199,265 72		1,130 34	8,218 72	1,196 61
Total revenue, other than transportation.....	\$309,535 26	\$1,760,292 93	\$39,898 34	\$322,534 06	\$537,154 08	\$19,037 33
Gross receipts from operation.....	\$34,191,955 71	\$43,714,874 32	\$2,994,057 13	\$21,131,508 39	\$32,465,970 55	\$1,162,106 02
EXPRESS PRIVILEGE—DR.....	17,833,972 09	21,076,806 20	1,623,335 10	9,927,777 05	15,439,708 15	563,063 18
Total operating revenues.....	\$16,357,983 62	\$22,638,068 12	\$1,370,722 03	\$11,203,731 34	\$17,026,262 40	\$599,042 84

¹ Includes National Express Co. as agent.

² Includes foreign.

OPERATING REVENUES, WISCONSIN, YEAR ENDING JUNE 30, 1912.¹

CLASSIFICATION.	NAME OF COMPANY.					
	Adams.	American.	Northern.	United States.	Wells-Fargo.	Western.
REVENUE FROM TRANSPORTATION:						
Express revenue.....	\$4,076 00	\$394,479 22	\$3,733 97	.....	\$382,705 82	\$103,779 90
Miscellaneous transportation revenue.....	.....	.....	.....	.....	.....	.....
Total revenue from transportation.....	² \$4,076 00	² \$394,479 22	³ \$3,733 97	.....	² \$382,705 82	² \$103,779 90
REVENUE FROM OPERATION OTHER THAN TRANSPORTATION:						
Custom house and brokerage fees.....	.....	.....	.....	.....	.....	.....
Order and commission department.....	.....	.....	.....	.....	.....	.....
Rents of buildings and other property.....	.....	.....	.....	.....	.....	.....
Money orders—domestic.....	.....	.....	\$221 90	.....	\$5,351 00	\$2,483 99
Money orders foreign.....	.....	.....	.....	.....	12 41	2 78
Traveler's cheques—domestic.....	.....	.....	.....	.....	141 59	8 03
Traveler's cheques—foreign.....	.....	.....	.....	.....	33 21	.....
"C. O. D." checks.....	.....	.....	171 58	.....	6,748 30	2,380 35
Telegraph transfers.....	.....	.....	.....	.....	63 46	.....
Letters of credit.....	.....	.....	.....	.....	.....	.....
Other revenue—financial department.....	.....	.....	.....	.....	.....	17 64
Miscellaneous revenue.....	.....	.....	.....	.....	.....	.....
Total revenue, other than transportation.....	.....	.....	\$393 48	.....	\$12,349 97	\$4,892 79
Gross receipts from operation.....	\$4,076 00	.....	\$4,127 45	.....	\$395,055 79	\$108,672 69
EXPRESS PRIVILEGE—DR......	.....	.....	1,866 98	.....	.....	54,892 64
Total operating Revenues....	\$4,076 00	.....	\$2,260 47	.....	\$395,055 79	\$53,780 05

¹ Reports incomplete.² Includes only intra-state express earnings.

OPERATING EXPENSES, ENTIRE SYSTEM, YEAR ENDING JUNE 30, 1912.

65—R. R.

CLASSIFICATION.	NAME OF COMPANY.					
	Adams.	¹ American.	Northern.	United States.	Wells Fargo.	Western.
MAINTENANCE EXPENSES:						
1. Superintendence.....	\$6,610 23	\$19,105 95			\$9,016 73	\$8,612 64
2. Buildings, fixtures, and grounds.....	45,514 17	210,674 63		\$34,818 85	53,396 83	56 19
3. Office equipment.....	120,761 46	108,836 63	\$5,620 42	33,258 04	102,262 65	1,367 87
4. Cars—repairs.....					27,396 41	
5. Cars—renewals.....						
6. Cars—depreciation.....						
7. Horses.....	188,851 53	218,883 97	16,222 41	120,072 75	21,175 32	
8. Vehicles—repairs.....	307,686 63	262,685 61	14,822 83	160,810 16	144,339 30	897 00
9. Vehicles—renewals.....	104,673 75	79,226 65	105 00	20,593 43	162,222 74	1,854 89
10. Stable equipment.....	43,115 65	69,870 02	3,130 77	23,038 52	28,953 15	
11. Transportation equipment.....	26,684 68	52,803 29	1,144 33	11,743 72	70,931 67	205 58
12. Other expenses.....	1,027 37	1,977 84			35,169 42	104 14
					1,261 73	
Total, items Nos. 1—12.....	\$844,925 47	\$1,024,064 59	\$41,045 76	\$404,335 47	\$656,126 15	\$13,098 31
TRAFFIC EXPENSES:						
15. Superintendence.....	\$52,286 78	\$155,827 92	\$7,723 35	\$71,153 30	\$88,336 83	\$21,133 41
16. Outside agencies.....	9,981 52	138,547 59	23,966 69	59,631 55	124,650 29	30 00
17. Advertising.....	25,107 92	32,295 85	773 38	5,264 98	41,904 17	1,997 57
18. Traffic associations.....	2,945 82	8,600 67	994 01	5,500 78	9,294 43	2,249 03
19. Stationery and printing.....	21,929 54	35,772 80	6,246 46	41,817 65	57,552 52	8,280 43
20. Other expenses.....	1,583 55	131 76	527 17		177 13	14 22
Total, items Nos. 15—20.....	\$112,935 13	\$371,176 59	\$40,231 06	\$183,367 36	\$321,915 37	\$33,704 66
TRANSPORTATION EXPENSES:						
21. Superintendence.....	\$303,683 54	\$1,039,375 20	\$38,831 99	\$352,044 43	\$794,891 37	\$22,288 52
22. Office employes.....	4,490,303 48	4,644,080 54	236,617 58	2,634,484 47	3,159,744 34	39,132 46
23. Commissions.....	1,148,322 11	1,743,177 18	156,270 78	1,399,919 31	1,865,328 12	84,523 44
24. Wagon employes.....	2,559,537 26	2,892,900 52	139,426 34	1,714,774 68	1,842,428 11	21,472 12
25. Office supplies and expenses.....	384,207 34	623,678 96	16,085 22	261,473 20	383,666 43	6,800 89
26. Rent of local offices.....	592,604 59	848,816 44	63,218 06	420,218 97	463,054 37	9,701 77
27. Stable employes.....	316,226 67	421,704 38	3,383 06	276,947 53	202,321 64	
28. Stable supplies and expenses.....	1,369,883 33	1,731,543 88	95,294 17	1,164,301 50	1,089,825 15	
29. Train employes.....	924,664 34	1,445,043 51	129,750 35	781,428 09	1,298,633 63	23,489 91
30. Train supplies and expenses.....	24,364 34	71,681 93	5,582 40	5,564 28	109,610 87	71,140 28

¹ Includes National Express Co. as agent.

STATISTICS—EXPRESS COMPANIES.

OPERATING EXPENSES, ENTIRE SYSTEM, 1912—Concluded.

CLASSIFICATION.	NAME OF COMPANY.					
	Adams.	1 American.	Northern.	United States.	Wells Fargo.	Western.
TRANSPORTATION EXPENSES—Continued.						
31. Transfer employees.....		\$1,361,557 27	\$2,582 13	\$192,778 81	\$472,164 56	\$6,361 51
32. Transfer expenses.....		100,820 41	715 04	150 91	3,637 07	618 28
33. Stationery and printing.....	\$298,951 85	403,269 05	23,217 20	226,877 32	368,205 82	10,493 99
34. Loss and damage—freight.....	671,426 87	813,425 61	17,608 42	455,928 74	375,844 31	11,440 45
35. Loss and damage—money.....	25,896 16	3,534 81	3,267 50	10,086 82	24,021 00	10
36. Damage to property.....	9,770 86	8,387 29	258 16	3,804 36	3,479 80	345 88
37. Injuries to persons.....	56,142 63	27,899 68	6,184 24	39,829 29	46,202 06	547 98
38. Other expenses.....	10,792 90	13,717 00	675 69	7,524 83	32,044 22	667 51
Total, items Nos. 21—38.....	\$13,186,778 27	\$18,194,613 66	\$938,908 33	\$9,948,137 54	\$12,525,102 87	\$309,188 88
GENERAL EXPENSES:						
41. Salaries and expenses, general officers.....	\$159,775 74	\$181,518 61	\$13,489 96	\$77,262 24	\$85,702 94	\$7,604 69
42. Salaries and expenses, clerks and attendants.....	533,421 61	933,343 35	39,139 66	357,346 10	595,147 98	22,849 48
43. General office, supplies and expenses.....	52,636 60	85,757 89	3,243 89	39,403 54	49,911 42	2,568 29
44. Law expenses.....	99,245 22	92,812 29	2,974 82	70,652 91	66,470 13	2,827 25
45. Insurance.....	88,680 76	121,386 23	3,066 04	24,257 15	56,956 66	1,512 50
46. Pensions.....	18,369 92	3,407 44		6,874 99	21,712 30	
47. Stationery and printing.....	36,714 43	29,217 64	2,990 08	11,773 04	33,251 51	2,067 45
48. Other expenses.....	41,168 28	49,024 23	511 99	7,293 01	143,180 54	620 13
Total, items Nos. 41-48.....	\$1,030,012 56	\$1,586,467 68	\$65,466 44	\$594,862 98	\$1,052,313 48	\$40,049 79
SUMMARY OF OPERATING EXPENSES:						
Maintenance expenses:						
Total of accounts Nos. 1-12.....	\$844,925 47	\$1,024,064 59	\$41,045 76	\$404,335 47	\$656,126 15	\$13,098 31
13. Maintaining joint facilities—Dr.....	7,702 15	4,147 58	5 44		2,577 22	1,235 20
14. Maintaining joint facilities—Cr.....	17,433 65	5,758 90	137 03		8,783 94	
Total, maintenance expenses.....	\$835,193 97	\$1,022,453 27	\$40,914 17	\$404,335 47	\$649,919 43	\$14,333 51

Traffic expenses.....	\$112,935 13	\$371,176 59	\$40,231 06	\$183,367 36	\$321,915 37	\$33,704 66
Transportation expenses:						
Total of accounts Nos. 21-33.....	\$13,186,778 27	\$18,194,613 66	\$938,908 33	\$9,948,137 54	\$12,535,102 87	\$309,188 88
39. Operating joint facilities—Dr.....	216,053 51	159,207 60	11,682 05		86,454 29	144,170 88
40. Operating joint facilities—Cr.....	227,743 88	493,971 94	13,266 37		162,289 98	27,519 67
Total transportation expenses.....	\$13,175,087 90	\$17,949,849 32	\$937,324 01	\$9,948,137 54	\$12,459,267 18	\$425,840 09
General expenses:						
Total of accounts 41-48.....	\$1,030,012 56	\$1,586,467 68	\$65,466 44	\$594,862 98	\$1,052,313 48	\$40,049 79
49. General administration, joint facilities—Dr.....	313 72					6 82
50. General administration, joint facilities—Cr.....	949 72	3,900 00				
Total general expenses.....	\$1,029,376 56	\$1,582,567 68	\$65,466 44	\$594,862 98	\$1,052,313 48	\$40,056 61
Total, operating expenses.....	\$15,152,593 56	\$20,926,046 86	\$1,083,935 68	\$11,130,703 35	\$14,483,415 46	\$513,934 87
RATIOS TO TOTAL OPERATING EXPENSES (per cent.)						
Maintenance expenses.....	5.51	4.89	3.78	3.63	4.49	2.79
Traffic expenses.....	.75	1.77	3.71	1.65	2.22	6.56
Transportation expenses.....	86.95	85.78	86.47	89.38	86.02	82.86
General expenses.....	6.79	7.56	6.04	5.34	7.27	7.79
Total.....	100.00	100.00	100.00	100.00	100.00	100.00
Ratio of operating expenses to operating expenses (per cent).....		92.44	79.08	99.34	85.07	385.79

¹Includes National Express Co., as agent.

²Including amount paid for transportation through Maine and Vermont, 93.78 per cent.

BALANCE SHEET, ENTIRE SYSTEM—JUNE 30, 1912.

Italic figures denote credits.

ITEMS.	NAME OF COMPANY.					
	Adams.	American.	Northern.	United States.	Wells Fargo.	Western.
ASSETS.						
Expenditures for real property.....	\$3,271,730 86	\$7,488,013 09		\$1,361,314 13	\$2,931,586 74	\$7,148 97
Expenditures for equipment.....	2,890,428 45	3,115,333 22	\$204,450 48	2,599,653 98	2,800,505 85	46,749 58
Stocks owned.....	21,744,181 79	21,610,131 62	193,167 65	371,661 25	4,414,608 39	
Funded debt owned.....	35,361,742 69	5,201,748 41	760,778 46	4,701,203 97	13,060,728 32	
Other permanent investments.....	221,235 41	1,907,569 50		588,157 07	4,512,561 06	
Cash and current assets.....	6,012,581 02	20,558,392 40	686,710 49	5,154,079 58	8,170,509 21	272,542 50
Other assets.....						
Materials and supplies.....	8,754 77	238,890 71	3,359 88	56,887 69	202,182 88	7,958 32
Sinking, insurance and other funds.....	<i>466,008 17</i>		<i>4,014 23</i>	<i>1,040,417 98</i>		
Sundries.....	736,117 81		14,400,000 00	784,474 46	2,091,210 13	
Total assets.....	\$69,780,764 63	\$60,120,078 95	\$6,252,481 19	\$14,577,014 15	\$38,183,892 58	\$334,399 37
LIABILITIES.						
Capital stock.....		\$18,000,000 00	\$5,000,000 00	\$10,000,000 00	\$23,967,400 00	\$50,000 00
Funded debt.....	<i>\$36,843,382 25</i>					
Current liabilities.....	5,814,354 45	20,620,777 48	737,098 29	3,229,956 68	7,914,480 39	198,460 28
Accrued interest on funded debt not yet payable.....	<i>153,614 66</i>					
Sundries.....	242,727 74			176,199 07	366,966 30	51,947 93
Profit and loss.....	26,726,685 53	21,499,301 47	515,382 90	1,170,858 40	5,935,045 89	33,991 16
Total liabilities.....	\$69,780,764 63	\$60,120,078 95	\$6,252,481 19	\$14,577,014 15	\$38,183,892 58	\$334,399 37

¹ Contract with Northern Pacific Express Co.

CURRENT ASSETS AND LIABILITIES, ENTIRE SYSTEM, 1912.

ITEMS.	NAME OF COMPANY.					
	Adams. ¹	American.	Northern.	United States.	Wells Fargo.	Western.
Cash and current assets available for payment of current liabilities:						
Cash	\$7,811,825 28		\$440,258 17	\$806,372 79	\$6,167,921 04	\$153,563 82
Bills receivable.....	5,198 67			29,763 83	206,733 67	
Due from agents.....	7,674,983 64		144,235 92	1,332,560 52	1,270,767 26	72,483 11
Due from solvent companies and individuals.....			40,829 45	90,434 33	173,681 87	
Traffic balances due from other companies.....	255,447 35		61,886 95	165,554 14	192,149 13	45,074 72
Other cash assets (excluding "Materials and supplies") ¹	4,810,937 46			77,259 93	159,256 24	1,420 85
Total—cash and current assets.....	\$20,558,392 40		\$686,710 40	\$2,501,945 54	\$8,170,509 21	\$272,542 50
Balance—current liabilities.....	62,385 08		50,387 80	674,192 16		
Total	\$20,620,777 48		\$737,098 29	\$3,176,137 70	\$8,170,509 21	\$272,542 50
Current liabilities accrued to and including June 30, 1912:						
Unpaid money orders, travelers' cheques, etc.....	\$13,877,742 42		\$65,437 50	\$430,532 35	\$2,359,671 81	\$8,941 52
Loans and bills payable.....			100,000 00	734 73		
Audited vouchers and accounts.....			64,461 18	286,519 50	1,884,468 43	
Wages and salaries.....	2,342,930 00		26,951 29	468,144 61	131,163 16	25,661 83
Traffic balances due to other companies.....	169,383 00		48,034 22	263,213 05	174,431 80	38,977 44
Dividends not called for.....			250,000 00	6,571 50	1,214,901 66	
Matured interest coupons unpaid (including coupons July 1).....						
Express privileges.....	1,851,817 01		184,459 40	1,720,421 96	1,948,304 80	111,404 50
Miscellaneous.....	2,378,905 05		2,754 70		201,538 73	3,474 99
Total—current liabilities.....	\$20,620,777 48		\$737,098 29	\$3,176,137 70	\$7,914,480 39	\$198,460 28
Balance—cash assets.....					256,028 82	74,082 22
Total	\$20,620,777 48		\$737,098 29	\$3,176,137 70	\$8,170,509 21	\$272,542 50
² Materials and supplies on hand.....		\$238,890 71	\$4,014 23	\$56,887 69	\$202,182 88	\$7,958 32

¹ Not reported in accordance with prescribed classification.

² Includes audited vouchers and accounts.

COST OF REAL PROPERTY AND EQUIPMENT.

Italic figures denote credits.

ITEMS.	NAME OF			
	Adams.		American.	
	Expenditures during year.	Total cost to June 30, 1912.	Expenditures during year.	Total cost to June 30, 1912.
A. ENTIRE SYSTEM.				
Real estate used in operation.....	<i>\$689,364 44</i>	\$3,271,730 86	\$32,525 57	\$3,767,412 59
Buildings and fixtures used in operation.....			<i>174,748 40</i>	3,720,600 50
Equipment:				
Cars.....				
Horses.....	49,942 89	691,911 62	<i>61,469 87</i>	941,200 00
Vehicles.....	215,272 53	1,150,664 23	428,867 00	1,137,950 38
Other equipment.....	18,122 71	1,047,852 60	38,318 10	1,036,182 84
Total.....	<i>\$406,026 31</i>	\$6,162,159 31	\$263,492 40	\$10,603,346 31
B. WISCONSIN.				
Real estate used in operation.....				\$15,927 00
Buildings and fixtures used in operation.....				49,799 22
Equipment:				
Cars.....				
Horses.....				22,855 00
Vehicles.....				16,840 50
Other equipment.....				23,719 00
Total.....				\$129,140 72

¹Includes all equipment.

YEAR ENDING JUNE 30, 1912

COMPANY.

Northern.		United States.		Wells Fargo.		Western.	
Expenditures during year.	Total cost to June 30, 1912.	Expenditures during year.	Total cost to June 30, 1912.	Expenditures during year.	Total cost to June 30, 1912.	Expenditures during year.	Total cost to June 30, 1912.
.....	.....	\$197,708 74	\$1,125,053 77	\$61,941 71	\$884,227 95	.....	.....
.....	.....	6,405 42	236,260 36	25,461 79	2,047,358 79	\$285 00	\$8,106 67
.....	.....	.....	.....	1512,099 93	2,800,505 85	.....	.....
\$1,536 80	\$53,723 31	21,386 36	832,222 28	.....	.....	2,645 00	10,471 75
120 00	55,349 09	29,005 07	874,236 83	.....	.....	2,401 33	11,586 31
2,961 58	113,806 12	98,916 53	893,194 87	.....	.....	3,143 64	42,892 51
\$4,378 38	\$222,878 52	\$41,995 36	\$3,960,968 11	\$599,503 43	\$5,732,092 59	\$8,474 97	\$73,057 24
.....	.....	.....	.....	.....	\$55,061 75	.....	.....
.....	.....	.....	.....	.....	46,170 00	.....	\$3,402 40
.....
.....	\$395 30	.....	.....	.....	28,132 94	.....	2,553 35
.....	462 65	.....	.....	.....	24,018 23	.....	3,431 00
.....	687 09	.....	.....	.....	34,475 33	.....	9,203 30
.....	\$1,544 74	.....	.....	.....	\$187,858 25	.....	\$18,590 05

STATISTICS OF EQUIPMENT

CLASSIFICATION.	NAME OF			
	Adams.		American.	
	Number.	Value.	Number.	Value.
A. ENTIRE SYSTEM.				
Automobiles.....	313	\$536,425 66	212	\$587,754 20
Cars.....	160	13,534 62	139	41,499 75
Car safes (stationary).....	843	180,501 07	1,049	195,010 35
Double wagons.....	5,590	117,453 38	6,896	123,094 83
Four wheel trucks.....				
Horses and other draft animals.....	4,183	585,687 46	5,860	941,200 00
Messengers' safes.....	2,852	42,780 01	2,191	34,002 22
Messengers' packing trunks.....	5,549	55,438 00	3,987	22,759 62
Office furniture and fixtures.....		316,265 66	50,582	586,564 83
Office safes.....	1,566	117,666 18	2,975	137,592 51
Single wagons.....	2,675	313,946 62	3,096	323,731 07
Sleighs.....	617	14,512 37	1,416	31,454 76
Stable equipment (including harness).....		196,344 25	5,122	75,007 93
All other equipment.....		1,707 18	2,095	15,661 15
Total.....		\$2,492,262 46		\$3,115,333 22
B. WISCONSIN.				
Automobiles.....				
Cars.....				
Car safes (stationary).....			2	\$850 00
Double wagons.....			14	3,030 00
Four wheel trucks.....	20	\$153 00	234	4,290 19
Horses and other draft animals.....	18	720 00	151	22,855 00
Messengers' safes.....	6	36 00	115	1,211 00
Messengers' packing trunks.....			16	158 00
Office furniture and fixtures.....		376 95	1,332	9,308 21
Office safes.....	14	153 75	143	5,733 50
Single wagons.....	17	720 00	111	11,780 00
Sleighs.....	5	75 00	92	2,030 50
Stable equipment (including harness).....		187 25	143	1,860 10
All other equipment.....			43	308 00
Total.....		\$2,421 95		\$63,414 50

¹ Wisconsin not reported.

OWNED, JUNE 30, 1912.

COMPANY.

Northern.		United States. ¹		Wells-Fargo.		Western.	
Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
2	\$4,500 00	56	\$131,979 94	9	\$17,722 74		
78	16,012 85	264	128,355 00	123	371,907 77		
87	21,042 13	809	362,513 34	489	61,232 58	16	\$3,237 38
715	20,760 30	4,193	117,543 06	875	249,375 00	3	973 00
				8,296	194,956 00	277	9,771 86
249	42,978 65	3,834	832,222 28	3,896	681,816 64	46	10,471 75
308	6,060 54	2,398	30,840 59	2,992	36,190 64	167	3,047 34
357	3,990 00	2,726	29,159 63	8,927	40,171 50	213	1,700 77
	12,910 80		162,105 66		341,884 98		10,295 74
	36,357 75	1,784	97,817 45	2,997	184,615 20	50	7,821 86
117	24,215 19	1,758	362,594 02	1,993	294,583 28	43	8,805 99
47	1,483 32	422	17,149 53	384	12,482 99	37	1,807 32
	4,975 23		140,422 05		143,196 30		2,308 24
	9,163 72		186,951 43		170,370 23		4,709 32
	\$204,450 48		\$2,599,653 98		\$2,800,505 85		\$64,950 57
8	\$233 43			15	\$4,279 66		
				305	7,045 42	86	\$3,142 61
2	316 00			153	28,132 94	11	2,553 35
1	16 00			104	1,516 74	22	376 00
					7,045 32		1,820 24
3	245 00			140	8,699 40	15	2,351 82
2	373 75			104	17,292 44	13	2,780 66
2	61 10			77	2,333 63	12	650 34
	53 81				3,820 71		622 77
	108 68				6,451 24		889 86
	\$1,407 77				\$86,626 50		\$15,187 65

STATISTICS OF FINANCIAL PAPER ISSUED.

CLASSIFICATION.	NAME OF			
	Adams.		American.	
	Number.	Amount.	Number.	Amount.
Money orders sold—domestic.....	1,058,826	\$10,479,788 65	4,749,629	\$44,087,640 19
Money orders sold—foreign.....			7,929	119,923 77
Traveler's cheques sold—domestic.....	21,810	33,548 37	267,498	6,328,680 00
Traveler's cheques sold—foreign.....			867,628	21,246,200 00
"C. O. D." checks issued.....	968,297	11,319,183 64	1,556,993	19,519,570 10
Telegraph transfers.....			5,112	743,686 55
Letters of credit issued.....			1,108	3,237,184 42
Other forms of remittance papers issued.....			877,810	241,770,136 84
Total.....	2,028,933	\$21,832,520 66	8,333,707	\$337,053,021 87
Number of express offices June 30, 1912:				
In the United States.....	5,808		7,399	
In Wisconsin.....	29		376	
Number of offices at which money orders were on sale June 30, 1912:				
In the United States.....	4,504		7,056	
In Wisconsin.....	30		378	

¹Includes foreign money orders.

ENTIRE SYSTEM, YEAR ENDING JUNE 30, 1912.

COMPANY.

Northern.		United States.		Wells Fargo.		Western.	
Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.
194,606	\$2,181,004 85	1,484,972	\$13,797,667 20	2,414,272	\$28,560,837 37	174,999	\$1,781,880 76
577	14,228 60			7,790	156,566 94	905	18,018 76
		256,114	1,289,820 00	90,423	2,314,849 79	385	9,010 00
				21,879	535,383 45	91	2,010 00
129,171	1,548,939 67	805,348	9,041,793 20	1,529,624	16,856,467 33	42,350	467,448 76
		695	55,671 49	5,203	561,118 28		
		11	46,854 25				
		53,970	2,234,895 85			380	12,793 30
324,354	\$3,744,173 12	2,401,110	\$26,466,701 99	4,069,191	\$48,985,226 16	219,110	\$2,291,161 58
702		4,692		7,049		536	
11				299		171	
696		4,658		12,073		740	
9				465		261	

²Includes foreign travelers cheques.

MILEAGE COVERED, ENTIRE LINE, YEAR ENDING JUNE 30, 1912.

CLASSIFICATION.	NAME OF COMPANY.					
	Adams.	American.	Northern.	United States.	Wells Fargo.	Western.
WISCONSIN MILEAGE:						
Steam roads.....	223.02	2,950.79	358.04	109.47	2,132.66	1,467.42
Electric lines.....					49.35	
Steamboat lines.....						
Stage lines.....						
Total.....	223.02	2,950.79	358.04	109.47	2,182.01	1,467.42
ENTIRE SYSTEM:						
Steam roads.....	32,520.19	56,402.09	7,456.85	28,817.15	61,711.55	4,887.69
Electric lines.....	426.07	653.18	55.70	3,516.75	2,639.98	4.00
Steamboat lines.....	4,333.00	2,301.25	221.00	466.70	17,064.86	4.00
Stage lines.....	27.00	23.50			578.62	4.00
Miscellaneous.....		7.50				
Total.....	37,306.26	59,387.52	7,733.55	32,800.60	81,995.01	4,899.69
MILEAGE COVERED BY OUTSIDE OPERATIONS:						
Ocean-going mileage.....	12,662.00	68,284.00		3,390.00	9,397.00	
Mileage in foreign countries.....	430.00	6,022.00				
Total.....	13,092.00	74,306.00		3,390.00	9,397.00	

NAMES OF LINES OVER WHICH THE RESPONDENT COMPANIES OPERATE IN WISCONSIN.

Adams Express Co:

(1) Steam roads: Chicago, Burlington & Quincy R. R.

American Express Co.:

(1) Steam roads: Chicago & North Western Ry., Chicago, St. Paul, Minneapolis & Omaha Ry., Fairchild & Northeastern Ry., Hazelhurst & Southeastern Ry., Illinois Central Ry., Marinette, Tomahawk & Western Ry., and Wisconsin & Michigan.

(2) Steamboat lines: Crosby Transportation Co. (3) Other lines: None.

Northern Express Co.:

(1) Steam roads: Northern Pacific Ry.

United States Express Co.:

(1) Steam roads: Elgin, Joliet & Eastern Ry.; (2) Electric lines: Chicago & Milwaukee Electric R. R.

Wells Fargo:

(1) Steam roads: Chicago, Milwaukee & St. Paul, Ahnapee & Western, Green Bay & Western, Kewaunee, Green Bay & Western, Iola & Northern, La Crosse & Southeastern, Mineral Point & Northern, and Waupaca & Green Bay.

(2) Electric lines: Eastern Wisconsin Ry. & Light Co., and Sheboygan Light, Power & Ry. Co.

Western Express Co.:

(1) Steam roads: Duluth, South Shore & Atlantic Ry.; Minneapolis, St. Paul, & Sault Ste. Marie Ry., and Stanley, Merrill & Phillips.

INDEX.

NOTE:—This index includes ELECTRIC RAILWAYS, ELECTRIC UTILITIES, EXPRESS COMPANIES, GAS UTILITIES, HEATING UTILITIES, RAILROADS, TELEPHONE UTILITIES and WATER UTILITIES, alphabetically arranged, under each of which the desired subject will be found if present in that kind of utility or carrier.

NOTE: The list of FORMAL and INFORMAL CASES against UTILITIES and CARRIERS, and of APPLICATIONS *in re* CERTIFICATES OF CONVENIENCE AND NECESSITY and *in re* AUTHORITY TO ISSUE STOCKS and BONDS will be found chronologically arranged in-classes in PART II, but have not been alphabetically indexed.

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Secretary



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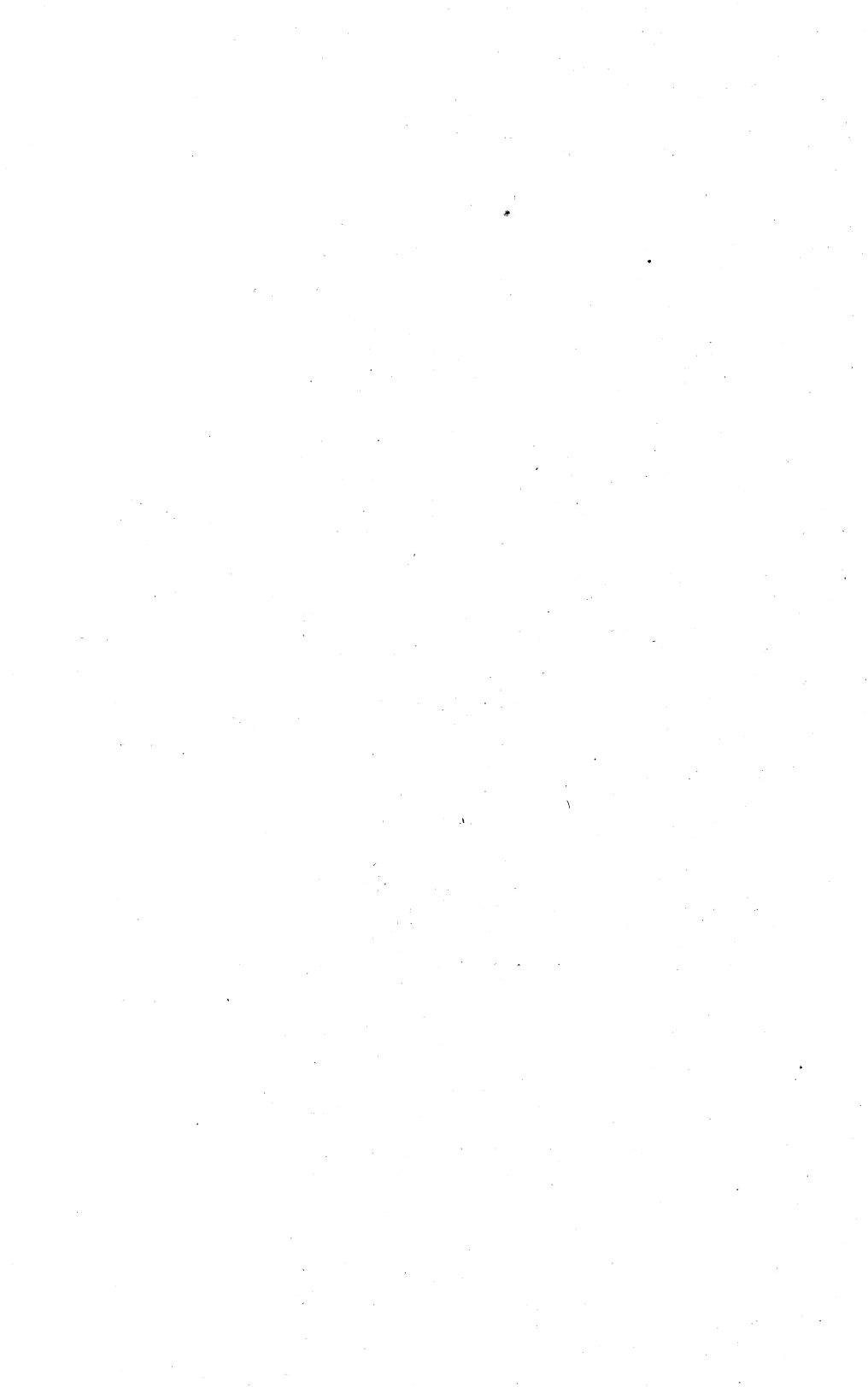


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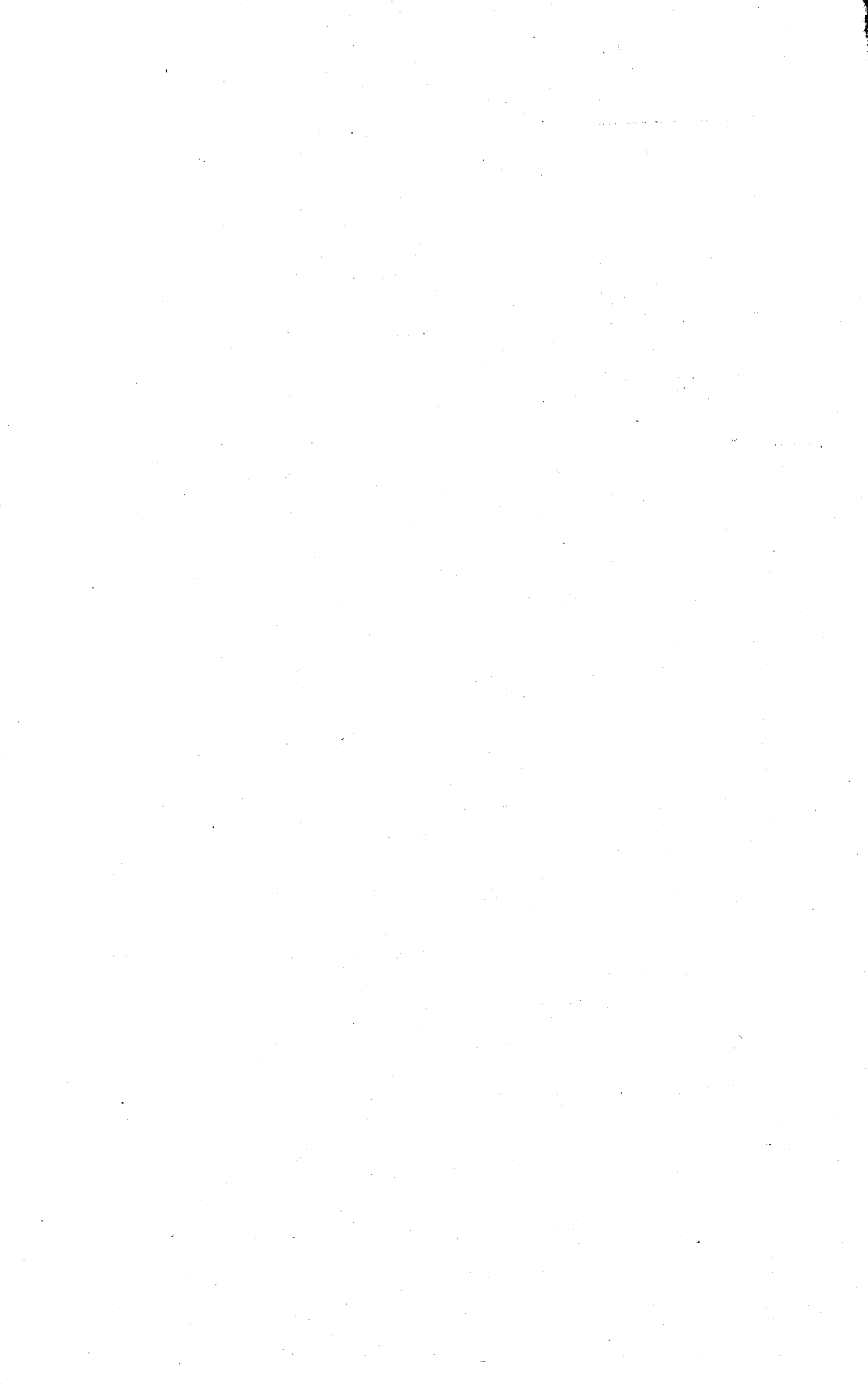
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OPINIONS AND DECISIONS

OF THE

Railroad Commission of Wisconsin

SUPERIOR COMMERCIAL CLUB ET AL.

vs.

DULUTH STREET RAILWAY COMPANY.

Submitted Jan. 16, 1912. Decided Nov. 13, 1912.

Complaint was made as to the reasonableness of street railway rates of the Superior division of the Duluth Street Ry. Co. furnishing street railway service in Superior, Wis. It was contended that the charge of 5 cts. is unreasonable and unjust and more than the service is reasonably worth, and that a reasonable return can be made for a much smaller fare than is now charged by the respondent. A valuation of the property was made and the revenues and expenditures were investigated. In distributing the proportions of the plant and its business as between Duluth and Superior, a percentage analysis was made of the miles of track operated, of the car-miles, of the car-hours, of the amount of revenue passengers carried, and of the operating revenues.

A valuation of the physical property of the Superior division of the company as of June 30, 1911, showed a cost new of \$717,538 and a present value of \$487,236. When the present value of the physical property for 1911 is increased by the present value of that part of the property located in Duluth but chargeable to Superior and which cannot greatly exceed \$70,000, when additions of about \$10,000 are made for working capital, and when proper allowances for depreciation and going value are added, it will be found that the total amount does not quite reach the cost value new. In fact, it does not greatly exceed \$700,000. This sum finds support in the cost of reproduction of the plant and the business as well as in their original cost.

In the present case, the contention was made that in the valuation for rate-making purposes a value should be placed upon certain portions of the right of way. It appears that before certain plats of territory now covered by the city were filed in the office of the register of deeds, the railway company was granted easements by a private land company to operate over a private right of way, which subsequently became streets of the city. It was claimed by the company that these easements had certain values which should be considered in the present case. It

was pointed out in opposition that these grants can have no value as against the public for rate-making purposes, in that these grants dedicate the streets to the public and any claim of the grantee is abrogated when these claims infringe upon the streets for the public good. It was further urged that the respondent should not be allowed to earn an income upon any value that may be attached to these grants, because the franchises of the railway company assume full powers on the part of the city over its streets and the respondent has in its franchises acquiesced in this assumption.

Held: It does not seem clear to the Commission that these lands granted for right of way purposes should be considered in the establishment of a fair value of respondent's plant and business as a basis for rates. The facts at the present time seem to indicate that to allow a return on any value which may be placed upon these grants would hardly be fair.

As under normal conditions investors are entitled to have their property or investment kept intact, it follows that the amounts, which have been properly set aside for such purposes, or for depreciation, in accordance with the provisions of the law and the rules of the Commission, should in the instant case be included in the amount upon which returns are allowed. On the other hand, amounts earned for depreciation but withdrawn or used for other purposes than provided by law should not be so included.

A study of operating conditions obtaining on street railways discloses that they require considerably less working capital than utilities selling their product on a monthly basis. Especially is this true when traction companies sell tickets in advance, the cash on hand from such tickets unredeemed is almost sufficient in some cases to supply the necessary funds for working capital. However, it is often to the benefit of the railway, as well as to the public, that funds be kept on hand to take advantage of low current prices for materials, especially in view of the short duration of the season when renewals and betterments can be undertaken.

The contention made by the respondent that no reduction in the rate of fare is permissible on the ground that the usual and regular fare of street railways in cities of a similar size is 5 cts., does not seem tenable. A study of urban railway rates in Wisconsin on file with the Commission discloses that out of a total of eighteen cities, three, or 17 per cent, have a straight 5 ct. fare, while 15, or 83 per cent, have a rate below 5 cts. in the form of ticket fares. These rates include 6 tickets for 25 cts., 8 for 25 cts., 15 for 50 cts., 25 for \$1.00, 35 for \$1.00, and 100 for \$4.50. Conditions in the present case do not seem to differ greatly from those of other cities of similar size in this state where the reduced fares are sold.

Held: In view of all the facts in the case it appears that the surplus available for return upon the investment will permit of a reduction in rates and that the respondent company can establish a six tickets for a quarter rate without reducing its returns below a reasonable level. As a rule, such ticket rates increase the riding habit, and consequently bring a higher density of traffic. The expense of carrying such additional traffic would be more than offset by the increase in revenues due to a higher load factor. It is ordered that respondent in addition to its present rates of fare sell, through its conductors, six tickets for 25 cts., such tickets to be good for use at all hours of operation over any line, and subject to the existing transfer privileges. No changes are made in the rates for cash fares.

A petition presented by the Superior Commercial Club, a corporation existing under the laws of the state of Wisconsin, raises question as to the reasonableness of street railway rates of the Superior division of the Duluth Street Railway Company. On July 13, 1889, the city of Superior by an ordinance authorized the Douglas County Street Railway Co., predecessor of the Duluth Street Railway Co. and the Superior Rapid Transit Co., to operate and maintain a system of street railways in the city of Superior. That portion of the ordinance relating to fares states:

“SECTION 7. The said company may regulate and establish from time to time such rates of fare for the transportation of passengers or freight over its lines of railway as it may deem proper, provided that the charge for carrying a person, including hand baggage, from one point to another within the city limits, shall not exceed 5 cts. for a distance of two miles or less, or 5 cts. over any continuous line operated as such.”

In the petition it is shown that the members of the Superior Commercial Club are patrons of the Duluth Street Railway Company and that the company collects from all persons riding on its cars, except children under five years of age, the established maximum, a cash fare of 5 cts. for each continuous ride. It is contended that this charge of 5 cts. is unreasonable and unjust and more than the service is reasonably worth, and that a reasonable return upon the value of the property necessarily used for the purpose of transporting persons from place to place within the city of Superior, in addition to a reasonable expense for operation and an allowance for depreciation, can be made for a much smaller fare than is now charged by the respondent. The petition prays that the Commission determine a reasonable and just charge for the transportation of passengers in the city of Superior and that an order be entered requiring the respondent to discontinue its present unreasonable rates of fare.

The answer of the respondent company admits the corporate character of the complainant and states that the rates of charge are as specified in the petition, viz., a cash fare of 5 cts. for each person, except children under five years of age, such fare to entitle passenger to one continuous ride with the privilege of a universal transfer. It denies, however, that such charges are unreasonable or unjust or more than such service is reasonably worth and alleges that the present charge has at all times been

and now is reasonable and just. The respondent contends further that its franchises constitute contracts between the state of Wisconsin, the city of Superior and the grantees, and that any regulation requiring a charge of any sum less than 5 cts. for a single fare for carrying a person, including hand baggage, from one point to another within the limits of the city of Superior would impair the obligation of contracts, would deprive the respondent of property without due process of law, would deny the respondent the equal protection of the law, and would be in violation of the constitution of the United States and particularly sec. 10 of art. 1 of the constitution of the United States and of sec. 1 of art. 14, of the amendments to the constitution of the United States. The prayer is therefore made that the petition be dismissed.

Pursuant to notice a public hearing was held at the city hall in Superior on January 16, 1912, and various times thereafter. *Hanitch & Hartley* represented the petitioners and *W. R. Foley* the respondent company at these proceedings.

ORGANIZATION.

In February, 1884, the Douglas County Street Railway Co. was organized and in 1889 was granted a thirty-year franchise by the city of Superior. It began construction in the same year and operated the city lines until August, 1892, when the entire property was taken over by the Superior Rapid Transit Co. The bonded indebtedness of the latter company consisted of \$650,000 first mortgage bonds, of which \$605,000 were outstanding, and \$200,000 second mortgage bonds. Four years later, in 1894, the Central Trust Company of New York, trustees of the second mortgage bonds, brought suit in the circuit court of the United States, western district of Wisconsin, for the foreclosure of the second mortgage and the court appointed receivers to operate the property. As a result of this suit the Superior property was sold at receiver's sale in August, 1900, for \$365,000, subject to the first mortgage bonds, accrued interest and receiver's certificates and expenses. In connection with the sale a consolidation was effected between the Duluth Street Railway Company, which had gone into a receivership in 1898, and the Superior Rapid Transit Company, under the title of the Duluth

Street Railway Company. The new company began operations August 13, 1900, and issued \$2,000,000 5 per cent first mortgage bonds which were sold or exchanged to cover the outstanding bonds of both of the old companies. In addition to the bonded indebtedness the consolidated company authorized \$1,800,000 of stock, \$300,000 of which was issued. A holding company was also organized at the time of the consolidation under the title Duluth-Superior Traction Company of Connecticut, with stock liabilities amounting to \$5,000,000 of which \$1,500,000 were preferred and \$3,500,000 common.

In 1904 suit was brought in the state circuit court of Douglas county against the Duluth Street Railway Company by the state of Wisconsin, by which the city of Superior sought to nullify the extension of the franchise from 1919 to 1931, originally granted in August, 1901. In reviewing the history of the Duluth Street Railway Company in this suit it was brought out that the outstanding first mortgage bonds of the Superior Rapid Transit Company at the time of the receiver's sale in 1900 amounted to \$611,000, the second mortgage to \$200,000, and the par value of the stocks and bonds together to \$985,000. It was also brought out that twenty-nine miles of track existed in 1900 and 1901, but that soon after about four or five miles were torn up, leaving about twenty-four miles in 1904.

The financial condition of the company has been summarized in four tables.

In Table 1 there are compared thirteen balance sheets ranging in dates from Dec. 31, 1900, to June 30, 1912. It would appear from this summary that the property and plant of respondent company was placed December 31, 1900, at \$3,821,574.88 and this amount has been increased by June 30, 1912, to aggregate \$5,649,679.15. Capital stock has increased during the same period from \$300,000 to \$1,800,000, and the amount of funded debt has increased from \$2,000,000 to \$3,057,000.

In Table 2 there are compared income accounts or statements of receipts and expenditures for the twelve years ending June 30, 1912. These statements show an increase in the surplus available for depreciation and return upon the investment of from \$192,422.38 in the year ending December 31, 1901, to \$467,904.95 for the year ending June 30, 1912.

TA
COMPARATIVE BAL-
DULUTH STREET
December 31, 1900

	Dec. 31, 1900.	Dec. 31, 1901.	Dec. 31, 1902.	Dec. 31, 1903.	Dec. 31, 1904.
ASSETS:					
Property and plant.....	\$3,821,574 88	\$4,084,124 50	\$1,116,654 97	\$4,406,775 11	\$4,602,669 12
Investments.....					
Construction Fund.....					
Proceeds from sale of bonds.....		100,891 66			
Cash.....	1,222 23	¹²¹⁸ 16	43,515 34	2,780 72	54,998 18
Accounts receivable.....	13,370 76	14,458 90	945 27	4,120 07	971 16
Materials and supplies.....	23,872 81	12,140 88	21,537 41	21,322 82	12,867 78
Prepaid insurance.....	2,163 58	4,859 00	283 36	211 51	1,481 31
Interest and dividends receivable.....					
Open accounts.....			2,408 77		1,810 97
Total.....	\$3,862,204 26	\$4,216,256 78	\$4,185,345 12	\$4,435,210 23	\$4,674,798 52
LIABILITIES:					
Capital stock, common.....	\$300,000 00	\$300,000 00	\$300,000 00	\$300,000 00	\$300,000 00
Funded debt.....	2,000,000 00	2,100,000 00	2,200,000 00	2,300,000 00	2,500,000 00
Notes and bills payable.....					
Accounts payable.....	33,803 27	78,179 97	39,336 66	96,803 67	48,561 21
Deposits badges.....	131 30	600 00	600 00	600 00	600 00
Duluth-Superior Traction Co....	1,498,019 65	1,641,806 60	1,500,000 00	1,500,000 00	1,500,000 00
Taxes accrued.....	646 32	2,490 83	253 09	254 03	249 98
Unmatured interest accrued....	16,666 66	17,558 33	18,333 32	19,583 32	20,833 34
Unredeemed tickets.....	262 55	262 55	262 55	262 55	262 55
Open accounts.....	1,122 82	25,098 03	2,916 67	3,936 11	
Depreciation reserve.....					
Injuries and damages reserve....					
Surplus.....	11,551 69	50,260 47	123,642 83	213,770 55	304,291 44
Total.....	\$3,862,204 26	\$4,216,256 78	\$4,185,345 12	\$4,435,210 23	\$4,674,798 52

¹ Credit, bank overdraft.

BLE 1.
 ANCE SHEETS.
 RAILWAY COMPANY.
 to June 30, 1912.

Dec. 31, 1905.	Dec. 31, 1906.	Dec. 31, 1907.	Dec. 31, 1908.	June 30, 1909.	June 30, 1910.	June 30, 1911.	June 30, 1912.
\$4,647,142 22	\$4,684,750 38	\$4,917,970 29	\$5,011,794 23	\$5,097,743 83 74,597 90	\$5,304,798 84	\$5,448,771 33	\$5,649,679 15
82,137 16	187,060 96	171,052 98	202,480 25	87,412 13	38,433 23	273,493 20	273,493 20
1,006 81	1,492 87	5,488 93	6,429 71	6,171 68	8,533 40	16,758 96	16,300 51
29,365 23	30,459 77	45,312 21	44,547 53	72,596 24	56,700 46	10,160 75	12,621 41
1,317 21	1,817 04	2,294 20	2,488 15	7,041 16	986 86	92,505 46	100,952 92
	330 00			1,250 00		826 59	817 19
							2,412 48
							4,905 19
\$4,760,968 63	\$4,905,911 02	\$5,142,118 61	\$5,267,739 87	\$5,346,812 94	\$5,409,452 79	\$5,842,516 29	\$6,061,182 05
\$300,000 00	\$300,000 00	\$300,000 00	\$300,000 00	\$300,000 00	\$1,800,000 00	\$1,800,000 00	\$1,800,000 00
2,500,000 00	2,500,000 00	2,500,000 00	2,500,000 00	2,500,000 00	2,500,000 00	2,890,000 00	3,057,000 00
29,278 86	31,921 21	53,128 34	48,011 03	80,903 08	25,000 00	20,000 00	54,229 30
600 00	600 00	600 00	1,635 00	1,674 00	75,820 73	92,635 03	87,009 93
1,500,000 00	1,500,000 00	1,500,000 00	1,500,000 00	1,500,000 00	1,683 00	1,768 00	1,836 00
20,226 99	20,915 07	28,066 44	26,565 63	20,211 40	24,345 11	12,036 55	5,027 47
20,832 34	20,833 34	20,833 34	20,833 34	20,833 34	20,833 34	74,602 08	119,800 70
512 55	626 45	976 30	918 45	987 40	1,278 55	21,833 34	25,475 00
		4,671 30	4,143 55	4,143 55		1,264 15	1,456 00
78,000 00	128,820 00	238,272 00	326,579 80	326,379 80	310,512 66	309,103 53	285,222 39
11,935 60	14,450 35	13,776 69	23,910 00	13,819 39	29,194 79	29,549 08	20,911 26
299,582 29	387,744 60	481,794 20	515,143 07	577,860 98	620,784 61	569,724 53	603,214 00
\$4,760,968 63	\$4,905,911 02	\$5,142,118 61	\$5,267,739 87	\$5,346,812 94	\$5,409,452 79	\$5,842,516 29	\$6,061,182 05

TABLE
COMPARATIVE
DULUTH STREET RAILWAY
August 13, 1900

	Aug. 13, 1900 to Dec. 31, 1900.	To Dec. 31, 1901.	1902.	1903.	1904.
Revenue from transportation:					
Passengers (tolls inc.).....	\$175,725.90	\$450,000.00	\$533,714.35	\$617,184.65	\$614,336.53
Chartered cars.....		552.00	706.45	459.28	467.50
United States mail.....		807.34	807.28	700.22	675.22
Miscellaneous.....					
Total.....	\$175,725.90	\$451,359.34	\$535,228.08	\$618,404.15	\$615,479.25
Other revenues:					
Advertising.....		\$1,493.01	\$1,664.53	\$1,999.92	\$1,999.92
Rents.....			36.00	180.00	180.00
Power sold.....					
Miscellaneous.....	\$1,369.08	851.48	1,101.95	1,449.97	1,512.89
Total.....	\$1,369.08	\$2,344.49	\$2,802.48	\$3,629.89	\$3,692.81
Total revenue from all sources.....	\$177,094.98	\$453,703.83	\$538,030.56	\$622,034.04	\$619,172.06
Deduct operating expenses (tolls inc.).....	97,467.71	251,314.77	288,372.79	345,327.08	326,049.22
Net revenue.....	\$79,627.27	\$202,389.06	\$249,657.77	\$276,707.96	\$293,122.84
Taxes.....	2,745.87	9,966.68	10,500.41	12,508.91	17,747.78
Surplus available for depreciation and return upon the investment.	\$76,881.40	\$192,422.38	\$239,157.36	\$264,137.05	\$275,375.06

TABLE
COMPARATIVE
DULUTH STREET RAILWAY
August 13, 1900

	Aug. 13, 1900 to Dec. 31, 1900.	1901	1902	1903	1904
Revenue from transportation:					
Passengers (tolls inc.).....	\$38,869 00	\$130,513 05	\$153,673 10	\$170,579 40	\$155,640 00
Chartered cars.....		167 50	209 39	137 87	103 65
United States mail.....		200 00	200 00	200 00	161 37
Miscellaneous.....					
Total.....	\$38,869 00	\$130,880 55	\$154,082 49	\$170,908 27	\$155,905 02
Other revenues:					
Advertising.....		\$272 50	\$316 26	\$683 30	\$799 92
Rents.....	\$184 80	30 60	150 61	49 95	47 88
Miscellaneous.....					
Total.....	\$184 80	\$303 10	\$466 87	\$733 25	\$847 80
Total revenue from all sources.....	\$39,053 80	\$131,183 65	\$154,549 36	\$171,641 52	\$156,752 82
Deduct operating expenses (tolls inc.).....	31,387 59	85,408 99	99,677 08	111,288 56	94,651 63
Net revenue.....	\$7,666 21	\$45,774 66	\$54,872 28	\$60,352 96	\$62,101 19
Taxes.....	781 08	2,383 03	2,797 09	3,107 87	2,832 77
Surplus available for depreciation and the return upon the invest- ment.....	\$6,885 13	\$43,391 63	\$52,075 19	\$57,245 09	\$59,268 42

2.

INCOME ACCOUNTS,
COMPANY. ENTIRE SYSTEM.
to June 30, 1912.

1905.	1906.	1907.	1908.	Six months to June 30 1909.	1909-1910	1910-1911	1911-1912
\$658,493.10 534.15 677.74	\$762,187.65 475.90 705.90	\$840,530.05 335.50 704.55	\$883,078.00 511.00 624.12	\$443,824.00 276.00 236.80	\$1,034,761.45 535.50 470.48	\$1,099,772.05 350.50 562.05 605.90	\$1,123,774.40 455.00 535.82
\$659,704.99	\$763,369.45	\$841,570.10	\$884,213.12	\$444,336.80	\$1,035,767.43	\$1,101,290.50	\$1,124,765.22
\$1,999.92 230.00	\$1,999.92 300.00	\$1,999.92 325.00	\$3,000.00 600.00	\$2,250.00 655.17	\$4,599.96 1,013.37	\$4,799.94 1,054.15	\$5,000.02 596.73
1,488.61	3,205.40	2,189.33	2,482.59	5,062.17	13,560.41	6,211.91	18,140.27
\$3,718.53	\$5,505.32	\$4,514.25	\$6,082.59	\$3,154.43	\$20,988.76	\$13,726.14	\$24,888.81
\$663,423.52	\$768,874.77	\$846,084.35	\$890,295.71	\$452,491.23	\$1,056,756.19	\$1,115,016.64	\$1,149,654.03
379,984.48	418,820.49	437,391.21	549,437.58	279,273.32	577,619.73	597,477.58	620,685.42
\$283,439.04 40,648.19	\$350,054.28 26,071.97	\$408,693.14 32,681.81	\$340,858.13 34,201.46	\$173,217.91 18,000.00	\$479,136.46 53,634.83	\$517,539.06 65,002.72	\$528,968.61 61,063.66
\$242,790.85	\$323,982.31	\$376,011.33	\$306,656.67	\$155,217.91	\$425,501.63	\$452,536.34	\$467,904.95

3.

INCOME ACCOUNTS.
COMPANY—SUPERIOR DIVISION.
to June 30, 1912.

1905	1906	1907	1908	Six months to June 30, 1909.	1909-1910	1910-1911	1911-1912
\$164,354 60 110 23 161 67	\$190,897 30 127 34 176 48	\$208,248 35 34 50 198 43	\$203,947 50 38 75 186 14	\$102,207 00 110 25 84 37	\$243,138 55 171 25 193 31	\$259,580 40 114 00 200 70 145 00	\$261,093 70 200 25 195 70
\$164,626 50	\$191,201 12	\$208,481 28	\$204,172 39	\$102,401 62	\$243,503 11	\$260,040 10	\$261,489 65
\$799 92 30 00 79 64	\$799 92 87 95	\$799 92 25 00 56 76	\$1,044 40 13 76	\$510 00 6 00 15 05	\$1,050 48 73 01 700 48	\$1,128 24 162 40 1,235 33	\$1,185 76 140 30 3,131 61
\$909 56	\$887 87	\$881 68	\$1,058 16	\$531 05	\$1,823 97	\$2,525 97	\$4,457 67
\$165,536 06	\$192,088 99	\$209,362 96	\$205,230 55	\$102,932 67	\$245,327 08	\$262,566 07	\$265,947 32
106,405 24	105,180 07	112,641 84	135,581 79	71,940 63	137,575 26	151,563 31	152,168 61
\$59,130 82 4,250 06	\$86,908 92 4,635 70	\$96,721 12 5,149 96	\$69,648 76 8,480 85	\$30,992 04 4,100 00	\$107,751 82 9,630 43	\$111,002 76 9,883 23	\$113,778 71 11,870 17
\$54,880 76	\$82,273 22	\$91,571 16	\$61,167 91	\$26,892 04	\$98,121 39	\$101,119 53	\$101,908 54

TABLE 4.
DISPOSITION OF SURPLUS AVAILABLE FOR DEPRECIATION AND RETURN UPON THE INVESTMENT.

DULUTH STREET RAILWAY COMPANY.

Italic figures denote credits.

August 13, 1900, to June 30, 1912.

	Surplus as per table 2.	Bond interest.	Dividends. ¹	Depreciation reserve.	Miscellaneous adjustments.	Net surplus.	Cumulative surplus as per balance sheet Table 1.
August 13, 1900 to Dec. 31, 1900.....	\$76,881 40	\$38,440 71	\$20,602 60	.....	\$6,286 40	\$11,551 69	\$11,551 69
Year ending December 31, 1901.....	192,422 38	100,000 00	60,000 00	.....	<i>6,286 40</i>	38,708 78	50,260 47
" " " " 1902.....	239,157 36	105,775 00	60,000 00	.....	.....	73,382 36	123,642 83
" " " " 1903.....	264,148 55	114,020 83	60,000 00	.....	.....	90,127 72	213,770 55
" " " " 1904.....	275,375 08	124,854 19	60,000 00	.....	.....	90,520 89	304,291 44
" " " " 1905.....	242,790 85	125,000 00	60,000 00	\$62,500 00	.....	4,709 15	299,582 29
" " " " 1906.....	323,982 31	125,000 00	60,000 00	50,820 00	.....	88,162 31	387,744 60
" " " " 1907.....	376,011 33	125,000 00	60,000 00	84,053 00	12,908 73	94,049 60	481,794 20
" " " " 1908.....	366,656 67	125,000 00	60,000 00	88,307 80	.....	33,348 87	515,143 07
6 months ending June 30, 1909.....	155,217 91	62,500 00	30,000 00	.....	.....	62,717 91	577,860 98
Year ending June 30, 1910.....	425,501 63	125,000 00	209,000 00	48,578 00	.....	42,923 63	620,784 61
" " " " 1911.....	452,536 34	141,256 80	252,000 00	54,579 08	35,760 54	31,060 08	589,724 53
" " " " 1912.....	467,904 95	151,272 60	234,000 00	58,287 88	10,855 00	13,489 47	603,214 00

¹Includes return upon \$1,500,000 preferred stock of holding company, the Duluth-Superior Traction Company, held as a liability by the Duluth Street Railway Company prior to Jan. 1, 1910.

In Table 3 similar facts are summarized for that portion of the business transacted by the Duluth Street Railway Company in the city of Superior. It appears that under company's rule of apportionment, the surplus available for depreciation and return upon the investment upon the Superior division has increased from \$43,391.63 in 1901 to \$101,908.54 for the year ending June 30, 1912.

Table 4 illustrates the distribution of the entire surplus available and depreciation and return upon the investment and reconciles the surplus appearing upon the balance sheets of Table 1 with the yearly surplus reported in the income accounts in Table 2.

These statements have been verified by an inspection of the books and records of the company and are necessarily frequently referred to in discussing the issues presented in the case.

PLANT AND BUSINESS.

The city of Superior lies at the westerly end of Lake Superior and its large natural harbor and location render it important as a distributing center of iron ore, coal, grain, and general merchandise. It is a ship building center and the seat of the Superior state normal school. The population in 1890 consisted of 12,344 inhabitants which has steadily increased to 40,384 inhabitants in 1910 according to the federal census. The same development is noted in observing other indices of the city's growth. Where seventy buildings, for example, were erected in 1906, one hundred and ninety-five were in process of construction during the first ten months of 1911.

The city of Duluth, Minn., and its twin port Superior are connected by an interstate bridge. The respondent operates the street railway lines in each city and the interstate line operating between the two cities. Of the total track mileage operated approximately 71 per cent was located in Duluth on June 30, 1912, and 29 per cent was located in Superior. Since the company's organization in 1900, the total mileage in Duluth, according to the respondent's statement, has increased from 48.3 miles to 56.97 miles. That of Superior has decreased from 26 miles to 23.54 miles. The relative proportion of miles of track operated in both cities for each year corresponding with the financial statements already presented, is summarized in Table 5:

TABLE 5.
 PERCENTAGE ANALYSIS OF MILES OF TRACK OPERATED.
 DULUTH STREET RAILWAY COMPANY.
 August 13, 1900, to June 30, 1912.

Year.	Total miles.	Duluth.		Superior.	
		Miles.	Per cent	Miles.	Per cent.
To Dec. 31, 1900 ¹	74.80	48.30	65.24	26.00	34.76
" " " 1901.....	72.20	48.80	67.59	23.40	32.41
" " " 1902.....	73.54	49.51	67.32	24.03	32.68
" " " 1903.....	73.54	49.51	67.32	24.03	32.68
" " " 1904.....	71.05	49.50	69.67	21.55	30.33
" " " 1905.....	72.48	50.93	70.27	21.55	29.73
" " " 1906.....	73.27	51.70	70.56	21.57	29.44
" " " 1907.....	75.04	53.47	71.26	21.57	28.74
" " " 1908.....	76.14	53.47	70.23	22.07	29.77
To June 30, 1909.....	76.25	53.50	70.16	22.75	29.84
" " " 1910.....	76.50	53.70	70.20	22.80	29.80
" " " 1911.....	79.95	56.42	70.57	23.53	29.43
" " " 1912.....	80.51	56.97	70.76	23.54	29.24

¹ Beginning August 13, 1900.

A comparison of the relative amount of revenue passengers carried in Superior and Duluth indicates slightly greater relative growth for the Minnesota than for the Wisconsin city. Where the Superior portion of the revenue passengers in 1901 aggregated 29 per cent of the total, it now aggregates 23 per cent, although the actual number carried increased from 2,610,261 in 1901 to 5,221,874 in the fiscal year 1912. A yearly comparison of the number of revenue passengers is contained in Table 6.

In Table 7 a similar comparison is made of the operating revenues. Since there has been no change in the rate of fare since the company began operation, the relative proportions as to the amount of business are practically identical with the results obtained in Table 6.

Tables 8 and 9 give the total and relative relation of car-miles and car-hours run in both Superior and Duluth since the organization of the company. It will be noted that the facilities of transportation as measured in car-miles in Superior have decreased proportionately from 30.32 per cent to 23.62 per cent of the total car-miles run, with corresponding relative increases in Duluth. The same conclusions are reached from the results obtained in Table 9 comparing relative car-hours.

TABLE 6.
 PERCENTAGE ANALYSIS OF REVENUE PASSENGERS.
 DULUTH STREET RAILWAY COMPANY.
 August 13, 1900, to June 30, 1912.

Year.	Total number.	Duluth.		Superior.	
		Number.	Per cent.	Number.	Per cent.
To Dec. 31, 1900 ¹	3,514,518	2,737,138	77.88	777,380	22.12
" " " 1901.....	9,000,000	6,389,739	71.00	2,610,261	29.00
" " " 1902.....	10,674,287	7,600,825	71.21	3,073,462	28.79
" " " 1903.....	12,343,693	8,932,285	72.36	3,411,408	27.64
" " " 1904.....	12,286,731	9,173,931	74.67	3,112,800	25.33
" " " 1905.....	13,169,862	9,882,770	75.04	3,287,092	24.96
" " " 1906.....	15,243,753	11,425,807	74.95	3,817,946	25.05
" " " 1907.....	16,810,601	12,645,634	75.22	4,164,967	24.78
" " " 1908.....	17,661,560	13,582,610	76.90	4,078,950	23.10
To June 30, 1909.....	8,876,480	6,832,340	76.97	2,044,140	23.03
" " " 1910.....	20,695,229	15,503,621	74.91	5,191,608	25.19
" " " 1911.....	21,995,441	17,058,821	77.56	4,936,620	22.44
" " " 1912.....	22,475,488	17,253,614	76.77	5,221,874	23.23

¹ Beginning Aug. 13, 1900.

TABLE 7.
 PERCENTAGE ANALYSIS OF OPERATING REVENUES.
 DULUTH STREET RAILWAY COMPANY
 August 13, 1900, to June 30, 1912.

Year.	Total.	Duluth.		Superior.	
		Amount.	Per cent.	Amount.	Per cent.
To Dec. 31, 1900 ¹	\$177,094.98	\$138,041.18	77.95	\$39,053.80	22.05
" " " 1901.....	453,703.83	322,520.18	71.09	131,183.65	28.91
" " " 1902.....	538,030.56	383,481.20	71.27	154,549.36	28.73
" " " 1903.....	622,044.54	450,403.02	72.41	171,641.52	27.59
" " " 1904.....	619,172.08	462,419.26	74.68	156,752.82	25.32
" " " 1905.....	663,423.52	497,887.46	75.05	165,536.06	24.95
" " " 1906.....	768,874.77	576,785.78	75.02	192,088.99	24.98
" " " 1907.....	846,084.35	636,721.39	75.26	209,362.96	24.74
" " " 1908.....	890,295.71	685,065.16	76.95	205,230.55	23.05
To June 30, 1909.....	449,165.67	346,233.00	77.08	102,932.67	22.92
" " " 1910.....	1,044,898.63	799,571.55	76.52	245,327.08	23.48
" " " 1911.....	1,109,066.58	847,597.43	76.42	261,469.15	23.58
" " " 1912.....	1,131,809.30	868,977.08	76.78	262,832.22	23.22

¹ Beginning Aug. 13, 1900.

TABLE 8.
PERCENTAGE ANALYSIS OF CAR-MILES
DULUTH STREET RAILWAY COMPANY
August 13, 1900, to June 30, 1912.

Year	Total	Duluth		Superior	
		Number	Per cent	Number	Per cent
To Dec. 31, 1900 ¹	898,435	626,039	69.68	272,396	30.32
" " " 1901	2,258,884	1,562,087	69.15	696,797	30.85
" " " 1902	2,506,457	1,736,121	69.27	770,333	30.73
" " " 1903	2,979,540	2,134,215	71.65	845,325	28.37
" " " 1904	2,886,297	2,098,412	72.70	787,885	27.30
" " " 1905	2,760,780	2,022,852	73.27	737,928	26.73
" " " 1906	3,038,571	2,208,307	74.65	770,264	25.35
" " " 1907	3,515,207	2,696,599	76.43	828,608	23.57
" " " 1908	3,938,208	3,070,767	77.97	867,441	22.03
To June 30, 1909 ²	3,968,760	3,076,336	77.51	892,424	22.49
" " " 1910	3,998,845	3,064,078	76.62	934,767	23.38
" " " 1911	4,089,783	3,109,914	76.04	979,869	23.96
" " " 1912	4,345,233	3,318,817	76.38	1,026,416	23.62

¹ Beginning August 13, 1900.

² Beginning June 30, 1908.

TABLE 9.
PERCENTAGE ANALYSIS OF CAR-HOURS.
DULUTH STREET RAILWAY COMPANY.
August 13, 1900, to June 30, 1912.

Year.	Total	Duluth.		Superior.	
		Number.	Per cent.	Number.	Per cent.
To Dec. 31, 1900 ¹					
" " " 1901	267,934	180,877	67.51	87,057	32.49
" " " 1902	276,638	189,853	68.64	86,785	31.36
" " " 1903	318,469	232,949	73.15	85,520	26.85
" " " 1904	304,595	222,090	72.91	82,505	27.09
" " " 1905	300,251	222,720	74.18	77,531	25.82
" " " 1906	331,305	249,658	75.36	81,647	24.64
" " " 1907	388,249	299,799	77.22	88,450	22.78
" " " 1908	443,050	349,379	78.86	93,671	21.14
To June 30, 1909 ²	444,812	348,896	78.44	95,916	21.56
" " " 1910	443,940	342,082	77.06	101,858	22.94
" " " 1911	450,195	344,523	76.53	105,672	23.47
" " " 1912	481,704	370,769	76.97	110,935	23.03

¹ Beginning August 13, 1900.

² Beginning June 30, 1903.

An appraisal of the Superior property by the Commissions' engineers as of date June 30, 1911, is given in Table 10. The present value of the operating property of respondent's Superior division was placed at \$481,484, the cost new at \$711,583.

TABLE 10.
APPRAISED VALUE.
DULUTH STREET RAILWAY COMPANY—SUPERIOR DIVISION.
June 30, 1911.

Classification.	Cost new	Present value.
A. Land	\$12,995	\$12,995
B. Transmission and distribution	30,019	22,083
C. Buildings and miscellaneous structures	51,794	44,989
D. Power plant equipment	42,125	11,212
E. General equipment	162,005	113,398
G. Roadway	275,000	177,101
Total	\$578,995	\$381,778
Add 12 per cent (see note below)	69,451	45,813
Total	\$648,024	\$427,591
H. Material and supplies	12,254	12,254
Total	\$660,278	\$439,845
F. Paving	51,305	41,639
Total	\$711,583	\$481,484
J. Non-operating	5,900	5,752
Total	\$717,583	\$487,236

NOTE:—Add 12 per cent for cost of engineering, superintendence, interest during construction, contingencies, etc.

Exception was taken to the valuation as given in the above table by witnesses for the respondent company. In 1908 the Billings estate donated a strip of land 40 feet wide from New York ave. to the St. Louis river to the respondent for its Billings Park line, and also granted a parcel of land at the end of that line for loop purposes in 1903. Testimony was introduced showing that a value should be placed upon the right of way as required and included in the valuation.

Before certain plats of territory now covered by the city were filed in the office of the register of deeds of Douglas county the Duluth Street Railway Company was granted easements by the Land & River Improvement Company to operate over private right of way on Third street from Lamborn to Tower ave.; on Tower ave. from Third street to Belknap street; on Belknap street from Tower ave. to Hammond ave.; on Sixth street from Tower ave. to Lamborn ave.; and on Lamborn ave. from Third street to Sixth street. Claim was also made that these easements had certain values which should be considered in the instant case.

Petitioner's brief holds that these grants can have no value as against the public for rate-making purposes, in that these grants dedicate the streets to the public and any claim of the

grantee is abrogated when these claims infringe upon the use of streets for the public good. The brief states further that the respondent should not be allowed to earn an income upon any value that may be attached to these grants, because the franchises of the railway company assume full powers on the part of the city over its streets and the respondent has in its franchises acquiesced in this assumption.

It does not seem clear to the Commission that these lands granted for right of way purposes should be considered in establishing a fair value of respondent's plant and business as a basis for rates. The facts at the present time seem to indicate that to allow a return on any value which may be placed upon these grants would hardly be fair.

Considerable differences arose concerning the value of the Superior Rapid Transit Company's property at the time of the reorganization and its purchase by the respondent on August 13, 1900. Counsel for the company estimated the cost new in 1900 at \$500,000. Company's accountant, by adding the outstanding first mortgage bonds, \$605,000, interest accrued and unpaid \$55,760.83, organization expenses \$35,600, and \$25,000 for working capital, to the amount bid at the special master's sale, \$365,000, arrived at a so-termed first cost of \$1,086,360.83. Counsel for petitioner estimated the original value of the property at \$200,000. The promoters of the reorganization engaged Ford, Bacon & Davis, engineers, to make an inventory of the tangible property. This firm submitted a report dated March 20, 1900, and on the basis of the physical items inventoried therein the respondent, in December, 1911, computed the cost new as of date August 13, 1900, to have been \$650,947. To arrive at a value for comparative purposes the Commission's engineers estimated the cost new and present value of the property as of date March 20, 1900, on the basis of the inventory and condition of the Superior plant given in the Ford, Bacon & Davis report. The present value was placed at \$257,333, and cost new \$451,197, as shown in the following final summary:

TABLE 11.
 APPRAISED VALUE
 DULUTH STREET RAILWAY COMPANY—SUPERIOR DIVISION.
 March 20, 1900.

Classification.	Cost new.	Present value.
A. Land.....	\$2,500	\$2,500
B. Transmission and distribution.....	22,800	16,018
C. Buildings and miscellaneous structures.....	8,750	4,425
D. Plant equipment.....	41,068	28,518
E. General equipment.....	80,315	55,101
G. Roadway.....	240,278	119,342
Total.....	\$395,711	\$225,904
Add 12 per cent (see note below).....	47,485	27,108
Total.....	\$443,196	\$253,012
F. Paving.....	8,001	4,321
Total.....	\$451,197	\$257,333

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

The difference between the cost new, in 1900, \$650,947, computed by the respondent, and \$451,197, estimated by the Commission's engineers, lies chiefly in the estimates on track and car equipment. In conference with the respondent's chief engineer it developed that the company's cost of \$10,560 per mile as compared with \$8,090, Commission's figure, for narrow gauge track with 35 lb. tee rail on small ties and gravel ballast, was based on the cost of laying such track with standard gauge. Car motors were inventoried at \$2,500 each by the respondent but this estimate was found to be based upon vouchers for motors on heavy standard gauge cars and was hardly a fair unit price for the Superior narrow gauge equipment. A further examination of the vouchers representing general purchases made by the Douglas County Street Railway Company indicated that the unit prices used by the engineering staff were sufficiently representative to establish the reasonableness of the estimates given in the preceding Table 11.

In connection with the discussion of plant value it is essential to consider the additions to property during the period August 13, 1900, to June 30, 1911. Respondent reported a total of \$435,923.50 to the Railroad Commissioner and to this Commission as construction during the above period. Company's accountant placed the total at \$586,755.73 by adding a 15 per cent overhead charge to the actual construction as determined by an audit of the records. An examination by the Commis-

sion of the company's summary and detail statements of construction vouchers for the Superior division placed the total construction at \$455,551.98, of which \$158,875.37 was found to be renewals and \$10,812.33 overhead charge, leaving \$285,864.28 as actual physical betterments during the period. Respondent claimed that no charge had ever been made to the Superior property for general construction in Duluth and submitted a statement showing \$91,304.93 as the proper proportion chargeable to the plant on the Wisconsin side for such construction. In examining the details given in this statement, \$3,330 of stock subscription to the Duluth Amusement Company was deemed an improper charge to the Superior property, resulting in a remainder of \$87,974.93 accepted. With these adjustments and additions to the respondent's records the total betterments during the period for the Wisconsin division of company's traction property is placed at \$373,839.

In reconciling the engineer's appraisal of June 30, 1911, it was found that respondent's general manager submitted a valuation to the tax commission as of date June 30, 1907, placing the property in Wisconsin at that time at \$507,225. By adding the adjusted construction charges from June 30, 1907, to June 30, 1911, \$107,556, and Superior's proportion of general construction in Duluth, \$87,975, to this value submitted to the tax commission, a plant value of \$702,756 is obtained up to June 30, 1911, as compared with \$717,538 according to engineer's appraisal.

In the previous Table 11 the cost new in 1900 was placed at \$451,197. Before using this value as a basis to obtain a cost new in 1911 for comparative purposes, some adjustments are necessary. It was brought out in conference with respondent's engineer that 7.655 miles of track and certain portions of special work, which had been inventoried in the Ford, Bacon & Davis report of March 20, 1911, was removed from the traction lines of Superior subsequent to 1900 without any replacement. The track was narrow gauge, 3 feet 6 inches, 35 lb. tee rail, laid on small ties with gravel ballast and located as follows: On 21st from Wyoming ave. to New York ave., the Broadway loop, on Tower ave. from end of double track to 64th st., and a spur near the South end of the South Superior line to the school house on John ave. This track and special work is valued by the Commission's engineer at \$83,689. By deducting the value

placed upon this removed track from the cost new, \$451,197 estimated on the basis of the Ford, Bacon & Davis inventory, a value of \$367,508 is obtained for the year 1900, and adding the total betterments up to June 30, 1911, \$373,839 as given above, a cost new of \$741,347 results at the latter date. In comparison with the engineer's cost new, given in Table 10, the figure just shown is greater by about \$24,000. This is undoubtedly due to a difference in unit prices or to certain renewals which are still included in the betterments, or due to a combination of both of these causes.

Brief for petitioner emphasized the fact that respondent should not be allowed any value as a going concern above the present value shown in Table 10. Counsel for the company contended that the respondent is entitled to an addition of 20 per cent to the cost new given in the engineer's appraisal of 1911, on the basis that the property is a harmonious operating railway serving the public. The value arrived at by counsel totaled \$861,045.

To determine the cost of plant and development of respondent's Superior business the Commission employed computations taking the surpluses shown in the summary income account of Table 3 as an offset to annual interest and depreciation. The annual additions to property were included as adjusted for the period August 13, 1900, to June 30, 1911, including the Superior proportion of general construction in Duluth, properly apportioned. Depreciation was figured at 4.506 per cent on the average physical value, which is equivalent to 5.053 per cent on the depreciable property as determined for the fiscal year ending June 30, 1911, on the basis of estimated lives. Interest was computed at 7 per cent on the cost of plant and business at the beginning of the year plus one-half the current additions. On these bases the resulting cost of plant and development of business as of date July 1, 1911, aggregates approximately \$590,000, which exceeds the appraised present value at that date by about \$100,000 and falls short of the cost new by a somewhat larger amount.

In the computations just outlined it appeared that in view of the peculiar conditions existing at the time the respondent acquired the property from its predecessor in 1900, it was equitable to place the original value in the first year somewhere between the present value, \$257,333, and the cost new, \$451,197.

Prior to August 13, 1900, the property had been in the hands of receivers for four years, undoubtedly due in a measure to the fact that the bonded indebtedness aggregated \$805,000, or almost \$355,000 in excess of the cost new according to the appraisal of the Commission's engineer based on the Ford, Bacon & Davis inventory of March 20, 1900. In addition to these bonds the old property had a stock liability at par of \$300,000. No reserve was kept for depreciation at that time and in all probability dividends and interest were partly paid with funds that should have been used for reconstruction, considering that the property was in about a 50 per cent condition at the date of purchase.

The original cost of the plant and its business is a matter that cannot be definitely determined. But from the facts presented in this case in relation to this matter some light may be thrown thereon. When, for instance, the cost-value of the physical property in its existing condition in 1900, as shown in Table 11, is increased by the ordinary allowances for the development of the business and for working capital, it is probable that the cost-value of the plant and its business at that time did not fall much below \$300,000. When the present cost-value in 1900 is increased by all the additions to the physical property since that time up to about the middle of 1911, that are properly chargeable to that part of the plant which is serving Superior as well as by necessary development costs and working capital, and when that part of the depreciation which has been covered by proper reserves is also considered, then it appears that the cost-value up to the middle of 1911 foots up to something like \$700,000.

Brief for respondent places the plant and business value on June 30, 1911, at \$861,045 by adding 20 per cent to the cost new given in the engineer's appraisal of that date. The audit and report made for respondent by Marwick, Mitchell, Peat & Co. presents three sets of computations to determine the value of plant and business on June 30, 1911. In the first the report adopts the investment value of \$1,086,360.83 as of August 13, 1900, and on a 6 per cent basis for interest with 3 per cent for current additions, omitting depreciation, arrives at a final investment of \$2,005,742.86 on June 30, 1911. The second computation, on the same basis but with interest at 7½ per cent, arrives at an investment of \$2,381,086.94 in 1911. In

the third, the tangible property value on August 13, 1900, is placed at \$500,000—which exceeds the engineer's appraisal of that date by \$50,000—interest is figured at 6 per cent and depreciation at 5.55 per cent on depreciable property. The cost of plant and business arrived at on this last basis for June 30, 1911, totals \$1,485,166.23. In checking over the computations for the year 1910–1911, the depreciation amounts to \$55,464.14, which, if capitalized at 5.55 per cent, placed the depreciable property at \$999,354. This exceeds the Commission's cost new of June 30, 1911, including land, materials, and non-operating property, by over \$280,000. Petitioner contends that the present value in 1911 of the engineer's appraisal, \$487,236, should be used as a basis for rates.

An examination of respondent's depreciation reserve for the Superior division shows that \$34,658.18 has been charged to the reserve as actual renewals, while \$130,020.05 has been set aside through a charge to operating expenses, leaving a balance, as shown by the reserve, of \$95,361.87. As under normal conditions investors are entitled to have their property or investment kept intact, it follows that the amounts which have been properly set aside for such purposes, or for depreciation in accordance with the provisions of the law and the rules of the Commission, should in the instant case be included in the amount upon which returns are allowed. On the other hand, amounts earned for depreciation but withdrawn or used for other purposes than provided by law should not be so included.

In regard to the matter of working capital, petitioner's brief states that the method of doing business by respondent is on a cash basis and that current expenses can always be paid leaving a balance on hand. Witness for the company admitted that not much working capital was required excepting for construction, and that for this purpose about \$25,000 was considered adequate. A study of operating conditions obtaining on street railways discloses that they require considerably less working capital than those utilities selling their product on a monthly basis. Especially is this true when traction companies sell tickets in advance, the cash on hand from such tickets unredeemed is almost sufficient in some cases to supply the necessary funds for working capital. However, it is often to the benefit of the railway, as well as to the public, that funds are always at hand with which advantage can be taken of low current

prices for materials, especially in view of the short duration of the season when renewals and betterments can be undertaken. An examination of respondent's reports to the Commission pertaining to materials and supplies, and facts found in other sources, indicate that for conducting the Superior division of company's property an allowance of some \$10,000, in addition to about an equal sum for stores and supplies, seems adequate.

When the present value of the physical property, as shown for 1911 in Table 10, is increased by the present value of that part of the property located in Duluth but chargeable to Superior, and which cannot greatly exceed \$70,000; and by so much in the way of depreciation as has been covered by proper charges, together with about \$10,000 for additional working capital; and by such an amount for the cost of the business as is ordinarily allowed in cases of this kind, it will be found that the total amount does not quite reach the cost-value new as shown in Table 10. In fact, it does not greatly exceed \$700,000. This sum is likely to closely represent the fair cost-value of the plant and the business at that time and has therefore been used in the calculations herein as the amount upon which the owners are entitled to reasonable returns for interest and profits. This sum, in fact, finds support in the cost of reproduction of the plant and the business as well as in their original cost.

As the rate of return for interest and profit under such conditions as those which obtain in this case have been quite fully explained in other decisions of this Commission, it is not thought necessary to further discuss the rates used for these purposes in the computations herein.

OPERATING EXPENSES AND REVENUES.

Considerable testimony was devoted to the question of an equitable apportionment of the operating expenses as between Duluth and Superior. Counsel for petitioner questioned the company's methods of separating expenses, in that operation over the grades in Duluth is more costly than on the comparatively level stretches in Superior. Witnesses for respondent, under cross-examination, contended that little or no difference existed between the two cities for those expenses not charged directly to each division. As to maintenance of way the claim was made that any additional expense caused by the operation over grades in Duluth was offset to a large extent by the spread

of tracks in the clay soil of Superior. Emphasis was placed upon the fact that the cars operating in Superior operated in Duluth with the same motor equipment and that, with the exception of a higher brake shoe wear in the latter city, no appreciable difference in maintenance of equipment resulted.

A history of the separation of expenses since 1900 between the two cities is given in Table 12 below. It will be observed that, with the relative decrease in car-miles, car-hours, passengers and revenues in Superior, as shown in preceding tables, the expense burden incurred by Superior traffic decreases proportionately.

TABLE 12.
PERCENTAGE ANALYSIS OF OPERATING EXPENSES.¹
DULUTH STREET RAILWAY COMPANY.
August 13, 1900, to June 30, 1912.

Year.	Total.	Duluth.		Superior.	
		Amount.	Per cent.	Amount.	Per cent.
To Dec. 31, 1900 ²	\$97,467.71	\$66,080.12	67.80	\$31,387.59	32.20
" " " 1901.....	251,314.77	165,905.78	66.02	85,408.99	33.98
" " " 1902.....	288,372.79	188,695.71	65.43	99,677.08	34.57
" " " 1903.....	345,327.08	234,038.52	67.77	111,288.56	32.23
" " " 1904.....	326,049.22	231,397.59	70.97	94,651.63	29.03
" " " 1905.....	379,984.48	273,579.24	72.00	106,405.24	28.00
" " " 1906.....	418,820.49	313,640.42	74.89	105,180.07	25.11
" " " 1907.....	437,391.21	324,749.37	74.25	112,641.84	25.75
" " " 1908.....	549,437.58	413,855.79	75.32	135,581.79	24.68
To June 30, 1909.....	279,273.32	207,332.69	74.24	71,940.63	25.76
" " " 1910.....	577,619.73	440,044.47	76.18	137,575.26	23.82
" " " 1911.....	597,477.58	445,914.27	74.63	151,563.31	25.37
" " " 1912.....	620,685.42	468,516.81	74.19	152,168.61	25.81

¹ Tolls included.

² Beginning Aug. 13, 1900.

An examination of company's methods of apportionment during the period given in the above table shows that prior to 1908, when current was generated in both cities, power plant wages were charged to each division as per pay roll, including a proportion of the chief engineer's salary, fuel for power was charged direct as per storehouse journal, and water supply prorated according to the actual bills from the city of Superior, until October of 1904, when an intake pipe was laid from the power house to the bay. Since 1908 all power has been purchased from the Great Northern Power Company and billed separately to the two cities, a line insulator at the interstate bridge separates the current supply between the two divisions. In addition to the change of charging power during the period,

wages of car service employes, including wages of car starters, were taken from pay roll until 1908, when the car mileage basis for separating this expense was employed, and wages of car-house employes are now charged direct as per pay roll, but prior to 1908 were distributed on a car-mile basis. In the latter change practically no difference in the amount charged to each city resulted. Superintendence of transportation and platform time, aggregating over one-third of the total expenses, are charged directly to each division of respondent's railway. The same is true of injuries and damages, taxes, insurance, and law expenses. On the basis of the fiscal year 1912 the amount of expenses charged direct to the Superior traffic was over 65 per cent of the total Wisconsin proportion. Other expenses, such as lubricants and waste, miscellaneous supplies, car supplies, fuel for cars and stations, cleaning and sanding track, and removal of snow and ice, are prorated on a car-mile basis. Total maintenance of way and maintenance of equipment, together with general expenses, except those charged direct as noted, are prorated on a car-mile basis.

An apportionment of the total expenses of the entire system made by the Commission between Duluth and Superior upon unit bases similar to those employed in the matter *City of Milwaukee v. T. M. E. R. & L. Co.* 1912, 10 W. R. C. R. 1, resulted in a charge to each city of approximately the same amount as per respondent's method. Different bases were used to apportion the same items and no appreciable differences occurred. If total cost of power purchased is prorated on the car-mile unit, the amount in 1912 is about 13 per cent larger than the amount charged directly by the bills of the power company. Similar tests served to indicate that very little, if anything, could be gained by a reapportionment of the expenses. Placing the operating expenses for the past twelve years on a car-mile basis showed that, with the exception of 1906, the Superior expense per car-mile is larger in every year. Table 13 follows, giving the expenses per car-mile in total, for Duluth, and for Superior since 1900:

TABLE 13.
TOTAL OPERATING EXPENSES PER CAR-MILE.
DULUTH STREET RAILWAY COMPANY.
1900-1912.—In Cents.

Year.	Total.	Duluth division.	Superior division.
1900.....	10.85	10.55	11.52
1901.....	11.11	10.62	12.25
1902.....	11.50	10.86	12.94
1903.....	11.59	10.97	13.16
1904.....	11.30	11.03	12.01
1905.....	13.76	13.52	14.42
1906.....	13.78	13.83	13.66
1907.....	12.44	12.09	13.59
1908.....	13.95	13.48	15.63
1909 ¹	14.08	13.48	16.12
1910.....	14.44	14.36	14.72
1911.....	14.61	14.34	15.47
1912.....	14.28	14.12	14.82

¹Six months basis.

Although in general the difference in operating conditions tend to lead one to believe that the expense per car-mile should be less in Superior than in Duluth, the higher unit cost in the Wisconsin city is due to the low traffic density. Where the cars in Superior ran 43,605 miles per mile of track during the fiscal year 1912, the cars in Duluth ran 58,255 miles, a difference of approximately 15,000 car-miles, or an increase over Superior by about 35 per cent. The higher traffic density in the Minnesota city tends to reduce all ordinary expenses not varying directly with the amount of traffic, such as officers' salaries, other general expenses, maintenance of buildings, etc., per unit. Table 14 below shows the car-miles per mile of track from 1900 to 1912, inclusive:

TABLE 14.
CAR-MILES PER MILE OF TRACK.
DULUTH STREET RAILWAY COMPANY.
1900-1912.

Year.	Total.	Duluth.	Superior.
1900.....	12,011	12,962	10,477
1901.....	31,287	32,010	29,776
1902.....	34,084	35,065	32,056
1903.....	40,518	43,110	35,176
1904.....	40,626	42,391	36,562
1905.....	38,091	39,720	34,241
1906.....	41,470	43,878	35,708
1907.....	46,846	50,245	38,417
1908.....	51,726	57,430	38,263
1909.....	52,050	57,502	39,226
1910.....	52,272	57,060	41,000
1911.....	51,151	55,120	41,642
1912.....	53,971	58,255	43,605

TABLE 15.
 PERCENTAGE ANALYSIS OF SUMMARY INCOME ACCOUNT, AS PER REPORTS TO COMMISSION.
 DULUTH STREET RAILWAY COMPANY.

Italic figures denote deficits.

1907-1912.

ACCOUNT.	DULUTH DIVISION.						SUPERIOR DIVISION.					
	(a) 1907	(b) 1908	(c) 1909	(d) 1910	(d) 1911	(d) 1912	(a) 1907	(b) 1908	(c) 1909	(d) 1910	(d) 1911	(d) 1912
Operating Revenues:												
Fares.....	75.71	77.54	78.17	77.41	77.19	77.53	24.29	22.46	21.83	22.59	22.81	22.47
Chartered cars.....	89.72	92.42	60.06	68.02	67.48	55.99	10.28	7.58	39.94	31.98	32.52	44.01
Mail.....	71.83	70.18	64.38	58.91	64.29	63.48	28.17	29.82	35.62	41.09	35.71	36.52
Advertising.....	60.00	65.19					40.00	31.81				
Miscellaneous.....	96.75	99.56	89.00	80.03	81.22	81.21	3.25	.44	11.00	19.97	18.78	18.79
Total operating revenues....	75.73	77.58	78.26	77.45	77.22	77.54	24.27	22.42	21.74	22.55	22.78	22.46
Operating Expenses:												
Way and structures.....	76.00	78.00	77.39	76.70	76.04	76.72	24.00	22.00	22.61	23.30	23.96	23.28
Equipment.....	76.00	78.00	77.40	76.55	76.05	76.70	24.00	22.00	22.60	23.45	23.95	23.30
Traffic.....			77.39	76.76	76.00	76.57			22.61	23.24	24.00	23.43
Conducting transportation.....	74.49	78.92	77.87	77.40	76.56	77.49	25.51	21.08	22.13	22.60	23.44	22.51
General.....	76.95	66.18	77.40	76.62	76.04	76.63	23.05	33.82	22.60	23.38	23.95	23.37
Undistributed.....			62.23	84.64	70.80	65.38			37.77	15.36	19.20	34.62
Total operating expenses....	75.14	76.30	75.99	77.88	76.02	76.83	24.86	23.70	24.01	22.12	23.98	23.17
Fixed Charges:												
Depreciation.....	75.23	76.90		71.54	68.68	68.72	24.77	23.10		28.46	31.32	31.28
Taxes.....	84.25	75.20	77.23	82.05	84.80	80.56	15.75	24.80	22.77	17.95	15.20	19.44
Total fixed charges.....	77.74	76.43	77.23	77.06	77.44	74.78	22.26	23.57	22.77	22.94	22.56	25.22
Total operating expenses and fixed charges.....	75.72	76.33	76.07	77.76	76.28	76.49	24.28	23.67	23.93	22.24	23.72	23.51
Net operating revenue.....	75.77	81.33	82.30	76.92	78.84	79.44	24.23	18.67	17.70	23.08	21.16	20.56

Non-operating revenue:												
Interest on deposits.....			100.00	100.00	76.91	78.55					23.09	21.45
Interest and dividends from investment.....			100.00	100.00	82.65	82.65					17.35	17.35
Total non-operating revenue.....			100.00	100.00	81.57	82.44					18.43	17.53
Gross income.....	75.77	81.33	82.67	77.64	78.89	79.57	24.23	18.67	17.33	22.36	21.11	20.43
Deductions from Gross Income:												
Interest on funded debt.....	66.67	66.67	66.67	66.67	66.67	66.67	33.33	33.33	33.33	33.33	33.33	33.33
Int. Duluth, Superior Tr. Co.....	66.67	66.67	66.67	66.67	66.67	66.67	31.33	33.33	33.33	33.33	33.33	33.33
Total deductions.....	66.67	66.67	66.67	66.67	66.67	66.67	33.33	33.33	33.33	33.33	33.33	33.33
Net income.....	91.51	¹ 162.65	¹ 106.28	85.30	85.61	87.13	8.49	62.65	6.28	14.70	14.33	12.87

¹ See deficit in Wisconsin.
(a) Year ending Dec. 31, 1907.
(b) Year ending Dec. 31, 1908.
(c) 6 mos. ending June 30, 1909.
(d) Year ending June 30.

In view of the foregoing discussion, it seems that for the purposes of this decision the expenses as apportioned by the respondent may be accepted. Any adjustment in the separation of maintenance of equipment or maintenance of way expenses over which the question of equitableness was raised would not materially affect the results in this matter. The former aggregates about 7 per cent of the total expenses, and the latter 7.6 per cent. However, if in any future proceeding it shall appear expedient to carry on extensive equipment and track tests, and if the results obtained should indicate that any adjustment in these and other expense apportionments will be necessary, the present amounts accepted will be adjusted accordingly.

Table 15 presents a percentage analysis of the summary income accounts, 1907 to 1912.

An analysis of the methods used by respondent to separate revenues between the Duluth and Superior divisions discloses that no changes are necessary through reapportionment. Fares collected on the local lines in Superior and on the Wisconsin side of the interstate line are credited direct to the Superior division. On the basis of the last three years the revenue from passenger fares constituted over 99 per cent of the total revenues for both the entire system and for the Superior division. Receipts from chartered cars are credited to the division in which they are run, if run in both the divisions the receipts are divided equally. Revenues from advertising are separated on a car-mile basis. The receipts from these two sources just mentioned are somewhat less than one per cent of the total revenues. Interstate bridge tolls are divided half and half between the two divisions, which appears to be an equitable division as interstate traffic is divided in the same ratio.

A percentage analysis of the comparative summary income accounts from 1907 to 1912 given in Table 15, indicates that revenues and expenses, according to the accounts shown, have been normally distributed with the exception that in 1908 general expenses for Superior show a proportion of 33.82 per cent as against an average of about 23 per cent for the other years. Investigations disclosed that this was due to an unusual increase in the primary account damages which, as far as can be ascertained, was due to the change from the use of the interstate bridge to the ferry.

RATE OF FARE.

In regard to the contention made by respondent's counsel that no reduction in the rate of fare is permissible on the ground that the usual and regular fare of street railways in cities of Superior's size is 5 cts., the following citation is given from the decision rendered in the matter *City of Milwaukee v. T. M. E. R. & L. Co.* 1912, 10 W. R. C. R. 1, 23.

"It is noted from the United States census to which reference is made, 1902, pages 39-41, that more than one-third of all operating companies in the United States offer fares of less than 5 cts. to all persons under certain conditions, and that more than 200 companies, or 25 per cent, offer tickets at approximately 4 cts. each. The following localizations in regard to these reductions are noted: Forty railways in Pennsylvania offer approximately a 4 ct. fare; twenty-five street railways in Ohio offer six tickets for 25 cts.; about a dozen cities in Iowa have approximately a 4 ct. fare; and tickets at six for 25 cts. are common in Michigan, Indiana, Illinois and Wisconsin. From data furnished in the report of the public service commission of Connecticut to the assembly in 1909, it is noted that out of seventy-seven companies operating in cities of from 46,000 to 132,000 population, 38 per cent have a 5 ct. straight fare, while sixty-two have a rate below 5 cts. in one form or another."

A study of the urban railway rates in Wisconsin on file with the Commission discloses that out of a total of eighteen cities, three, or 17 per cent, have a straight 5 ct. fare, while fifteen, or 83 per cent, have a rate below 5 cts. in the form of ticket fares. These rates include 6 tickets for 25 cts., 8 for 25 cts., 15 for 50 cts., 25 for \$1.00, 35 for \$1.00, and 100 for \$4.50.

Counsel for respondent claims that the average haul per passenger is unusually long in Superior, due to the expanse of territory and scattered population with several centers of population widely detached, and that these conditions justify a rate of 5 cts. and do not permit a reduction. Conditions in and about Superior do not seem to differ greatly from those of other cities in this state of similar size, where the reduced fares just cited are sold. In cities where the corporate limits have not been extended to the outlying suburbs, the traction companies as a rule haul passengers beyond the limits for an urban fare.

On the basis of respondent's revenues, expenses, taxes, and depreciation for the fiscal years 1910, 1911, and 1912, ending June 30, the following table is given showing the excess above a 7.5 per cent return on the average cost new:

TABLE 16.
EXCESS ABOVE A 7.5 PER CENT RETURN ON COST NEW.
DULUTH STREET RAILWAY COMPANY,—SUPERIOR DIVISION.
1910—1912.

	1910	1911	1912
Total revenues.....	\$245,327 08	\$262,566 07	\$265,947 32
Total expenses.....	\$137,575 26	\$151,563 31	\$152,168 61
Taxes.....	9,630 43	9,883 23	11,870 17
Depreciation ¹	29,754 00	31,596 00	33,458 00
Total expenses, taxes and depreciation..	\$176,959 69	\$193,042 54	\$197,496 78
Surplus available for interest and profits	\$68,367 39	\$69,523 53	\$68,450 54
Average cost new ²	\$660,313 00	\$701,200 00	\$742,522 00
7.5 per cent return on average cost new..	49,523 48	52,590 00	55,689 15
Excess above 7.5 per cent return....	18,843 91	16,933 53	12,761 39

¹ Two per cent sinking fund basis computed on cost new at the beginning of the year plus $\frac{1}{2}$ the current additions.

² Cost new at beginning of year plus $\frac{1}{2}$ current additions.

The figures in the preceding Table 16 constitute a summary of the earnings and expenses of the respondent company. While the valuations therein upon which the returns for interest and profit are computed differ slightly from the valuations obtained under the methods already outlined, they agree closely enough with the latter for most practical purposes. These valuations are also fully as high as those upon which the respondent would seem to be entitled to the rate of return that has been allowed in the calculations. In view of these and other facts it appears that the rates now charged for transportation by the respondent are somewhat higher than they should be. The facts which have been disclosed in this investigation, when considered as a whole, indicate quite clearly that the situation in this case is such as to justify some reductions in rates. In fact, we are of the opinion that six tickets should be sold for 25 cts., and that each of these tickets should be good for one fare including the existing transfer privileges. The reductions in the earnings of the respondent that would be brought about by the use of such tickets, based upon the experience in other cities of about the same size, would not be unreasonable under the circumstances.

In view of the foregoing discussions and computations it seems quite clear that the respondent company can establish a six tickets for a quarter rate without reducing its returns below a reasonable level. General observations indicate that the introduction of a ticket rate as described will do much to induce more riding, or, in other words, increase the riding habit, and consequently bring a higher density of traffic. The expense of carrying such additional traffic would be more than offset by the increase in revenues due to a higher load factor.

IT IS THEREFORE ORDERED, That the respondent, the Duluth Street Railway Company, in addition to its present rates of fare shall sell, through its conductors, six tickets for 25 cts., such tickets to be good for use at all hours of operation over any line, and subject to the existing transfer privileges.

No changes are herein made in the rates for cash fares.

BOSCOBEL TELEPHONE COMPANY

vs.

CRAWFORD COUNTY FARMERS' MUTUAL TELEPHONE COMPANY,

THE PEOPLES TELEPHONE COMPANY,
 HICKORY GROVE FARMERS' MUTUAL TELEPHONE COMPANY,
 FENNIMORE MUTUAL TELEPHONE COMPANY,
 WERLEY TELEPHONE COMPANY,
 FARMERS' MUTUAL TELEPHONE COMPANY OF MUSCODA,
 PLEASANT VALLEY TELEPHONE COMPANY,
 RIVERSIDE PARK TELEPHONE COMPANY,
 ROUGH AND READY TELEPHONE COMPANY,
 TUFFLEY LINE
 KELTY LINE.

Submitted April 20, 1912. Decided Nov. 21, 1912.

Complaint was made by the Boscobel Tel. Co., operating an exchange in Boscobel, Wis., that it has been unable to reach an agreement with the respondent companies concerning the terms and conditions for the continuance of physical connection, and that such joint use as now exists is under unreasonable conditions and without adequate compensation to the petitioner. The petitioner asks that physical connection be continued, that reasonable conditions and compensation therefor be established, that joint toll rates be fixed, and that the question as to who should pay the expenses of maintaining the connections be determined. The respondents alleged that the value of the extended field of telephone service afforded the petitioner offsets any expense which it may incur in connection with the switching service; that the service rendered by the petitioner is very unsatisfactory; and that the petitioner's operators give local business the preference over the rural calls.

No evidence was presented to support the claim as to preference in calls. In answering local and rural calls, the business should be handled as far as practicable in the order in which the calls come in.

The question of a charge to non-subscribers is not directly involved in the present case. Such a charge has been held legal in the decision, *In re Free and Reduced Rate Telephone Service*, 1908, 2 W. R. C. R. 521, 544.

Held: There appear to be no conditions in the present case which make it proper for the petitioner to perform switching service free for rural lines which have other connections than the one at Boscobel, while those which have no other connections pay for the service. The nature of the service furnished by the petitioner in the two cases is identical. The fact that those lines whose subscribers pay nothing to the applicant have other con-

nections which may be used by the Boscobel company, does not affect the switching service furnished in connection with calls either from the patron directly to the Boscobel central or from that central directly to the patrons. The switching service to parties connected directly with the Boscobel central constitutes an integral part of the exchange business and should be charged for as such, without regard to the amount of toll business or the extent of the field for such business. A switching rate of \$1.50 seems to be entirely reasonable. This rate covers the cost to the applicant of doing its part in the handling of calls to or from rural lines, including calls which pass through one or more rural centrals. While the number of calls per phone differs very greatly on the various lines, as long as the policy of furnishing unlimited service is followed it will be necessary to charge all users who use the same class of service the same rates for that service. It is ordered that the petitioner charge \$1.50 per year for switching service for each rural phone which can ring the Boscobel central directly or be called directly from that central. Bills for this service, in the case of companies having other connections, are to be rendered directly to the companies concerned.

In the present case it seems almost impossible to separate the cost of switching such portion of the calls as are virtually exchange business from those which are in the nature of toll business. It does not appear necessary to establish a message rate for calls which pass through one or more rural centrals and with the present conditions existing on the rural lines it would be difficult to enforce such a rate. As long as the rural lines are so managed that through messages come over the same lines to which patrons have connection, the best that can reasonably be done is to treat all calls, as far as the applicant is concerned, as if they involved the phones directly connected.

The petitioner should pay the cost of maintaining connections and of keeping up that portion of its property which is used entirely for the rural service.

Application in this matter was dated February 14, 1912. The application shows that the Boscobel Telephone Company is a public utility operating a telephone exchange within the city of Boscobel; that all of the companies and lines named as respondents have physical connection with the system of the petitioner; that such physical connection is necessary and will not result in irreparable injury to the owners or other users of the equipment of any of the companies nor in any substantial detriment to the service; that petitioner has been unable to reach an agreement with respondents concerning the terms and conditions for the continuance of such physical connection, and that such joint use as now exists is under unreasonable conditions and without adequate compensation to petitioner.

Petitioner asks that an order be entered requiring the continuance of physical connection, fixing reasonable conditions and compensation therefor, fixing joint toll rates, and prescribing by

whom the expenses of maintaining the connections shall be paid. Answers were filed on behalf of certain of the respondents. The principal matters for consideration, as touched upon in these answers, are as follows:

1. That respondents are affording petitioner a wide field of telephone service, and that the value of this to petitioner offsets any expense which may be incurred in connection with the switching service.

2. That service rendered by petitioner is very unsatisfactory, particularly at night, when the electric lighting plant at Bos-cobel is in operation.

3. That petitioner's operators give local business the preference and telephone users on the lines of the various respondents are often obliged to wait a long time before their calls are answered by operators.

Hearing was held at Madison, April 20, 1912. Appearances were: *John J. Blaine* for petitioner and *W. E. Howe* for respondents.

No evidence was presented to support the statement that petitioner's operators made a practice of answering local calls ahead of rural calls. If this has been the practice it should be discontinued and business handled, as far as practicable, in the order in which the calls come in. The other allegations of the complaint and of various answers were touched upon at the hearing and the testimony introduced in this connection has been carefully examined and considered in connection with this decision.

According to the testimony and exhibits there are twenty lines owned by the various respondents, for which the petitioner does switching. The more important facts concerning these lines are shown in the following table:

Line No.	Owned by	Number of phones which call Boscobel directly.	Other connections.	Payment to petitioner annually.
81	People's Tel. Co.....	5	Mount Hope.....	.....
82	Pleasant Valley Tel. Co.....	12	None.....	\$2.00 per phone.
84	Rough & Ready Tel. Co.....	14	None.....	\$2.00
85	Fennimore Mut. Tel. Co.....	17	Homer.....	Nothing.
86	Crawford County Co.....	20	Cooley's.....	.....
87	Werley Tel. Co.....	17	Woodman.....	"
88	Sanders' Creek Tel. Co.....	20	None.....	\$2.00 per phone.
89	Crawford County Co.....	25	Mount Zion.....	Nothing.
90	Hickory Grove Co.....	16	None.....	\$2.00 per phone.
91	Fennimore Mut. Tel. Co.....	17	Homer.....	Nothing.
92	Crawford County Co.....	16	Brigham.....	.....
93	Werley Tel. Co.....	22	Werley.....	"
94	People's Tel. Co.....	19	Mt. Hope.....	"
95	Crooked Creek Tel. Co.....	7	None.....	\$2.00 per phone.
96	Muscoda Mut. Tel. Co.....	6	Muscoda.....	Nothing.
97	Crawford County Co.....	19	Crawford Co. System.....	"
98	Fennimore Mut. Tel. Co.....	20	Fennimore.....	"
99	Fennimore Mut. Tel. Co.....	20	Fennimore.....	"
100	Crawford County Co.....	20	Crawford Co. System.....	"
230	Ass'n. of Farmers.....	3	None.....	\$2.00 per phone.

This table is constructed from the facts as shown in petitioner's exhibit B and the additional facts as brought out at the hearing. According to petitioner's exhibit C there is a total of 71 phones on rural lines which pay an annual switching fee of \$2.00. The table shown above shows a total of 72 such phones. The total number of rural telephone users who are able to call Boscobel directly, as shown by petitioner's exhibit B, is 315, of whom 243 make no payment to petitioner.

There is a toll connection with the lines of the Wisconsin Telephone Company. According to the testimony of the manager of the applicant, the Wisconsin Telephone Company pays \$37.00 per month toward operators' salaries, and \$7.00 per month toward manager's salary.

The argument of respondents that the connection existing between their lines and the lines of the Boscobel Telephone Company opens a field to that company which compensates it for service which it renders to respondents, leads to a consideration of the nature of the business passing through the applicant's central office, in connection with the switching service furnished to rural lines. This service may be divided into three classes, as follows:

1. Calls to or from rural telephone users who can call Boscobel directly and be called by that exchange, which calls are originated either by subscribers of the Boscobel Telephone Company or by subscribers of some of the rural lines involved.

2. Calls which pass through one or more of the central offices connected with lines of the respondents, in addition to the Boscobel central, which are originated by subscribers of the companies concerned in this case.

3. Calls from Boscobel to any station on the rural lines, which are originated by parties who are not subscribers of any of the companies concerned.

It appears that rural patrons on lines which have no connection except with applicant's central office pay \$2.00 per year per phone, that patrons of other rural lines pay nothing to the applicant for switching service, and that persons who are not subscribers of any of the companies concerned, who call from Boscobel to any station on the rural lines, pay a toll for such service. This apparently is not a joint toll.

As this case involves only the rates for switching, joint toll rates, and the question of who should pay for maintaining the connections, it is not necessary to pass upon the charge to non-subscribers. Such a charge has been held to be legal in the decision *In re Free and Reduced Rate Telephone Service*, 1908, 2 W. R. C. R. 521, 544, Finding 4. "It does not appear to be feasible to attempt to restrict the use of subscribers' telephones to such subscribers and the immediate members of their families or of their employes. This is a proper restriction, however, where it is feasible to enforce it and the company so desires."

This leaves for consideration the rates for switching service and for messages passing through one or more central offices of the respondents. Primarily, this case is concerned with those rural lines which make no payment for switching service, although those which do make a payment are, of course, concerned in the rate for switching service.

The first question to be settled is whether there are conditions which make it proper for the applicant to perform switching service free for rural lines which have other connections than the one at Boscobel, while those which have no other connections pay for the service. The conclusion must be that there are no such conditions. As far as the rural subscribers who can call

Boscobel directly are concerned there is no distinction to be made between those who now pay for this service and those who do not. As far as these users of telephone service are concerned, the nature of the service furnished by the applicant is identical. The fact that those lines whose subscribers pay nothing to the applicant have other connections which may be used by the Boscobel company, does not affect the switching service furnished in connection with calls either from the patron directly to the Boscobel central or from that central directly to the patrons. Business coming or going through any of the centrals of respondents is distinct from the service of switching calls where the parties to the conversation are connected directly with the Boscobel central. It is the nature of toll business, and even if the applicant did gain by the free exchange of such service, because of the large number of connections of the rural lines, such a condition would not justify free switching service, especially if patrons of other lines are required to pay for such service. The switching service to parties connected directly with the Boscobel central constitutes an integral part of the exchange business and should be charged for as such, without regard to the amount of toll business or the extent of the field for such business.

Peg counts covering a total of fourteen days were taken by the applicant during February and March, 1912. Details covering the entire period were submitted in evidence, with the exception of local calls, for which the details presented covered only five days and the average of these five days has been used in our computations. The Wisconsin Telephone Company pays the salaries of operators handling toll business, and as these salaries are not included in the applicant's statement of expenses the toll calls have been excluded from the computations which follow. The average number of calls per day for each class of service shown by the peg count is as follows:

Local	720.20
Line 83 to city.....	8.07
City to line 83.....	6.00
Line 83 to rural.....	3.72
City to rural.....	98.43
Rural to rural.....	124.36
Rural to city.....	115.29
Farmers calling home.....	7.00
	<hr/>
Total per day.....	1,083.07

Line 83 is a line owned by the applicant, extending from Boscobel to Fennimore, which, according to the testimony, has no phones connected between these points.

The peg counts have not been so taken as to distinguish between calls to or from stations which are connected directly with Boscobel and calls which passed through one or more of the centrals of the various respondents, and apparently it would be difficult to make such a distinction, because calls from the various centrals come over the heavily loaded rural lines, making it difficult for operators at Boscobel to determine where the calls originate. In practice, therefore, it is almost if not quite impossible to separate the cost of switching such portion of the calls as are virtually exchange business from those which are in the nature of toll business.

It is recognized that a larger amount of the time of an operator is required to handle a rural call, with lines equipped as are those involved in this case, than to handle a local call, and it is believed that business in which rural lines are involved should be weighted by a factor of about 1.25, to obtain results indicative of the amount of labor required for each class of service. The following table shows the results of such weighting:

Class.	Calls per day. (a)	Factor (b)	(a) x (b)	Percentages.
Local.....	720.20	1	720.20	61.35
Line 83 to city.....	8.07	1.25	10.09	.86
City to line 83.....	6.00	1.25	7.50	.64
Line 83 to rural.....	3.72	1.25	4.65	.40
City to rural.....	98.43	1.25	123.04	10.48
Rural to rural.....	124.36	1.25	155.45	13.24
Rural to city.....	115.29	1.25	144.11	12.28
Farmers calling home.....	7.00	1.25	8.75	.75
Total.....	1,083.07		1,173.79	100.00

It will be noted that the calls from the city to rural lines necessitate 10.48 per cent of the work of handling calls, and the calls from rural to city lines require 12.28 per cent of the work. The calls from rural lines to other rural lines apparently include whatever calls come in over rural lines for line 83, but as these are not likely to be a very large part of the total the effect of the inclusion of these calls is negligible.

If rates were to be adjusted on such a basis that each class of service would pay the entire cost of calls originated by that

class of service, the percentage to be charged to the rural service would be as follows:

Rural to rural.....	13.24	per cent
Rural to city.....	12.28	"
Farmers calling home.....	.75	"
Total	26.27	"

If the cost of handling the calls were to be divided equally between those calling and those called, the percentage chargeable to rural service would be:

City to rural—one half.....	5.24	per cent
Rural to rural—all.....	13.24	"
Rural to city—one half.....	6.14	"
Farmers calling home—all.....	.75	"
Total	25.37	"

As far as the rate to be fixed is concerned, it makes very little difference which method is used, but as the second method appears to be somewhat more equitable, it has been used in this case.

Operating expenses reported by the applicant for the year ending June 30, 1912, are as follows:

Central office	\$1,414.90
Wire plant	188.18
Substation	313.52
Undistributed	12.50
Total	\$1,929.10
Taxes	77.85
Total	\$2,006.95

General expenses apparently have been charged directly to the accounts shown.

An inspection by the Commission's representatives indicates that the cost of reproduction of applicants's plant would be about \$8,000 and that the present value is about \$6,500. The value of such portions of the property as are used entirely in furnishing service to the rural lines is \$132. This does not include any switchboard equipment, because a charge of \$8 per line to cover this expense was made and collected as the lines were connected. Depreciation on this portion of the equipment would amount to \$11.20. Interest, depreciation, and taxes on the \$132 of investment necessitated directly by the rural service

would be approximately \$19.80, making a total of \$31.00 which should be obtained from the rural service to provide for interest, depreciation and taxes.

Of the direct operating expenses about \$358.96 should be charged to the rural service. This does not include any of the wire plant and substation expenses of the applicant. It may seem that a portion of these should be included. Certainly the business passing between rural and city lines is responsible for a part of this expense and this must be met at some point in the rate schedule, but these calls are also responsible for a part of similar expenses on rural lines, which are borne by the various respondents. If rural users are made to pay a part of such costs incurred by the applicant, it would be only reasonable to require applicant's patrons in Boscobel to bear a part of such costs on the rural line. If each utility is required to meet its own wire plant and substation expense the result will be substantially the same as if each met part of the expenses of the other and money were actually transferred to cover these expenses.

The cost of the rural business, therefore, appears to be very nearly \$389.96, or \$390.00. The applicant contends that it will be unable to operate and maintain its system as cheaply in the future as it has done during the past year, and such a contention seems to have some basis. Excluding the cost of the rural business as determined above, the expenses of the applicant for the past fiscal year were \$1,616.99, or \$5.88 per phone installed, which is less than the utility can be expected to furnish good service for. It does not seem that rural switching service can be furnished for less than \$1.50 per year for each phone directly connected. With 315 phones in use the revenue from this service would be \$472.50 per year.

The peg counts disclosed the fact that the number of calls per phone differed very greatly on the various lines, but as long as the policy of furnishing unlimited service is followed it will be necessary to charge all users who use the same class of service the same rates for that service. Rates as determined here cover the cost to the applicant of doing its part in the handling of calls to or from rural lines, including calls which pass through one or more centrals. It does not appear necessary to establish a message rate for calls through such centrals and with the pres-

ent conditions existing on the rural lines it would be difficult to enforce such a rate. As long as the rural lines are so managed that through messages come over the same lines to which patrons have connection, the best that can reasonably be done is to treat all calls, as far as the applicant is concerned, as if they involved the phones directly connected. It will probably be best, in the case of the lines which have other connections than at Boscobel, to bill the service directly to the companies concerned. The \$1.50 rate must be made to apply to those rural patrons who are paying \$2.00 per phone at present, as well as to those who pay nothing.

The applicant should pay the cost of maintaining connections and of keeping up that portion of its property which is used entirely for the rural service.

The rates for switching as determined in this decision are lower than have been obtained in some other cases, but so far as the facts indicate what the rate should be, \$1.50 per phone per year seems to be entirely reasonable.

IT IS THEREFORE ORDERED, That the applicant, the Boscobel Telephone Company, shall charge \$1.50 per year for switching service for each rural phone which can ring the Boscobel central directly or be called directly from that central. Bills for this service, in the case of companies having other connections, shall be rendered directly to the companies concerned.

UNION TELEPHONE COMPANY

vs.

WESTERN CRAWFORD COUNTY FARMERS' MUTUAL TELEPHONE COMPANY,
THE PEOPLES' TELEPHONE COMPANY,
FARMERS' TELEPHONE COMPANY OF LANCASTER.

Submitted April 20, 1912. Decided Nov. 21, 1912.

Complaint was made by the Union Tel. Co., operating an exchange in Prairie du Chien, Wis., as to the terms and conditions of joint use of the systems of the Union Tel. Co. and the Western Crawford Co. Farm. Mut. Tel. Co. and other connected lines. It appears that respondents' exchanges located at Eastman and Bridgeport have connections with the petitioner's switchboard at Prairie du Chien, and that no charge is made by the petitioner for calls coming into its central over any of the lines involved, but the petitioner charges its own subscribers toll rates for all messages originating on its lines and transmitted over the connecting lines involved in this case. The petitioner alleges that physical connection between the systems involved is necessary, that joint use is at present carried on under unreasonable conditions, and that the companies concerned have been unable to reach any agreement as to payment. The petitioner asks that the Commission fix the terms upon which joint use shall continue.

Held: If the calls from rural lines directly connected to local stations are in the nature of exchange business, it is only reasonable to consider calls which originate in Prairie du Chien and terminate on these rural lines, as exchange business also.

The most equitable way of dealing with subscribers who are able to ring Prairie du Chien directly appears to be to charge an annual switching fee to pay for work done. A switching rate of \$2.50 per year for rural phones which can ring Prairie du Chien directly is believed to be reasonable. This should apply to all such phones, including those which are now charged \$5.00 per year. This does not cover the entire cost of the service, but it covers that part which is properly chargeable to the rural users concerned. The rest is chargeable to the city subscribers and should be obtained from the rates for local service. The petitioner is ordered to make an annual charge of \$2.50 for switching for all rural telephone users on lines not owned by the petitioner who can call the Prairie du Chien central directly and who can be called directly from that central.

The calls from telephone users connected with respondents' lines who are unable to ring Prairie du Chien directly are in the nature of toll business. The present method of handling this business is inequitable in that calls originating on the petitioner's lines and transmitted over the connecting lines are charged for, while messages from the connected lines coming into the

Prairie du Chien central are handled free. The most equitable schedule is the one which most nearly results in securing payment for the service from the parties actually served. Information from which to determine the cost per message for this business is not complete at the present time. A tentative rate of 3 cts. per call is ordered established on all messages to or from Eastman and Bridgeport or points on the respondents' lines, beyond these centrals.

The petitioner may bill the services included under switching or toll service either to the individual users concerned or to the companies to whose lines their phones are connected.

Until the accounts are in better shape, it will be impracticable to determine the true condition of the utility. The petitioner should improve its accounting methods, and the Commission will be ready to render assistance in this matter.

The petition in this matter was filed with the Commission February 27, 1912. Petitioner is a public utility operating a telephone exchange within the city of Prairie du Chien, furnishing local service to subscribers within the city. The Western Crawford County Farmers' Mutual Telephone Company owns and operates a telephone system in the western part of Crawford county, with a number of exchanges and switching stations. From two of these exchanges, located at Eastman and Bridgeport, this company has lines extending to Prairie du Chien and connecting with the switchboard of the Union Telephone Company. One line from Eastman to Prairie du Chien has twenty-six telephones connected, and the other is used only for toll purposes. One of the lines from Bridgeport has thirty-four telephones connected. The other is a line belonging to the La Crosse Interurban Telephone Company, which is used as a toll line. The Peoples' Telephone Company has connection with Prairie du Chien through the Bridgeport central over the lines referred to above. The Farmers' Telephone Company of Lancaster is connected with the Prairie du Chien exchange in a similar manner.

No charge is made by the petitioner for calls coming into its central over any of the four connecting lines mentioned. Petitioner states that the joint use of the systems involved in this case is carried on under unreasonable conditions, that connection between the systems is necessary, and that the companies concerned have been unable to reach any agreement concerning payment. Petitioner asks that the Commission fix the terms upon which such use shall continue. The Western Crawford County Farmers' Mutual Telephone Company, as a respondent

in this case, filed an answer to the complaint, which answer states, among other things:

1. That the existing connection between the systems of applicant and this respondent was the result of an agreement by the terms of which this respondent's lines were connected with applicant's central and each company was given the right to call any party who could be reached over the lines of the other company, and this respondent was also given the right to call through the Prairie du Chien central for any party on its own lines who could be reached by that method. This service was to be free insofar as this respondent was concerned.

2. That the present physical connection is without reasonable compensation to this respondent.

3. That applicant has in various ways defrauded this respondent.

Hearing was held at Madison, April 20, 1912. Appearances were: For petitioner, *John J. Blaine*; for respondents, *A. H. Long*.

A number of exhibits were filed in connection with this case. All of these, together with the testimony and such additional information as was obtained directly by the Commission, have been carefully considered in connection with the conclusions reached in this case.

According to the testimony the Union Telephone Company charges its subscribers toll rates of 10 cts. to 15 cts. for all messages originating on its lines and transmitted over the connecting lines involved in this case. Respondents' subscribers have the right to call any party on applicant's lines free of charge, or any party on a connecting line which can be reached through the Prairie du Chien exchange, whether the call originates on respondents' lines or at some point within the city of Prairie du Chien. A charge is also made against all toll messages coming over the lines of the Wisconsin Telephone Company or over those of the Iowa Bell, which are sent out over the connecting lines.

Peg counts were taken by the applicant on a number of occasions, the results of which counts are shown in the following table. This table also shows the revenue derived from calls from Prairie du Chien or connecting toll lines which were sent over the four lines under consideration here.

Date.	Incoming Calls.				Revenue from out calls to rural lines.
	Local.	Wis. toll.	Iowa toll.	Rural.	
April 24, 1911.....	1,194	27	25	227	\$0.85
May 22, 1911.....	954	26	31	310	.50
June 20, 1911.....	1,049	23	21	293	.70
July 19, 1911.....	911	27	24	298	.75
Aug. 23, 1911.....	1,108	25	21	326	.25
Sept. 24, 1911.....	1,015	28	35	287	.35
Oct. 25, 1911.....	971	21	20	293	.35
Nov. 20, 1911.....	1,140	31	26	201	1.45
Dec. 19, 1911.....	1,089	32	30	347	.55
Mar. 11, 1912.....	1,188	26	25	41	1.45
" 29, 1912.....	1,142	33	26	61	1.65
" 30, 1912.....	1,222	25	25	74	1.65

No separate record has been computed of outgoing toll messages. Apparently these are listed as they came into the exchange from the different classes of patrons, and so are included in the totals shown above.

The decrease in the number of rural calls, as shown by the peg counts taken during March, was accounted for by the manager of the Union Telephone Company by the statement that rumors had been circulated that a charge was to be made for all such calls.

To supplement the peg counts offered in evidence by the applicant, a separate count was taken under the direction of the engineering staff of the Commission, on October 9, 1912. At the time this peg count was taken, line No. 305, with twenty-six phones connected, between Eastman and Prairie du Chien, was in such condition that patrons on that line were unable to call Prairie du Chien. With corrections made for this on the basis of the calls coming over line No. 308, which has thirty-four phones connected between Prairie du Chien and Bridgeport, the results shown by the peg count of October 9 were as follows:

Local to local.....	1,417	Local to Eastman & Bridge-	
Local to rural.....	10	port	10
Rural to local.....	86	Local to tolls.....	24
Rural to rural.....	39	Toll to local.....	57
Eastman & Bridgeport to local	35	Toll to toll.....	10
			<hr/> 1,688

Rural calls as listed above include all calls from phones on rural lines where the parties calling were able to ring Prairie du Chien central directly or where Prairie du Chien was able

to ring directly. These include users on the Western Crawford County Farmers' Mutual Telephone Company's line and a number on an independent line for which applicant does all the switching, but do not include any calls to or from respondents' lines which passed through any of respondents' centrals.

The amount of work involved in handling rural and toll calls is considerably greater than in handling local business. A careful study by the engineering staff indicates that in order to arrive at the cost of handling rural and toll calls, loading factors of 1.25 and 2, respectively, should be used. Applying these factors to the results shown by the Commission's peg count, we obtain the following table:

Nature of calls.	Number.	Loading factor.	Weighted value.	Percentage.
Local to local	1,417	1.00	1,417.00	77.68
Local to rural	10	1.25	12.50	.69
Rural to local	86	1.25	107.50	5.89
Rural to rural	39	1.25	48.75	2.67
Eastman and Bridgeport to local.....	35	1.25	43.75	2.40
Local to Eastman and Bridgeport	10	1.25	12.50	.69
Local to toll.....	24	2.00	48.00	2.63
Toll to local.....	57	2.00	114.00	6.25
Toll to toll.....	10	2.00	20.00	1.10
Total.....	1,688	.....	1,824.00	100.00

According to this table the rural business, including under this head all business in which the rural telephone users have a share, necessitates 13.44 per cent of the work of handling calls. The strictly rural business, i. e. business in which local subscribers are not concerned at all, involves 3.77 per cent of this work. The difference, or 9.67 per cent of the work is occasioned by calls in which both local and rural users have an interest.

Before making any analysis of expenses in accordance with the facts shown by the various peg counts it may be well to call attention to certain features of the situation which must have a bearing upon the rates to be fixed. There are two classes of subscribers of the Western Crawford County Farmers' Mutual Telephone Company with whom we are concerned in this case. These are, first, those who are connected with the lines from Prairie du Chien to Eastman and to Bridgeport and who are able to ring Prairie du Chien directly, and second, those upon other lines who are obliged to call through one or more

centrals in order to reach Prairie du Chien. With regard to the first class, the situation is not materially different from what it would be if the lines were owned by the Prairie du Chien exchange and handled as a part of its exchange system. These patrons are in almost precisely the same relation to the applicant as are the patrons of the independent rural line mentioned above which connects with the applicant's switchboard, who pay \$5 per year each for switching. The fact that the applicant makes a charge to its own subscribers for calls to these rural lines does not affect the situation, except as it tends to keep down the number of such calls. The work which the applicant does for parties connected to these lines is the same as it would be if the parties were on lines owned by the applicant, as far as the actual handling of calls is concerned. The most equitable manner of dealing with them appears to be to charge an annual switching fee to pay for work done. It is a rather common practice for telephone utilities to make such a charge and to permit free exchange of calls between such rural lines and local subscribers as a part of the regular exchange business.

With regard to the second class of telephone users, those connected to respondents' lines who are not able to ring Prairie du Chien directly, the situation is somewhat different. Calls from or to these lines are in the nature of toll business and probably should be so considered in this case. For such rural users as are connected to respondents' lines beyond the Eastman and Bridgeport centrals, the use made of the Prairie du Chien lines may be considered as a toll business.

If the calls from the first class of rural lines to local stations are in the nature of exchange business, it is only reasonable to consider calls which originate in Prairie du Chien and terminate on these rural lines as exchange business also. Unless the principle of measuring service is to be adopted generally throughout the exchange, the most satisfactory method of handling calls both to and from the first class of rural lines seems to be to consider them a part of the general business of the exchange, to be paid for at exchange rates. Owing to the large number of parties on the rural lines, it would be very difficult to make a charge to the party calling, in each instance. Business coming to Prairie du Chien from these lines, if charged for at all, will

have to be charged for at a flat rate, and if a flat rate for switching is established for patrons of these lines, it seems only fair that calls both to and from such lines should be treated alike.

The fact that under the present schedule of rates local patrons of the Prairie du Chien exchange are charged for calls from that city to the rural lines tends to keep down the number of such calls. If no charge is made for such service the number of calls will undoubtedly be very largely increased. This must be taken into consideration in determining a rate for switching service. As the exact number of such calls cannot be stated in advance of a peg count taken when no charge is made, but from a study of peg counts taken under conditions substantially similar to those which may be expected in this case, it seems that the number of calls from local to rural lines will not be far from the number from rural to local. In the absence of any definite record of what the number would be, it is assumed that such a condition would exist as has been found elsewhere under similar circumstances. With allowance made for anticipated changes in the calling rate, which would follow the dropping of the charge for city calls to rural patrons who can be called directly, the importance of each class of traffic would be as shown below:

Nature of calls.	Number.	Loading factor.	Weighted value.	Percentage.
Local to local.....	1,417	1.00	1,417.00	73.85
Local to rural.....	86	1.25	107.50	5.60
Rural to local.....	86	1.25	107.50	5.60
Rural to rural.....	39	1.25	48.75	2.54
Eastman and Bridgeport to local.....	75	1.25	93.75	2.28
Local to Eastman and Bridgeport.....	10	1.25	12.50	.65
Local to toll.....	24	2.00	48.00	2.50
Toll to local.....	57	2.00	114.00	5.94
Toll to toll.....	10	2.00	20.00	1.04
Total.....	1,764	...	1,919.00	100.00

The number of calls from rural lines, as shown by the peg counts taken by the utility, was on several occasions higher than the number shown by the count taken by the engineering staff, but it is believed that the engineer's count represents fairly normal conditions. According to the revised table published above, rural business would be involved in 13.74 per cent of the work of handling calls. This does not include any calls coming from or sent to either Bridgeport or Eastman, but only that portion which is considered as exchange business.

The next step in the determination of a rate for switching service involves an apportionment of the expenses of the utility. Reports of operating expenses of the applicant are very incomplete and unsatisfactory. Following is a statement of expenses, according to the records on file with the Commission :

	Year ending	
	June 30, 1911.	June 30, 1912.
Central office	\$1,318 70	\$1,390 94
Wire plant.....	863 28	260 73
Substation	203 09	238 05
Commercial.....	11 50	45
Undistributed	114 66	65 65
Taxes	110 77	117 72
Total	\$2,622 00	\$2,073 54

These reports are so defective that, for purposes of a complete analysis of the rates, they would be practically valueless. Apparently the utility has included under the head of operating expenses only the wages and salaries paid, as the same amounts appear in the report under the heading "Distribution of pay roll." This is true for both years. Apparently materials and supplies used in connection with the operation and maintenance have not been charged to the proper accounts. Also no charge seems to have been made to any account of the amount spent for rent of the central office, which according to the testimony amounts to \$360 per year. At the time of the hearing another statement of operating expenses was submitted by the utility. Exclusive of depreciation, this statement was as follows:

Operating labor	\$3,060 00
Central office expense.....	360 00
Commercial expense	50 00
Stationery and printing.....	25 00
Undistributed	45 00
Taxes	117 00
Total	\$3,657 00

This statement seems to include some operating labor which should be charged to new construction or to reconstruction, and still no account seems to have been taken of materials and supplies used in connection with the operation of the plant.

From this it will be seen that the reported operating expenses are so inaccurate that they are of relatively little value in the determination of costs in this case, and comparative data have been used to some extent to indicate what constitute the normal operating expenses of the applicant. For a number of exchanges of the Wisconsin Telephone Company of about the same size as the Prairie du Chien, the central office expense per phone, as shown by the 1912 reports, averaged \$3.26. Most of these exchanges had a number of rural phones connected. On June 30, 1912, the applicant had 331 local telephones connected, and it appears that switching is done for about 64 rural phones, so that, as far as the central office is concerned, the exchange really consists of 395 phones. If the expense were the same per phone as for the Bell exchanges referred to, the total central office expenses, exclusive of the cost of toll business, would be \$1,287.70. According to this comparison the central office expenses as reported by the applicant are about normal. For practical purposes no consideration need be given to wire plant and substation expenses. The wire plant and subscribers' sets of the applicant are used, of course, in connection with messages to and from rural lines, but the same is true of the equipment of those rural lines, and rural patrons should not be made to bear a part of the wire plant and substation expenses of the local exchange unless the applicant pays a proportionate share of such expenses of the respondents.

An analysis of operating expenses of a large number of independent telephone utilities of about the same size as the applicant shows that general and undistributed expenses average about 20 per cent of the total expenses of such utilities. In most cases involving the rates of public utilities, general and undistributed expenses are apportioned among the various classes of business on the basis of the apportionment of total direct expenses. No accurate apportionment of all operating expenses has been made in this case but it seems certain that the business of the applicant cannot be continued on a satisfactory basis without a considerable amount of general and undistributed expenses being incurred. As careful an investigation as the available information permits indicates that such expenses amounting to about \$300 should be apportioned on the same basis as central office expenses.

Interest, depreciation, and taxes on that portion of the appli-

cant's property which is used entirely in connection with the rural business, amount to about \$18 per year. Of this half should be charged to the rural lines which have phones connected which can ring Prairie du Chien directly.

With central office and general and undistributed expenses apportioned among the various classes of service in proportion to the work involved in handling the traffic, and with taxes, interest, and depreciation chargeable to rural lines whose patrons ring directly charged directly to that service, the total amount of revenue which should be derived from calls to or from rural phones which can call directly is \$241.33, of which \$146.54 should be obtained from rural patrons, and the remainder should be a charge against the local service. The total revenue which should be derived from calls to or from Eastman or Bridgeport or beyond is \$58.54.

As stated above, the rural calls as shown by the Commission's peg count were somewhat less in number than the average shown by the company's peg count, even when allowance is made for the increased business from city to rural lines which will probably follow the abolition of the message charge. In view of this fact a rate of \$2.50 per year for switching, for rural phones which can ring Prairie du Chien directly, is believed to be reasonable. This should apply to all such phones, including those which are now charged \$5.00 per year. This does not cover the entire cost of the service, but it does cover that part which is properly chargeable to the rural users concerned. The rest is chargeable to the city subscribers and should be obtained from the rates for local service.

With regard to calls to or from Eastman and Bridgeport the situation is somewhat different. This is really toll business and the charges for the service should be made with this fact in mind. At first glance it may appear that no changes should be made in the present method of handling this business, but a further investigation shows that method to be inequitable. At present all messages originating in Prairie du Chien for Eastman or Bridgeport or beyond, with the exception of those from subscribers of the respondents, are charged for. All messages from Eastman or Bridgeport to Prairie du Chien are handled free. The revenue derived from the service may or may not be sufficient to cover the cost. That is not the issue. The defect in the present system is that it requires patrons of the applicant who

call Eastman or Bridgeport to pay all that is paid for this service and if the total revenue equals the total cost of the service this means that these patrons are paying for business originating at or beyond Eastman or Bridgeport, in which they may have no interest. In business such as this the most equitable schedule is the one which most nearly results in securing payment for the service from the parties actually served. This can be, to a large extent, accomplished by a charge for each message, without regard to where it originates. Unfortunately information from which to determine the cost per message for this business is not complete, as the number of calls which will be handled when all are charged for cannot be stated. Revenue from this service should be sufficient to meet the expenses as stated above and a proper share of the wire plant, substation and commercial expenses of the applicant. It is useless to attempt to state in advance of actual experience what the cost per call will amount to, and all that can be done is to fix a tentative rate for the service. From such information as is available it seems that the charge per call should not exceed 3 cts., and it will be tentatively placed at this amount. Because of the extremely unsatisfactory condition of the applicant's reports we cannot state just what effect these rates will have upon the revenues of the utility. As far as the limited and unsatisfactory information available would permit, they have been based upon the cost of the service, and if experience shows that total revenues are inadequate, the deficiency should be met by local patrons. Until the accounts are in better shape, however, it will be impracticable to determine the true condition of the utility. The applicant should improve its accounting methods, and the Commission will be ready to render assistance in this matter.

IT IS ORDERED :

1. That the applicant shall make an annual charge of \$2.50 for switching for all rural telephone users, on lines not owned by the applicant, who can call the Prairie du Chien central directly and who can be called directly from that central.
2. That a tentative rate of 3 cts. per call shall be established on all messages to or from Eastman and Bridgeport or points on the respondents' lines beyond these centrals.
3. The applicant may bill the service included under the first two sections of this order either to the individual users concerned or to the companies to whose lines their phones are connected.

IN RE APPLICATION OF THE NEW GLARUS MUNICIPAL ELECTRIC LIGHT AND WATER PLANT FOR AUTHORITY TO INCREASE ITS RATES.

Submitted Sept. 19, 1912. Decided Nov. 22, 1912.

Application was made by the New Glarus Mun. El. Lt. & W. plant for authority to increase its electric rates, on the ground that the present rates do not meet expenses. A valuation of the property was made and the revenues and expenditures were investigated. An apportionment was made as between the electric and water plants, and a further apportionment as between the different departments of electric service.

Held: The cost of the service warrants an increase in rates. The utility is authorized to discontinue its present schedule of rates for electric service and to put in effect the rates approved by the Commission. Provision is made for a discount for prompt payment. Free service is ordered discontinued, and the electric plant is to be credited for incandescent lighting service to the village.

The application in the above named case was filed June 25, 1912. It shows that the applicant is a public utility engaged in the management and operation of an electric light and water plant in New Glarus, Wis. As set forth in the application, the lawful rate now in effect is as follows:

Flat rate of 8 cts. per kilowatt hour.

It is stated that the 8 ct. rate does not meet expenses and authority is asked to put into effect the following rate schedule:

Electric lighting—10 cts. per kilowatt hour.

Power

First	50 kw-hr.	.....	10 cts. per kw-hr.
Second	50 "	.....	8 " "
Next	100 "	.....	6 " "
Next	300 "	.....	5 " "
Over	500 "	.....	4 " "

Hearing was held September 19, 1912, at the office of the Commission. Appearances were: For the applicant, *G. H. Pierce* and *Frederick Ott*, president and clerk of the village, respectively.

At the hearing the following facts were revealed. Two or three years ago the rate was raised from 8 cts. to 10 cts., but the

Commission was not notified of the change. The 10 ct. rate has been collected since that time and the present application is to authorize the 10 ct. rate now in force. Those portions of the testimony that throw light on the case are referred to in the discussions which follow.

A valuation of the property was made by the Commission as of June 30, 1912. A separation was made between the electric and water departments, and also between municipal lighting and commercial lighting, in certain items.

The latest report of the utility to the Commission is of March 31, 1911, which the applicant states is little more than a guess, as no records were kept of separation between water and electric expenses, or between operating expenses and extensions. The statement of expenses, extensions and receipts for the electric and water departments from April to August, 1912, inclusive (submitted at the hearing), are not complete enough to furnish a satisfactory basis for computing unit costs and also being only over the summer months would not give average results. The report as of March 31, 1911, therefore, has been used, supplemented by data subsequently obtained by the Commission. With such facts as are now at hand, the following calculations of unit costs for the various classes of service have been made.

OPERATING EXPENSES.

The operating expenses for the year ending March 31, 1911, were \$3,865. To this has been added an estimated increase in labor and fuel costs for all-day operation amounting to \$700.

In apportioning the operating expenses, steam power generation, together with the estimated increase, was divided for the purpose of this analysis, 40 per cent capacity and 60 per cent output. Distribution and consumption were considered 80 per cent capacity and 20 per cent output. General expense was treated as an overhead to the total above.

Cost of reproduction new was made the basis of interest and depreciation charges. The net income seems to be less than 3 per cent of the investment. It is true, however, that extensions and replacements have been included in operating expenses which tends to counterbalance the failure to provide for depreciation. Interest was figured at $4\frac{1}{2}$ per cent on the land; interest and depreciation were figured each at $4\frac{1}{2}$ per cent on the remainder

of the property. These items were apportioned directly to classes of service where a separation appeared in the valuation, and the remainder was apportioned between the remaining classes on a demand basis. Within each class of service the total of interest and depreciation was treated as an overhead to direct capacity and output expenses of that class. The following table summarizes the results:

APPORTIONMENT OF EXPENSES BETWEEN CAPACITY AND OUTPUT.
Year ending March 31, 1911.

	Capacity.	Output.	Total.
Steam power generation.....	\$1,128	\$1,692	\$2,820
Estimated increase in labor cost.....	200	300	500
Estimated increase in fuel cost.....	80	120	200
Distribution.....	318	80	398
Consumption.....	498	124	622
Total direct expenses.....	\$2,224	\$2,316	\$4,540
General.....	12	13	25
Interest and depreciation.....	970	863	1,833
Total cost of service.....	\$3,206	\$3,192	6,398

DEMAND.

For apportioning the capacity expenses between the various classes of consumers, the following demand estimates were made. There are four classes of service, commercial lighting, street lighting, municipal pumping and commercial power.

The municipal pumping load, reported as 40 amperes, makes a demand of 9.2 kw. The street lighting load of 50 amperes takes 11.5 kw. Before taking on commercial power consumers the peak load on the plant was reported as about 225 amperes at 230 volts, or 52 kw. This leaves 31.3 kw. as the commercial lighting demand. The connected load for this class was 2,100 50 watt incandescent lamps corresponding to 105 kw. The connected lighting load is therefore about 30 per cent at the peak, which seems a probable figure. The power demand is more difficult to estimate. The following list of installations was submitted by officers of the utility and seems to correspond with the testimony.

Grist mill	20 h. p.
Ice house	12 "
Wagon shop	10 "
Printing office	5 "
Brewery	5 "
Total	52 h. p.

OUTPUT.

For apportioning the output expenses the following estimate of relative consumption was made.

Earnings from commercial lighting amounted to \$2,637.65 for the year ending March 31, 1911. A meter charge of 25 cts. per month for 124 consumers' accounts for \$372. This leaves \$2,265.65 collected from commercial lighting consumers at a flat 10 ct. rate, giving a consumption of about 22,650 kw-hr. per year. As assumed, 16 per cent distribution loss brings the annual output for this class to 27,000 kw-hr.

Street lighting is on a moonlight schedule until 11 p. m., which corresponds to an operating period of about 1,100 hours per year. This is equivalent to a consumption of 12,650 kw-hr. per annum. Since this load is presumably taken at the station no line loss is accounted for.

The motor for municipal pumping, said to operate about five hours per day at 40 amperes, would consume about 16,800 kw-hr. yearly.

The output for power consumers must be an estimate as no data are at hand since this load has been taken on. With 52 h. p., or 39 kw. connected load, an assumed diversity factor of 25 per cent over 8 hours operation during 312 days per year gives an annual consumption of 24,336 kw-hr. Allowing a distribution loss of 16 per cent, the output for power would be about 29,000 kw-hr. per year. The above assumption of 25 per cent over 8 hours or an average of 2 hours daily use of full connected load may be rather high, but the nature of the installation seems to justify a rather high estimate.

The relative annual outputs were probably about as follows:

	Kw-hr. per yr.	Per cent.
Commercial lighting	27,000	31.6
Street lighting	12,650	14.8
Municipal pumping	16,800	19.7
Commercial power	29,000	33.9
	<hr/>	<hr/>
Total	85,450	100.0

COST OF SERVICE.

On the foregoing estimates of demands and outputs the cost of service has been allotted to the various classes of consumers in the following manner,

The capacity portion of power generation was apportioned between the four classes on the basis of demand. In the case of distribution and consumption expense the apportionment was made on the basis of demand among the three classes, omitting municipal pumping. In considering interest and depreciation no part was given to municipal pumping since a complete separation between the electric and water departments was made in the valuation. Interest on land was divided on basis of demand, as were also interest and depreciation on buildings and miscellaneous structures. In the case of transmission and distribution system, and plant equipment, a direct separation was made in the valuation between street lighting and commercial lighting. The interest and depreciation, therefore, on these items was given directly to street lighting on its portion as per valuation and the remainder was apportioned between commercial lighting and commercial power on the basis of demand. Interest and depreciation on the 12 per cent allowance was treated as an overhead on total interest and depreciation among the three classes.

The output portion of operating expenses was divided among the four classes on the basis of estimated output.

The summary of the foregoing apportionment follows:

COST OF ELECTRIC SERVICE.
Based on year ending March 31, 1911.

	Capacity.	Output.	Total.
Commercial lighting	\$1,529	\$1,130	\$2,659
Street lighting	494	466	960
Municipal pumping.....	176	459	635
Commercial power	1,007	1,137	2,144
Total	\$3,206	\$3,192	\$6,398

UNIT COSTS.

For commercial lighting service, we find that the output costs as shown above are equal to 4.99 cts. per kw-hr. used. The capacity costs are about 7.98 cts. per active kw. per day when the estimate of the active load is placed at 50 per cent of the total lighting load connected. The following cost curve shows the average cost per kw-hr. for the varying number of hours used per day of the active connected load:

VARIABLE COMMERCIAL LIGHTING COST IN CENTS.

No. hours use daily of active load.	Average capacity cost per kw-hr.	Output cost per kw-hr.	Total average cost per kw-hr.
1.....	7.98	4.99	12.97
2.....	3.99	..	3.98
3.....	2.66	..	7.65
4.....	2.00	..	6.99
5.....	1.60	..	6.59
6.....	1.33	..	6.32
7.....	1.14	..	6.13
8.....	1.00	..	5.99
9.....	.89	..	5.88
10.....	.80	..	5.79

The commercial lighting rate applied for by the utility is a uniform charge of 10 cts. per kw-hr. Although it is seen from the foregoing table that the cost of service is not uniform, no objection has been raised to a rate such as the applicant desires, and it is probable that a rate of this form will satisfactorily meet the present requirements of the business. At 10 cts. per kw-hr. the annual revenue from the estimated commercial lighting consumption will be about \$2,265. Revenue from a service charge of 25 cts. per meter will amount to about \$372, bringing the total revenue for this class of service to about \$2,637, which is about equal to the estimated cost of service.

Street lighting costs amounted to approximately \$960, which is nearly 7.5 cts. per kw-hr. As, according to the testimony, the installation is practically the same now as during the year under consideration, the present charge of \$75 per month, or \$900 per year, is probably adequate for this service.

The portion of the plant expenses which should be borne by service for municipal pumping has been shown to be about \$635. This, however, includes only plant operating expenses and covers nothing for interest and depreciation on plant equipment that has been allotted in the valuation to pumping service. A fair allowance for interest and depreciation for this portion of the equipment is probably not far from \$490, so that the total pumping station expenses, including both fixed and operating charges, are about \$1,120 per year. If the electric business is to bear the entire responsibility of the upkeep of the power plant, it appears from the foregoing considerations that the water department should pay to the former about \$1,100 per

year, or 6.5 cts. per kw-hr. This is not far from the amount claimed for this purpose at the hearing. If, however, the water department bears directly its burden of the station investment, as shown by the engineers' valuation, the amount which should be paid to the electric department on account of pumping operation expenses should be about \$635 per year, or 4 cts. per kw-hr.

The form of power-schedule applied for is one which holds forth inducements for large use of current without consideration of economy of production; that is, the proposed schedule is likely to result in lower rates for large installations that are used very little than for small installations that are used much longer. For these reasons it appears advisable to establish a rate that recognizes the relation of demand and output costs, but at the same time offers sufficient inducement to prospective power users to build up this class of business. Analysis of the operating costs shows that the power demand or capacity expenses are equal to about \$1.60 per connected horse power per month, and the output expenses 4.7 cts. per kw-hr. consumed. Under present conditions, it appears that it would be more advantageous to those concerned if the service charge were somewhat less than the actual fixed charge and the energy rate somewhat more than the output unit cost. From such analysis as we can make of the operating conditions, it would seem that the power schedule should consist of a fixed charge of about 75 cts. per rated motor horse power per month plus a charge for current used of 6 cts. per kw-hr. for the first hour's daily use of the connected load plus 4 cts. per kw-hr. for all current used in excess of this amount. On this basis the average rate per kw-hr. would decrease, as shown below, as the average daily use of the load increased.

VARIABLE POWER CHARGE BASED ON SUGGESTED RATE.

Average No. of hours load is used daily.	Average charge per kw-hr.
1	9.3 cts.
2	6.7 "
3	5.8 "
4	5.3 "
5	5.1 "
6	4.9 "
7	4.8 "
8	4.7 "
9	4.6 "
10	4.5 "

While it is not believed that the rate that we have suggested above will provide revenue quite equal to the power costs, including fixed and operating charges, it appears that the power rate applied for by the utility is likely to be an even greater burden to the plant. The estimated revenue under the power schedule proposed by the utility does not appear to be more than \$1,500 as against total power costs of \$2,144.

In order that the utility may promptly collect the charges for service, thereby providing for the payment of current expenses incurred in operation of the plant, it is advisable that the schedule of rates consist of gross and net charges, the difference of which shall constitute a discount for prompt payment. A discount provision of this kind was not applied for, but as its operation can hardly cause injustice to the consumers, it appears proper to establish the practice at this time.

IT IS THEREFORE ORDERED, That the applicant, the New Glarus Municipal Electric Light and Water Plant, discontinue its present schedule of rates for electric service and charge in lieu thereof the following schedule:

COMMERCIAL LIGHTING:

Service Charge: 25 cts. per meter per month.

Meter Rate: 11 cts. gross per kw-hr. or 10 cts. net per kw-hr. if bill is paid before 15th of month following month for which bill is rendered.

COMMERCIAL POWER:

Service Charge: \$1.00 gross per rated horse power per month, or \$0.75 net per rated horse power per month if bill is paid before 15th of month following month for which bill is rendered.

Meter Rate: 6 cts. per kw-hr. for use of the connected load up to 30 hours per month; 4 cts. per kw-hr. for all use of the connected load in excess of 30 hours per month.

STREET LIGHTING:

The electric plant shall be credited for street lighting service at the rate of \$900 per annum for the present installation and schedule of burning, or at the rate of \$50 per arc and \$25 per 250 watt tungsten lamp.

MUNICIPAL PUMPING:

The electric plant shall be credited and the water plant debited for municipal electric pumping at the rate of 4 cts. per kw-hr. This rate covers only station maintenance and operation charges. The water department shall bear the burden of interest and depreciation for its own share of the investment.

FREE SERVICE:

Free service shall be discontinued and the electric plant shall be credited for incandescent lighting service rendered to the village.

WISCONSIN LAKES ICE AND CARTAGE COMPANY

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Oct. 16, 1912. Decided Nov. 23, 1912.

Application was made by the respondent railway company for a rehearing of that branch of the case which relates to the reparation awarded the petitioner in *Wis. Lakes Ice and Cartage Co. v. C. & N. W. R. Co.* 1912, 9 W. R. C. R. 101. The company contended that the reduction of the rate from 2 cts. to 1.7 cts. per cwt. on ice from Silver Springs to Milwaukee is so slight as to show conclusively that the rate of 2 cts. per cwt. was neither unusual nor exorbitant. The respondent company further implied that the reparation was merely authorized as a result of the reduction of rates ordered by the Commission.

Held: The language of the order is not an expression of a principle that the reduction in a rate necessarily resulted in reparation. The Commission has so often held that the statute does not contemplate a refund of charges in every case where a reduction has been made by order of the Commission or voluntarily by the railway company; that the language in question must be considered in view of such holding, and the facts of the case. (*Steven & Jarvis Lbr. Co. v. C. St. P. M. & O. R. Co.* 1907, 2 W. R. C. R. 131; *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; *Brittingham & Young Co. v. M. St. P. & S. S. M. R. Co. et al.* 1910, 4 W. R. C. R. 772; *Connor Land & Lbr. Co. v. C. & N. W. R. Co.* 1911, 7 W. R. C. R. 774, and *idem*, 1912, 8 W. R. C. R. 697.)

We are convinced that the ruling in the matter was correct, and an application for a rehearing is denied.

This is an application of the respondent railway company for a rehearing of that branch of the case which relates to the reparation awarded the petitioner. The application sets forth that the order of reparation made herein April 30, 1912 (9 W. R. C. R. 101), can not be sustained for the reason that in its findings of fact the Commission has not found that any exorbitant, unusual, illegal or erroneous charge was exacted of the petitioner by the respondent, but, on the contrary, has found that the rates which were charged and collected were a "little higher than the petitioner should be required to pay", and that the reparation should follow as a result of the reduction of the rate from 2 cts. to 1.7 cts. per 100 lb.

The matter came on for hearing on October 16, 1912. The petitioner was represented by *H. V. Kane*, its attorney, and the respondent by *C. A. Vilas*, its general attorney.

It is contended by the railway company that the slight reduction of the rate from 2 cts. to 1.7 cts. per 100 lb. on ice from Silver Springs to Milwaukee, a distance of approximately seven miles, is conclusive that the rate of 2 cts. per 100 lb. was neither unusual nor exorbitant. Several isolated sentences taken from the decision of the Commission are relied upon to sustain the contention, but a careful reading of the decision as a whole shows that under the circumstances disclosed by the evidence, the cut made in the rate is a very substantial one. When the character, value, loss in transit by reason of shrinkage, and expense of loading and unloading of the commodity transported are taken into consideration, it is very evident that the charge of 2 cts. per 100 lb. formed a material part of the cost of the commodity when delivered to the purchaser. While a three-tenths of a cent reduction on a single hundred pounds of ice seems of little consequence in itself, yet when the reduction is applied to an entire carload of ice it is quite an important factor in the conduct of the business. Cooling ice, such as is here in question, is sold upon a very close margin of profit, and a small fraction of a cent reduction per hundred pounds in transportation charges amounts to considerable annually, considering the volume of traffic moving between the points in question, and makes it possible for petitioner to continue the business at a fair profit.

The statement in the opinion, to which reference is made by respondent, that "It follows, from the reduction of the rate from 2 cts. to 1.7 cts. per 100 lb. that the petitioner is entitled to such refund, which will apply on all shipments from Silver Springs to Milwaukee which arrived at destination after January 10, 1911," was made in the light of the foregoing considerations. It was not an expression of a principle that the reduction in a rate necessarily resulted in reparation. This Commission has so often held that the statute does not contemplate a refund of charges in every case where a reduction has been made by order of the Commission or voluntarily by the railway company, that the language in question must be considered in view of such holding and the facts of the case. *Steven & Jarvis Lbr. Co. v. C. St. P. M. & O. R. Co.* 1907, 2

W. R. C. R. 131; *Menasha Wooden Ware Co. v. W. C. R. Co.* 1908, 2 W. R. C. R. 589; *Brittingham & Young Co. v. M. St. P. & S. S. M. R. Co. et al.* 1910, 4 W. R. C. R. 772; *Beaver Dam Lbr. Co. v. C. St. P. M. & O. R. Co.* 1908, 2 W. R. C. R. 700; *Connor Land & Lbr. Co. v. C. & N. W. R. Co.* 1911, 7 W. R. C. R. 774, and same case in 1912, 8 W. R. C. R. 697.

We are convinced that the ruling was correct and hence the application for a rehearing is denied.

It was suggested that as the order in the case did not specify the amount of the refund, the same should be computed and herein stated. In accordance with the suggestion we have ascertained the amount of the award to be \$594.95. Hereto annexed is a statement of the shipments in question showing the excess charge upon each shipment.

APPENDIX.

WISCONSIN LAKES ICE & CARTAGE CO. vs. C. & N. W. RY. CO.

No. R. 578. Refund.

(Weight bills attached for 399 cars)

Total net weight, packing deducted as shown:

19,831,800 lb. at 2c per cwt.	\$3,966.36
19,831,800 " 1.7 "	3,371.41

Amount of refund as above.....	\$594.95
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Date.	W. B. No.	Car No.	Wt.*	Date.	W. B. No.	Car No.	Wt.*	Date.	W. B. No.	Car No.	Wt.*
2/ 1/11	32	5144	445	1/27/11	379	10164	425	2/ 1/11	20	80338	566
1/28/11	443	28490	499	"	380	2482	407	"	19	60574	434
1/23/11	209	34780	400	"	419	12842	406	"	18	36348	551
2/ 1/11	9	64750	483	"	385	19278	452	"	17	61870	511
"	10	41514	416	"	384	63239	523	"	16	112200	456
2/ 2/11	47	105180	530	"	343	48778	488	"	27	16126	426(5)
"	46	87032	582	"	382	73928	424	"	26	4542	452
"	45	40583	149	"	381	18052	400	"	25	3212	422
"	44	20578	439	"	391	93810	474	"	20	79502	501
"	43	34134	475	"	392	18424	472(5)	"	23	6787	488
"	41	105618	486	"	395	85534	416	"	22	73559	431
"	42	74962	452	"	86	62278	455	"	30	31511	502
1/17/11	55	33623	531	"	417	40894	513	"	29	76392	537
1/19/11	119	42214	635	"	415	105180	486	8/29/11	28	80484	453
1/20/11	170	21882	554	"	414	54698	406	"	99	62536	447
1/21/11	187	72100	555	"	413	40583	493	"	100	15944	470
1/24/11	278	113772	506	"	396	87032	594	"	101	57786	483
1/25/11	220	550131	467	"	397	26440	442	8/28/11	96	80512	537
"	321	95522	474	"	398	49816	488	"	97	106848	544
1/26/11	353	11020	455	"	399	65147	506(4)	"	95	150269	498
1/27/11	376	98834	494	"	400	3963	434	"	98	37350	502
1/28/11	444	719	424	"	412	4154	401	7/ 5/11	7	92306	493
1/24/11	279	65008	471	"	411	115614	422	"	6	79270	600
"	277	112828	525	"	406	89340	509	"	8	12690	524
									9	15252	477

E.*Two zeros omitted.

Date.	W. B. No.	Car No.	Wt	Date.	W. B. No.	Car No.	Wt.	Date.	W. B. No.	Car No.	Wt.
1/24/11	290	34072	444	1/27/11	407	69150	435	7/ 6/11	10	65686	522
..	257	19330	411	..	408	26330	529	..	11	6966	513
1/23/11	254	10164	488	..	409	80484	486	..	12	20876	543
1/25/11	232	28142	558	..	410	41684	419	..	13	36652	507
1/25/11	316	12352	486	..	416	1003432(5)		7/ 7/11	14	71366	545
..	315	33571	480	1/26/12	335	9879	484	..	15	81930	610
..	314	1174	445	..	337	05718	400	..	16	70224	453
..	318	98334	500	1/28/12	422	58493	446	7/ 8/11	20	22082	527
..	319	20578	400	1/27/12	344	1192	406	..	18	57194	607
..	317	719	497	..	393	137983	532	..	17	79318	547
1/26/11	333	73602	430	1/28/12	453	137983	496	..	19	113718	630
..	340	64772	443	..	451	1192	462	7/10/11	21	6938	497
..	341	67392	474	..	434	67392	443	..	22	11708	527
..	343	106766	400	..	437	83354	515	..	23	17184	512
..	386	78490	400	1/28/12	433	10578	452	..	24	75378	603
..	342	96314	420	..	435	106766	405	..	25	86024	652
..	367	84380	472	..	449	104531	425	7/11/11	27	12284	514
..	330	33368	540	..	442	96314	469	..	28	112084	588
1/23/11	231	76392	479	..	441	61860	438	..	29	60632	598
1/26/11	338	38726	471	..	440	8695	400	..	30	73176	653
..	331	71619	454	..	439	108244	516	7/12/11	31	6094	547
..	332	40016	429	..	450	12068	400	..	32	86812	601
..	339	76072	492	..	445	3552	484	..	33	35860	497
..	366	88833	482	..	446	68924	424	..	34	49036	573
..	334	18591	465	..	447	80882	469	7/13/11	35	64536	491
..	336	73486	433	..	448	65464	432	..	36	4118	534
..	370	17316	424	..	425	114970	562	..	37	82316	623
..	369	21258	481	..	429	14272	424	7/14/11	26	42494	527
..	368	22226	472(5)	..	428	61722	468	..	39	26929	510
..	356	87552	465	..	427	34996	427	..	40	68766	516
..	357	94713	474	..	426	73210	400	..	41	4342	530
..	358	35039	400	..	424	59200	450	..	42	63330	511
..	352	34006	400	..	423	3866	432	7/18/11	51	95288	476
..	354	32474	493	..	421	1372	438	..	53	92128	510
..	355	26112	470	..	420	5937	400	..	52	54040	476
..	349	32008	520	..	418	33043	485	7/17/11	47	12390	561
..	350	70584	447	2/ 1/11	8	101614	607	..	49	57194	477
..	351	25276	475	..	7	33571	450	..	50	73476	487
1/27/11	434	85576	493	..	1	115614	576	7/15/11	44	125153	660
..	433	61278	499	..	2	19278	533	..	46	25886	564
..	348	61870	433	..	3	24472	486	..	43	114054	683
..	389	4542	404	..	4	26360	494	7/17/11	48	46533	508
..	370	16126	400	..	5	1003	543(5)	7/15/11	45	20500	511
..	387	112200	472	..	60	4164	506	7/18/11	54	29332	484
..	377	12352	447	..	31	67490	424	7/20/11	57	83376	607
..	378	36571	511	..	21	4143	447	..	58	60334	521
7/20/11	59	21204	522	7/29/11	84	35968	463	9/18/11	50	16441	502*
7/21/11	60	93334	469	..	80	60314	539	9/ 4/11	11	16088	490*
..	62	26114	570	8/25/11	89	101511	446(5)	9/ 5/11	12	73616	442*
..	61	30101	555	8/30/11	103	7516	488(5)	9/ 8/11	22	72998	530*
7/22/11	63	83216	659	..	102	75964	571	..	23	41785	502*
..	61	37672	512	9/ 1/11	2	4458	578	9/ 9/11	26	202033	612*
..	65	93702	504	..	1	72708	476	..	25	1959	512*
7/19/11	56	11465	604	..	5	107395	465	..	24	77646	400*
..	55	75146	573	..	4	1718	554	9/11/11	29	61504	476*
7/22/11	66	69884	569	..	3	114065	694	..	28	37133	457*
7/25/11	67	14410	524	9/ 2/11	6	84912	568	9/12/11	31	74227	437(5)*
..	68	77856	600	..	7	47862	469	9/14/11	39	35226	408*
..	69	65896	576	..	8	35482	479	..	41	64434	441*
..	73	80320	479	9/ 5/11	14	68160	404	..	40	48354	516*
..	74	44434	513	..	15	2382	539	9/15/11	43	66048	481*
..	75	60396	487	..	13	47290	536	..	42	87760	447*
7/26/11	77	34182	502	9/ 6/11	18	61316	488	9/16/11	45	7004	422*
..	76	18644	534	..	17	20761	435	..	46	49388	533*
..	78	45174	548	..	16	113758	476	9/18/11	49	10560	494*
..	79	77760	613	9/ 2/11	9	3364	446	..			
7/28/11	82	130166	613	9/ 7/11	20	29796	575	..			
..	81	37672	467	..	21	91539	512	..			
..	83	7026	523	9/ 4/11	10	62858	453	..			
7/29/11	86	6096	452	9/18/11	48	75327	513*	..			
Total									13,667,540		
										279 cars	

* Ex. Bill not receipted.

Date.	W. B. No.	Car No.	Wt.	Date.	W. B. No.	Car No.	Wt.	Date.	W. B. No.	Car No.	Wt.
2/ 2/11	52	1589	553	8/ 3/11	15	116826	691	8/16/11	58	68324	526
"	54	80470	477	"	12	61974	473	"	59	106160	618
"	53	7994	434(5)	8/ 4/11	16	25482	605	"	60	89706	537
"	51	15336	497	"	17	48066	512	8/17/11	62	77356	564
"	56	10980	415	"	18	48766	516	"	61	85986	627
"	55	44538	483	8/ 1/11	1	66956	483	"	64	15688	420(6)
"	58	95490	468	8/ 5/11	19	55500	474	"	63	68874	451
"	57	76654	499	"	20	24628	593	8/18/11	70	114906	527
"	49	75276	457	"	21	19234	403(5)	"	68	60252	464
"	60	76072	493	"	22	11550	483	"	69	21090	446
"	59	05718	400	8/ 7/11	26	8252	497	"	67	84328	520
"	62	34752	415	"	23	24776	537	8/17/11	65	23746	569
"	48	87552	495	"	25	62808	497	8/12/11	45	54048	554
"	50	34006	445	"	24	58406	520	8/19/11	72	55429	430
"	61	11570	412(5)	8/ 8/11	28	3698	511	"	73	72472	500
9/21/11	54	34962	402	"	27	70350	526	"	74	20838	609
"	55	250318	621	"	29	27142	645	8/21/11	75	67002	464
9/23/11	57	38786	424	8/ 9/11	31	531034	666	"	76	12732	542
"	58	25626	644	"	32	30100	722	"	77	71846	539
9/25/11	60	8546	469	"	34	113246	585(5)	8/22/11	78	49414	439
"	59	350026	612	8/10/11	35	114934	662	"	80	107138	540
9/12/11	32	59084	457	"	36	61220	491	"	79	26760	642
9/13/11	34	20068	400	"	37	6956	494	8/23/11	83	7626	456
9/16/11	47	6492	400	8/ 9/11	33	2032:0738	"	"	84	12408	469
9/19/11	51	15246	400	8/11/11	38	19848	479(5)	8/19/11	71	43760	400
9/22/11	56	26792	541	"	39	45851	620	8/24/11	88	71140	524
9/20/11	53	112106	547	"	40	18514	485(5)	"	87	72552	533
9/19/11	52	45436	454	"	41	61482	463	"	86	16958	482
8/ 1/11	4	44748	422	"	42	96830	587	8/24/11	85	64340	467
"	3	77870	590	8/12/11	43	810	507	8/25/11	90	36248	581
"	2	59900	515	"	44	107822	595	"	91	113068	709
"	5	57530	480	8/14/11	52	105940	540	8/26/11	92	69228	458
"	6	34702	451	"	49	12218	516	"	94	68630	484
"	7	63496	482	"	50	89944	574	8/22/11	81	60266	462
8/ 2/11	8	15800	526	"	51	24776	590	7/29/11	87	89250	584
"	9	58082	484	8/15/11	53	23528	539	9/26/11	61	45742	547
"	10	22070	483	"	55	53324	482	10/ 2/ 11	1	93590	425
8/ 3/11	14	77632	586	"	54	24466	571	9/27/11	62	115888	548
"	11	94898	420	"	56	19779	439	9/28/11	63	71500	486
"	13	49522	505	8/16/11	57	12358	495	9/29/11	64	66490	500

Total..... 6164260

120 cars

ELMORE T. ELVER

vs.

SOUTHERN WISCONSIN RAILWAY COMPANY.

Submitted May 6, 1912. Decided Nov. 26, 1912.

Application was made by the respondent company for certain modifications of the order in the case of *Elver v. So. Wis. Ry. Co. 1912, 9 W. R. C. R. 1*. Additional testimony was offered with reference to the type of brake used, the size of cars, and the method of routing cars. Certain objections were also made to changes in routing before additional double tracking could be completed.

Held: The type of hand brake with which the cars of the company are at present equipped is adequate but careful maintenance is necessary.

Conditions in Madison at the present time require frequent headway with small cars rather than larger cars operated on an infrequent headway.

The fact that the double tracking necessary for efficient operation has not been completed is not a sufficient reason for the postponement of the five minute schedule as previously ordered (9 W. R. C. R. 1). The use of signal devices will assist in operation. A simple hand throw block signal device will suffice to move cars between the sidings with a minimum delay.

The objections of the company to greater frequency of cars are not valid. The earnings are ample to provide for running the cars as ordered in the previous decision (9 W. R. C. R. 1). Certain modifications are made in the routing in order to facilitate a five minute headway within the zone of heaviest riding. It is ordered that cars on the Fair Oaks-Wingra Park line be operated on a ten minute headway similar to the schedule in force. The East Johnson-South Madison line is to be operated on a ten minute schedule from the present east terminus of the East Johnson street line to Mound street on the South Madison line via State street and Mills street, alternate cars proceeding beyond Mound street on a twenty minute headway to the present terminus of the South Madison line. The cars on this line are to 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 ave. at Mills street. Cars on the West Main-Baldwin street line are to be operated on a ten minute headway from the present terminus of the West Main street line at the West Madison station of the C. M. & St. P. Ry. Co. via Jenifer street to Baldwin street or Dickinson street on the present Fair Oaks-Wingra Park line and the schedule should be so arranged that cars on the West Main-Baldwin street line operating in conjunction with those on the Fair Oaks-Wingra Park line give a five minute headway from Capitol Park to Baldwin street or Dickinson street. This order is to be in effect not later than January 15, 1913.

MODIFICATION OF ORDER.

In response to a request for a rehearing on the order of the Commission dated March 13, 1912 (9 W. R. C. R. 1), relating to the street railway service of the Southern Wisconsin Railway Company in Madison, Wis., a hearing was held on May 6, 1912. The petitioner appeared in his own behalf and *E. J. B. Schubring* of *Jones & Schubring* appeared for the respondent. The company offered testimony for the purpose of showing that conditions did not warrant the operation of cars on the Fair Oaks-Wingra Park line on a schedule of a greater frequency than ten minutes nor on the South Madison line on a schedule of a greater frequency than twenty minutes.

The company showed that by reason of the fact that the South Madison cars were operated over a portion of the Fair Oaks-Wingra Park line from Mills street and University avenue to the Capitol Park, a five minute headway resulted for two-thirds of the time between those points. Recognizing this feature, it would appear advisable to work this into a re-routing plan in such a way that a minimum number of cars would be required for the five minute service and at the same time direct service from East Johnson street to the University would be provided.

It appears that the company bases its contention that more frequent service is not needed upon the fact that, except for certain rush hours, the cars are not even loaded to seating capacity. It is not considered that the empty seats per car on an infrequent schedule is a fair measure of adequate service, for it is obvious that the very infrequency of the service is a factor in discouraging traffic. It is not considered good street railway practice to reduce the number of cars per hour during off-peak periods to the point of full load for each car for each trip.

Testimony was introduced by the company to show how heavy traffic during rush hours was handled on some other street railway systems, and how the headway and running time were varied in accordance with traffic to accomplish this purpose, but such testimony as introduced related almost entirely to metropolitan, double track systems and was not applicable to Madison conditions.

It was contended that in order to satisfactorily operate the ten minute schedule on the Fair Oaks-Wingra Park line certain changes in the track facilities were necessary, involving certain

expense to comply with the order; but upon examination of the situation the Commission's engineers found that such changes were highly advisable, if not necessary, for the satisfactory operation of even a twelve or a ten minute schedule. It is admitted that to operate a five minute schedule as indicated in the former order additions to double track, overhead and other equipment were necessary.

During the summer of 1912 the company has made the following changes in the track and overhead:

(a) Extended the double track east from the East Madison station on Wilson street across the railroad tracks to a point between Livingston street and Patterson street on Jenifer street;

(b) Extended Jenifer street switch around on Baldwin and Williamson streets to a point near Dickinson street;

(c) Replaced single track from the Court House to the Park Hotel on West Main street with double track;

(d) moved the Wingra Park switch from Harrison street to Monroe street;

(e) Put in a siding on Fair Oaks avenue near the car barns south of the C. & N. W. Ry. crossing.

Of all these changes or additions the only one that has particular importance in the operation of the five minute schedule over and above the importance in the satisfactory operation of a ten or twelve minute schedule, is that extension of the double track beyond the railroad crossing at Blair street. However, it should be plainly indicated that the double track as laid out by the company does not permit of satisfactory operation for a five minutes schedule without a signal device, in that the double track was not carried to such a point on Jenifer street that cars might flag by sight into the next siding at Ingersoll street. This feature is not considered a sufficient reason for the postponement of the five minute schedule until track changes can be made, as a simple hand throw block signal device will suffice to move cars between the sidings with a minimum delay.

In order to permit the expeditious movement of cars on University avenue between Park street and Mills street until double track can be laid, it is probable that it will be necessary to operate a signal device between these points.

Several conferences have been held between the engineers of the Commission and representatives of the company at which various methods of operation and re-routing of cars were dis-

ussed. The method which appears to have the greatest merit is one for re-routing of cars which provides for direct service both from Fair Oaks and East Johnson street to the University and provides for direct service between all railroad stations in the city, as well as giving a service of greater frequency within the zone of heaviest riding.

The schedule of through cars on Fair Oaks-Wingra Park line would remain on a ten minute headway as at present. The ten minute headway from East Johnson street as far as Mound street on the South Madison line would replace the present twelve minute headway on East Johnson street and, by proper spacing with the Fair Oaks-Wingra Park cars, would provide a five minute headway over the tracks these two lines would use jointly: namely, from the Capitol Park to Mills street. Alternate East Johnson-South Madison cars would operate beyond Mound street to South Madison on a twenty minute headway, giving South Madison the same service as at present.

This would be a modification of the former order in that the ten minute service would be provided for only as far as Mound street. It is recommended to the company that an additional siding be installed on the South Madison line at such a point that cars may be operated advantageously at such times as the traffic requirements demand more than the scheduled number of cars.

All the rehearing testimony was offered by the company to the effect that the operation of more than the regular thirteen cars now in service would cost the company \$7,000 or \$8,000 per car per annum for which there would be small return, and that if required to operate the extra cars as provided in the decision of March 13, 1912, the operating expenses would be so great that the earnings would be insufficient to permit the company to meet its obligations.

A study of the value of the property used in the operation of the street railway system in Madison, together with the earnings and operating expenses for several years past, has been made and it is found that, after allowing liberally for the increase in operating expenses and investment incident to the operation of sixteen cars instead of thirteen cars, allowing a fair return on the value of the property employed in the service and also making a liberal allowance for depreciation of the property, the

income of the company is sufficient to cover the operation of three more cars, and this without the consideration of any additional income which may be derived therefrom.

In the complaint submitted January 5, 1912, it was alleged that the cars were equipped with inadequate brakes. In the decision of March 13, 1912, this was left as a subject for further order. At the rehearing on May 5, further evidence was presented on this subject by the company's expert to the effect that, for cars of the type and size of those operated in Madison, the hand brake is more efficient than the air brake. It is believed that the type of brake with which the cars of the Southern Wisconsin Railway are equipped is adequate but that careful maintenance is necessary.

Complaint was also made that the cars operated were too small to properly care for the traffic. As was expressed in the decision of March 13, 1912, it is believed that conditions in Madison at the present time require a frequent headway with small cars rather than that larger cars be operated on a less frequent headway.

IT IS THEREFORE ORDERED:

a. That through cars on the Fair Oaks-Wingra Park line be operated on a ten minute headway as per schedule similar to the one now in force.

b. That the East Johnson-South Madison line be operated on a ten minute schedule from the present east terminus of the East Johnson street line to Mound street on the South Madison line via State street and Mills street, alternate cars proceeding beyond Mound street on a twenty minute headway to the present terminus of the South Madison line. The cars on this line 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.

c. That cars be operated on the West Main-Baldwin street line on a ten minute headway from the present terminus of the West Main street line at the West Madison station of the C. M. & St. P. Ry. via Jenifer street to Baldwin street or Dickinson street on the present Fair Oaks-Wingra Park line and the schedules 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 FURTHER ORDERED, That the Southern Wisconsin Railway Company be permitted to continue the use of cars of the size at present in service and that it be permitted to continue the use of the type of brakes with which the cars are now equipped, provided they are properly maintained.

January 15, 1913, is deemed a reasonable date, not later than which this order shall be in effect.

THERESA MILLING AND SUPPLY COMPANY

vs.

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

Submitted Aug. 5, 1912. Decided Nov. 26, 1912.

The petitioner alleges that the respondent railway company refuses to construct a spur track to petitioner's mill site in Theresa, Wis. The petitioner further alleges that the distance between the respondent's main track and the mill site is about one and one-half miles; that the construction of a spur track is necessary and indispensable to the successful operation of its business and the business of other establishments interested; and that the construction and operation of such a track would not be unusually dangerous. The only matter at issue between the parties is whether such a spur track is practically indispensable to the successful operation of the petitioner's business.

Under ch. 481, laws of 1909, and ch. 193, laws of 1911, it is provided that "Every railroad shall acquire the necessary rights of way for, and shall construct, connect, maintain and operate a reasonably adequate and suitable spur track, whenever such spur track does not necessarily exceed * * * three miles in length, is practically indispensable to the successful operation of any existing or proposed mill, elevator, storehouse, warehouse, dock, wharf, pier, manufacturing establishment, lumber yard, coal dock, or other industry or enterprise, and its construction and operation is not unusually unsafe and dangerous, and is not unreasonably harmful to public interest."

Held: The testimony shows that the construction and operation of the proposed spur track is indispensable to the successful operation of the business of the petitioner on a larger scale than it is at the present time conducted. No unnecessary impediments should deprive the petitioner from developing a prosperous growing business. It is ordered that the respondent construct a suitable spur track as prayed for in the application. It is further ordered that the petitioner deposit the sum of \$21,199 with the railway company to cover the cost of construction of the spur track, or in lieu of such cash deposit give a bond in accordance with the provision of ch. 481, laws of 1909. Six months is deemed a sufficient time within which to comply with this order.

The petition alleges in substance that the petitioner is a duly organized corporation having its principal office at Theresa, Dodge county, Wis.; that it was incorporated in January, 1912, for the purpose of engaging in the business of operating a flouring mill and doing a general milling business, for the purpose

of buying and selling wood, coal and supplies of all kinds, and for the purpose of erecting an elevator and doing a general grain and produce business; that it is capitalized at \$10,000 and owns a mill of fifty barrels of flour capacity, which it has operated since its organization, manufacturing flour and grinding grist and feed for the accommodation of farmers in the vicinity of Theresa and elsewhere, and that it proposes to build near the mill site an elevator, a coal and wood yard, and an oil storage tank. The petition further alleges that a mill for the manufacture of wood house finishings and for general building and construction purposes, employing a maximum of twenty men, and a brewery of 2,500 barrels of beer annual capacity, in connection with which a bottling establishment is operated, are located near the petitioner's mill; and that a general merchandise copartnership proposes to erect a potato warehouse in Theresa. It sets forth that no track connections are provided at the village of Theresa, with the result that the petitioner and the other business establishments located there are obliged to haul their raw materials and manufactured products a distance of over two miles, at a drayage cost so high as to prevent them from successfully competing with competitors in the neighboring village. The petition alleges that the distance between the respondent's main track and the petitioner's mill site is about one and one-half miles; that the construction of a spur track connecting the main track of the respondent with the petitioner's mill site is necessary and indispensable to the successful operation of its business and the business of the other establishments mentioned, and that the construction and operation of such a spur track would not be unusually dangerous. It sets forth that the petitioner has applied to the respondent for a spur track, but that the application has been refused; and that the petitioner desires the immediate construction of such a track and is willing and able to bear the reasonable cost of construction. The Commission is therefore asked to order the construction of a spur track connecting the respondent's main track with the petitioner's mill site.

The respondent in its answer admits that the length of the desired spur track would be about one and one-half miles, and that it could be constructed to connect with the siding without any special danger to the public interests. It alleges, however,

that the operation of such a spur track would interfere with the conduct of the respondent's business with the public by causing long delays; and denies that switching service is necessary to enable the petitioner to operate and compete successfully. It sets forth that the construction of the spur track would in no sense benefit the respondent, and that the petitioner and others using it should be required to pay the cost of maintenance and a reasonable switching charge in addition to bearing the cost of construction. It avers that to require the respondent to operate the spur track at a loss would constitute the taking of its property for private use without compensation, and the denying to it of the equal protection of the laws, in violation of the constitution of the state of Wisconsin and of the United States. The respondent therefore asks that the petition be dismissed.

A hearing was held on August 5, 1912, in the village hall at Theresa, Wis. *Husting & Bro.*, by *Paul C. Husting*, appeared for the petitioner, and *A. H. Bright* for the respondent.

This proceeding is instituted under ch. 481, laws of 1909, and ch. 193, laws of 1911, which provide that

“Every railroad shall acquire the necessary rights of way for, and shall construct, connect, maintain and operate a reasonably adequate and suitable spur track, whenever such spur track does not necessarily exceed three miles in length, is practically indispensable to the successful operation of any existing or proposed mill, elevator, storehouse, warehouse, dock, wharf, pier, manufacturing establishment, lumber yard, coal dock, or other industry or enterprise, and its construction and operation is not unusually unsafe and dangerous, and is not unreasonably harmful to public interest.”

In view of the fact that the respondent admits that the proposed spur track would be less than three miles in length, and that its construction and operation would not be unusually unsafe and dangerous, or unreasonably harmful to the public interest, the only matter at issue is whether such a spur track is practically indispensable to the successful operation of the petitioner's business.

The testimony shows that the Theresa Milling & Supply Company was incorporated in December, 1911, with a capital stock of \$10,000 of which \$5,000 is paid in, \$5,000 available at call. This company at the time of its organization bought out the

Theresa Mill Company, which had been in operation for about ten years. The present property of the new company consists of a flour mill of fifty barrels capacity per day of twenty-four hours, and the ground occupied by it. It was stated that the equipment could not be replaced for less than \$12,000. Officers of the petitioning company testified that most of the business done at present and in the past has been local,—grinding flour, grist and feed for the farmers of the neighborhood. Expansion into more distant markets was said to have been prevented by poor transportation facilities. It was shown that the cost of drayage from the nearest station on the respondent's line to the village of Theresa is 6 cts. per cwt. each way. This amounts to almost as much as the freight charge from the station to Milwaukee. An exhibit offered by the petitioner shows that under existing conditions the cost of flour placed by it at Milwaukee is \$5.31 per barrel, but that with sidetrack facilities it would cost only \$4.90 per barrel. Correspondence was introduced to show that the petitioner could sell its entire output in Milwaukee at \$5.00 per barrel. Thus, with the use of the proposed spur track it could secure a profit of 10 cts. per barrel. Under present conditions, however, it is impossible to sell at the Milwaukee price, with the result that the mill is operated from ten to twelve hours per day only, thus losing the economies of constant operation. It was pointed out that if the petitioner could import hard western wheat without extra drayage expense it could successfully compete in the manufacture of high grade flour. It was stated that if the sidetrack should be constructed the flour mill would be driven to its full capacity.

Officers of the petitioning corporation testified that it is the company's intention to erect an elevator, a coal yard, and a lumber yard if the spur track is built. Also, a member of a general merchandise copartnership stated the intention of his firm to erect a potato warehouse at Theresa should the desired track connection be secured. The owner of a lumber and cheese box factory testified that under existing conditions he could not ship his products at a profit, but that if the drayage charge were eliminated he could do so and under those circumstances would extend his business. A dealer in farm machinery asserted that he would increase his business should the spur

track be built. The representative of the respondent questioned the necessity or practicability of these extensions of business at Theresa and suggested that new industries could be established near the depot where a sidetrack is available. Witnesses for the petitioner, however, asserted that what little suitable land there is near the depot is not obtainable at present, and that it would not be convenient to separate their business, could land be had there. The representative of the respondent also questioned the financial ability of the petitioner to bear the cost of constructing the proposed track, but the officers of the petitioning corporation at the hearing asserted that it was willing and able to produce the necessary amount. Moreover, other business men of Theresa testified that they were willing and able to bear a fair proportion of the cost. It was shown that the assessed valuation of property in Theresa is approximately \$177,000, and that at the time of the hearing the village bank carried deposits amounting to \$212,000.

The testimony in this matter we believe clearly shows that the construction and operation of the proposed spur track is indispensable to the successful operation of the business of the petitioner on a larger scale than it is at the present time conducted. The very existence of the industry shows that the spur track is not absolutely indispensable to its continuance, but it is one thing to drag along a bare existence, and another thing to develop into a prosperous growing plant. The latter is what every management naturally aspires to do, and from the realization of which no unnecessary impediments should deprive the petitioner. But in this case the petitioner not only proposes to extend an existing business, but also to establish an elevator, a coal yard, and a lumber yard, the successful operation of which is clearly dependent upon the construction and operation of a spur track. Under these circumstances the course of the Commission is clear, and we are of the opinion that a spur track should be constructed as prayed for. Our engineer estimates the cost of construction of the proposed track at \$21,199.

IT IS THEREFORE ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, construct a suitable spur track as prayed for in the application herein.

IT IS FURTHER ORDERED, That the petitioner, the Theresa Milling and Supply Company, deposit with the railway company the sum of \$21,199 to cover the cost of construction of the spur track, or, in lieu of such cash deposit, give a bond in accordance with the provision of ch. 481 of the laws of 1909.

Six months is deemed a sufficient time within which to comply with this order.

TOWN OF HEWITT

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Submitted March 12, 1912. Decided Nov. 27, 1912.

Complaint was made by the town of Hewitt, an organized town in Clark county, Wis., that a highway crossing on the line of the C. St. P. M. & O. Ry. Co. and located about eighteen hundred feet east of Columbia station, Wis., is dangerous to human life because of surrounding physical conditions. Subsequent to a fatal accident the Commission, in a former proceeding instituted on its own motion, investigated the conditions at this crossing and ordered the installation and maintenance of an electric bell with an illuminated sign for night indication, and the improvement of the approaches of the highway (*In re C. St. P. M. & O. R. Crossing near Columbia Station, 1912, 8 W. R. C. R. 516*). Subsequently the railroad company questioned the authority of the Commission to order the installation of protective appliances in proceedings instituted on its own motion. At the suggestion of the Commission the town of Hewitt filed a formal complaint for a new hearing. The previous order in the matter was vacated (*In re C. St. P. M. & O. R. Crossing near Columbia Station, 1912, 8 W. R. C. R. 733*), and proceedings were instituted upon the complaint of the town of Hewitt.

Held: From the evidence it appears that the circumstances surrounding the use of this crossing are such as to make the reoccurrence of accidents probable unless additional protective measures are provided. It is ordered that the respondent railroad company protect this crossing with an automatic audible alarm with an illuminated sign for night indication. The plans for the installation are to be submitted to the Commission. The respondent is further ordered to widen the highway to an effective width of 32 feet within the railroad right of way. The approaches are to be put in first class condition as to grade and drainage. Three months is deemed a reasonable time within which to comply with this order.

The petitioner, a duly organized town in Clark county, Wis., alleges in substance that a highway crossing on the respondent's line in the town of Hewitt, located about 1,800 feet east of the Columbia station, is dangerous to human life because of the surrounding physical conditions. The Commission is therefore asked to require the respondent to provide adequate protection for the public at this crossing.

No answer was filed by the respondent in this matter.

A hearing was held on March 12, 1912, in the offices of the Commission at Madison, Wis. *W. M. Ritchie* appeared for the petitioner and *G. W. Peterson* for the respondent.

In a former proceeding the Commission on its own motion investigated the conditions at this crossing, following a fatal accident which occurred there on October 12, 1911. On January 16, 1912, an order was entered requiring the Chicago, St. Paul, Minneapolis & Omaha Railway Company to install and maintain an electric bell with an illuminated sign in addition to the audible alarm for night indication, and to widen and otherwise improve the approaches of the highway. (*In re C. St. P. M. & O. R. crossing near Columbia Station*, 1912, 8 W. R. C. R. 516.) The railway company, in a letter to the Commission dated February 1, 1912, questioned the authority of the Commission to order the installation of protective appliances in proceedings instituted on its own motion. On February 19, 1912, the town of Hewitt, through its town chairman, at the suggestion of the Commission, filed the formal complaint upon which this case rests. After due notice a formal hearing was held, the previous order in the matter being vacated immediately preceding the hearing. (*In re C. St. P. M. & O. R. Crossing near Columbia Station*, 1912, 8 W. R. C. R. 733.)

The testimony taken by the court commissioner immediately following the fatal accident which directed the attention of the Commission to this crossing and the testimony taken at the former hearing were admitted to the record of the present case.

The testimony taken at the hearing and the reports submitted by members of the Commission's engineering staff, both immediately after the fatal accident and shortly before the closure of the present case, show that a highway extending eastward from the village of Columbia towards Neillsville runs due east for a quarter of a mile or thereabouts where it touches the northerly right of way limits of the Chicago, St. Paul, Minneapolis & Omaha Railway, which here runs in a somewhat northeasterly direction; the highway running thence parallel to the right of way for a few hundred feet when it turns sharply to the right (southward), crossing the single main track of the respondent company at a point about 1,800 feet east of Columbia station, and turning to the left (eastward) just beyond the southerly right

of way fence, running for a short distance parallel to the railroad and deflecting thence somewhat to the right, away from the direction of the track. Immediately at or opposite the crossing there is a junction with a road which extends to the northward, and on the south side of the track a branch road runs in a southerly direction, crossing the gravel pit spur at a distance of about 250 feet southerly from the crossing over the main track now under investigation. The view on the road from the village of Columbia to the intersection is comparatively clear. There are practically no obstructions to view in the open stretch of road adjoining the right of way just westward from the crossing, and with the exception of some underbrush, the same is substantially true of the portion of the highway adjoining the right of way on the south side eastward from the crossing as above described. Within the limits of these two short stretches of paralleling highway it appears that the approach to the crossing is made with increased safety with reference to such trains as might be approaching on the main track from straight ahead, with the inevitable disadvantage or increased hazard should trains approach from the reverse or rearward direction. The approaches from the north or south roads, which both form junctions with the main road, substantially in a direct line with the crossing, appear to be comparatively safe, so far as visibility is concerned.

The roadbed of the respondent company at the crossing consists of an embankment some three or four feet in height above the surrounding district which is comparatively flat and unbroken. The highway approaches were originally very narrow and the ascent sharp and sudden immediately at the track. These approaches, it appears from the engineer's report, although considerably improved by the company subsequent to the formal hearing in the present case, are still in unsatisfactory condition. The alignment of the main track is straight from the curve a short distance westward from Columbia station to the curve about one thousand feet east of the crossing. The profile of the railroad is such as to necessitate habitual fast running for both east and westbound heavy tonnage trains, the foot of heavy grades in both directions being at Wedges creek bridge about nine hundred feet west of the crossing. The spur track or branch line to the company's gravel pit, which is located several

miles southward, leaves the main track in a southeasterly direction at a switch about seven hundred feet westward from the crossing, this junction with the main line being just east of the bridge. The operator's office, where train orders are handled for the through freights as well as for the gravel trains, is located on the south side of the main track adjoining the gravel spur, some 480 feet west of the crossing. During most of each year, while the gravel pit is in operation, there is considerable activity at this point.

From observations taken during a period of six days (March 4-9, 1912) by a man stationed at the crossing for that purpose by the respondent company, it was found that between the hours of 7 a. m. and 6 p. m. the traffic consisted of the following on the respective days: Pedestrians, 15, 18, 19, 25, 36, 20; teams 8, 9, 3, 11, 16, 9; Trains, (eastbound) 4, 6, 4, 4, 4, 4, (westbound) 4, 5, 4, 4, 4, 4. The record showed that the pedestrians included some five school children; and it was further noted that during the six day period covered by these observations no train failed to whistle for this crossing.

The accident which directed the attention of the Commission to this crossing occurred under circumstances which emphasize certain dangerous features. The testimony shows that a covered spring wagon, used as a school hack, traveling west, was struck by a freight train moving at a speed of thirty or thirty-five miles an hour in the same general direction, thus approaching the wagon from the rear. Two children who were riding in the back of the wagon saw the train and jumped out. They tried to warn the driver, but apparently he did not hear them. The horses becoming frightened, broke into a gallop, and his entire attention seems to have been devoted to controlling the team. It appears from the testimony that for the moment preceding the accident the attention of most of the train crew was centered on a gravel train just then approaching from the south on the gravel spur. Apparently no member of the crew noticed the conspicuous canvas covered wagon nearing the crossing along the open highway until it appeared on the track in front of the engine. The accident resulted in the death of four persons.

The respondent company introduced as witnesses several employes and officials who testified that they looked upon the Columbia crossing as one of unusual safety. The company's prin-

cipal witness, the superintendent of the Wisconsin lines, testified that in his judgment highway crossings may be classified in a general way, according to the extent of danger, into three groups which he defined as follows:

“One would be called ‘dangerous’ to such an extent that even with ordinary care a man might be injured; and another one when the chances for injury were not great if ordinary care is used; and still another case where the only chance for injury is through carelessness on the part of the party who is being injured.”

The witness testified further that the crossing in question, in his opinion, falls in the class where a person would become injured only through his own carelessness. In presenting his views on the question of crossing protection, he outlined a broad policy for spending the company’s money in providing special protective measures first at those situations where the danger is found to be greatest.

Following is the report of the Commission’s engineer giving the results of investigation of the crossing situation involved in this case, with special reference to the extent of hazard and the need of remedial measures:

“The Columbia crossing situation where the Languisch school hack accident occurred on October 12, 1911, is one where there may easily be a somewhat radical difference of opinion, according to the extent of facts taken into account and to the emphasis placed upon the available evidences. A casual inspection of the premises, it may be said, does not give one the impression that accidents like that which forced attention to this crossing should normally be expected to occur here; but such conclusion is necessarily modified when one’s attention is drawn to certain elements or features which enter into the situation and whose importance is not appreciated until a careful analysis is made of the circumstances attending the Languisch accident in relation to other available facts and information. Certain of the elements referred to are obscure and, taken singly, might readily receive but little weight; but in their combined effect are found to add materially to the extent of hazard imposed upon the user of this crossing. Among the elements or conditions found to influence the safety of this crossing, favorably and otherwise, the following may be named:

“The approaches to the Columbia crossing appear to be unusually clear and free from obstructions; this feature is of such prominence, in fact, as largely to obscure other and adverse

elements. The approach of the highway from the village eastward on the highway along the right of way towards the crossing undoubtedly affords exceptional safety as against the approach of trains from the east; but with a distinct increase of hazard from trains coming up from the rear, as on the occasion of the Languisch accident. Similarly the approach westward (towards Columbia) on the highway along the right of way is more than normally safe as against the approach of trains from the westward; but with a degree of hazard much greater than normal for trains approaching from the rear. An instance of a narrow escape is cited locally, as occurring several years ago, when the school hack, approaching from the east, was nearly struck by a westbound freight which is said to have failed to whistle for the crossing. (The same type of school hack is found to be in use here since the Languisch accident occurred.)

“The stretch of tangent track is of fair length to the westward, but somewhat short towards the east. Owing to the heavy grades rising from Wedges creek, both east and westbound trains are likely to run at times at unusually high speed over this crossing. The presence of the gravel pit junction claims the attention of passing main line train crews to the extent that the locomotive engineer is likely to be less than usually alert in safeguarding his approach to the Columbia crossing located, as it is, in close proximity to the junction and operator’s office. Gravel trains approaching on the spur from the south are also likely to frighten teams, particularly when approaching from the west, and even to confuse the drivers or cause them to be less efficient and reliable in observing the approach of trains on the main line, especially trains from the west. The ringing of a crossing alarm bell would give positive information of the approach of main line trains and assist drivers in avoiding the dangerous trap at the crossing proper.

“The condition of the approaches to this crossing was exceptionally bad at the time the Languisch accident occurred, compelling him, after once permitting himself to enter the pocket at the crossing, to choose between the certain overturning of his hack load of children with a frightened team attached, if he should turn into the ditch, and taking chances at a dash over the track ahead of the train. (With a speed of thirty miles an hour, forty-four feet per second, a fraction of a second would have cleared his wagon; the steep grade on the approach immediately at the track may have checked his speed enough to prevent escape.) The work done by the company on the approaches still leaves them in an unsatisfactory condition.

“Considered on its merits and compared with the many highway crossing situations examined throughout the state, with particular reference to the betterment of safety conditions on a consistent and permanent basis, the Columbia crossing situation

naturally falls in the group requiring special treatment in order to make it reasonably safe for the public use. This conclusion is reached in the light of the special investigations on the ground and after a careful review of all available evidence and information. As to the remedial measures, the elimination of the grade crossing is not now regarded as practicable; nor is it looked upon as reasonable to require elimination with the traffic conditions which at present prevail at this point. For the reasonable protection of this crossing it is recommended that the railroad company be required to install and maintain an automatic alarm with illuminated sign for night indication; and further, to widen the approaches to a width of thirty-two feet and otherwise improve the same; all in accordance with the instruction and supervision of the Commission."

From the evidence and from the investigations made on the ground by direction of this Commission, it appears that the circumstances surrounding the use of this crossing are such as to make a recurrence of accidents probable unless additional protective measures are provided.

NOW, THEREFORE, IT IS ORDERED, That the Chicago, St. Paul, Minneapolis & Omaha Railway Company install and maintain at the highway crossing situated about 1,800 feet east of Columbia station an automatic audible alarm with illuminated sign for night indication, the plans for such installation to be submitted to the Commission for approval.

IT IS FURTHER ORDERED, That the Chicago, St. Paul, Minneapolis & Omaha Railway Company widen the approaches to the crossing, so that the highway on each side of the track shall be thirty-two feet wide to a length equal to the width of the railroad right of way and be put into first class condition as to grade and drainage.

Three months is deemed a reasonable time within which to comply with this order.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE FERNHABER CROSSING, ONE-HALF MILE EAST OF SCHLEISINGERVILLE ON THE LINES OF THE CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY, AND MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY.

Decided Nov. 27, 1912.

Subsequent to complaint the Commission, on its own motion, investigated the Fernhaber crossings located one-half mile east of Schleisingerville in the town of Polk, Washington county, Wis., and on the lines of the C. M. & St. P. Ry. and the M. St. P. & S. S. M. Ry.

Held: Conditions at both crossings are dangerous; but the lowering of the tracks by the M. St. P. & S. S. M. Ry. Co. created a dangerous condition that grade separation alone can eliminate. The respondent companies are ordered to construct and maintain a framed timber overhead highway bridge at the crossings in question. The bridge and its approaches are to be constructed in accordance with plans and specifications approved by the Commission and are to be located along the existing highway. The railway companies are to furnish all material and labor, perform all of the necessary work, and acquire necessary lands. The actual cost of the structure is apportioned 54 per cent to the M. St. P. & S. S. M. Ry. Co., 36 per cent to the C. M. & St. P. Ry. Co., and 10 per cent to the town of Polk. The structure is to be completed and opened to the public within nine months.

Complaint having been made to the Commission that a certain highway crossing, known as the Fernhaber crossing, and located one-half mile east of Schleisingerville on the lines of the Chicago, Milwaukee & St. Paul and the Minneapolis, St. Paul & Sault Ste. Marie railway companies, in the town of Polk, Washington county, is unsafe and dangerous to human life, the Commission, upon investigation, ordered a hearing to determine whether this crossing requires protection, and if so, the proper manner and method of protection which would be adequate for public safety.

Hearing was held on January 26, 1912, in the village hall at Schleisingerville. *H. A. Sawyer*, district attorney, appeared for Washington county; *Theodore Koenings*, president of the village of Schleisingerville for the village of Schleisingerville; *F. W. Sawtelle* for the Chicago, Milwaukee & St. Paul Railway Company; and *C. N. Kalk* for the Minneapolis, St. Paul and Sault Ste. Marie Railway Company.

A second hearing was held on September 26, 1912, in the village hall at Schleisingerville. This hearing was held to consider the question of grade separation. *H. A. Sawyer* appeared for Washington county; *Judge P. Omera* for the town of Polk; *Charles Lapham* for the Chicago, Milwaukee & St. Paul Railway Company; *H. Pederson* for the Minneapolis, St. Paul & Sault Ste. Marie Railway Company.

The testimony and the report of the Commission's engineer show that at the Fernhaber crossing the respondents' rights of way are adjacent, their tracks are parallel, eighty feet apart, and extend north and south, and the highway east and little north of west from the intersection with the Chicago, Milwaukee & St. Paul Railway Company's track. The Minneapolis, St. Paul & Sault Ste. Marie Railway Company's track is in a deep cut on both sides of the crossing, and the Chicago, Milwaukee & St. Paul Railway Company's tracks is on a cut south of the crossing and east of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company's track.

The east highway approach is on a descending grade toward the Chicago, Milwaukee & St. Paul Railway Company's track, and that portion of the highway between the two tracks descends from east to west on a grade of approximately 11 per cent. The west approach crosses the Minneapolis, St. Paul & Sault Ste. Marie Railway Company's track at an angle of approximately 60 degrees, and ascends from the track on a 7 per cent grade in a cut.

Approaching the crossing from the east or west, the views both north and south are obscured by the corners of the cuts and the high ground on both sides of the highway.

The greatest danger at this crossing appears to exist when vehicles are westbound on that portion of the highway between the two tracks, and trains are approaching on the Minneapolis, St. Paul & Sault Ste. Marie Railway Company's track from either direction. The 11 per cent grade on the highway between tracks, the abrupt change of grade in the highway just west of crossing with the Minneapolis, St. Paul & Sault Ste. Marie Railway Company's track causing tugs to unhitch, together with the obstruction of the lines of vision make this a dangerous crossing.

The traffic is estimated at from thirty to fifty vehicles daily. Traffic is said to have been heavier before the Minneapolis, St.

Paul & Sault Ste. Marie Railway Company lowered its tracks. Formerly the respondents' tracks were at the same level, but about eight years ago the Wisconsin Central (now Minneapolis, St. Paul & Sault Ste. Marie) lowered its tracks about six or eight feet. The testimony shows that several close calls have occurred here and that trains have whistled at the crossing instead of a sufficient distance away to give proper warning.

After the first hearing the Chicago, Milwaukee & St. Paul Railway Company installed an automatic crossing alarm east of their track.

The Commission's engineer reports that the conditions at this crossing can be materially improved by the Minneapolis, St. Paul & Sault Ste. Marie Railway Company installing a bell and cutting down the grade of the west approach to 2 per cent for a distance of two hundred feet. This plan of improving the crossing does not eliminate the danger of losing control of a heavy load or a spirited horse on the 11 per cent grade between tracks. Even though both crossings are protected by bells, it is still possible for traffic westbound along the highway to reach the Chicago, Milwaukee & St. Paul Railway Company's track or a point a trifle east of the track at a time when the Minneapolis, St. Paul & Sault Ste. Marie Railway Company's bell just starts to ring. Under those conditions there is great danger of being struck by a Minneapolis, St. Paul & Sault Ste. Marie Railway Company's train. It is dangerous to run a heavy load down an 11 per cent grade. The descent must be made slowly. A team traveling down this descent at the rate of three miles per hour will require 18.2 seconds to make a distance of eighty feet. Assuming 1,320 feet bell circuit, and a train approaching at the rate of fifty miles per hour, the train will reach the crossing about eighteen seconds after the bell starts ringing.

Further, those two tracks are only eighty feet apart, and bells at both crossings might be confusing to traffic on the highway.

After considering the testimony and the probabilities of accidents should both crossings have bell protection, and making an examination on the ground, it appears that an overhead highway bridge should be erected over both the respondents' tracks at the Fernhaber crossing. All conditions considered, it appears that the location of the existing crossing is the proper site for the overhead structure.

The cost of constructing an overhead bridge and its approaches is estimated to be \$8,240. With regard to apportionment of

expense: Conditions at both crossings are dangerous; but the lowering of the tracks by the Minneapolis St. Paul & Sault Ste. Marie Railway Company created a dangerous condition that grade separation alone can eliminate. It is therefore reasonable that the Minneapolis, St. Paul & Sault Ste. Marie Railway Company be required to bear the greatest part of the cost of protection.

After a study of the problem, an apportionment of 54 per cent to the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, 36 per cent to the Chicago, Milwaukee & St. Paul Railway Company, and 10 per cent to the town of Polk, is regarded as equitable.

NOW, THEREFORE, IT IS ORDERED:

1. That the Minneapolis, St. Paul & Sault Ste. Marie and the Chicago, Milwaukee & St. Paul railway companies construct and maintain a framed timber overhead highway bridge where their tracks are crossed by the highway about one-half mile east of Schleisingerville in the town of Polk. This bridge is to have a vertical clearance from top of rail to the bottom of the bridge of not less than twenty-two feet; a roadway twenty feet wide in the clear, 7 per cent grades on the approaches, grades on the bridge not to exceed 7 per cent and guards to prevent snow from blowing away; and is to be constructed in accordance with plans and specifications to be approved by the Commission.

2. That the location of the bridge and its approaches shall be along the existing highway.

3. That the Minneapolis, St. Paul & Sault Ste. Marie and the Chicago, Milwaukee & St. Paul railway companies shall furnish all material and labor, perform all of the necessary work, and acquire necessary lands in building this bridge and its approaches.

4. That the actual cost of the structure complete, including cost of material, labor, approaches, land, or other items entering into the cost of this structure, be and the same hereby is apportioned as follows: Minneapolis, St. Paul & Sault Ste. Marie Railway Company to pay 54 per cent; Chicago, Milwaukee & St. Paul Railway Company 36 per cent; and the town of Polk 10 per cent thereof.

Nine months is deemed a reasonable time within which the structure hereby ordered shall be completed and opened to the use of the public.

JOHN HIGH ET AL.

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY,
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted June 24, 1912. Decided Nov. 27, 1912.

Complaint was made of inadequate station facilities at Ripon and at Ripon Junction, Wis.

Held: The station facilities in question are inadequate. It is ordered that the respondents, the C. M. & St. P. Ry. Co. and the C. & N. W. Ry. Co., each provide or, at their option, jointly provide a proper and sufficient waiting room for passengers at Ripon Junction, and place it in charge of a competent caretaker who will properly heat and light it, keep it in a sanitary condition, and attend to the transfer of baggage. Four months is deemed a sufficient time within which to comply with this order. It is further ordered that the respondent C. M. & St. P. Ry. Co. provide a station building at Ripon which shall be reasonably adequate for the passenger traffic according to its adopted standards of construction. Plans are to be submitted to the Commission for approval. The matter of location is left to the determination of the railway company, subject to the approval of the Commission as to the adequacy of the site selected. Nine months is deemed a reasonable time within which to comply with this order.

Four petitions were filed in this matter: one by 112 residents of Berlin, Wis.; one by 23 residents of the village of Winneconne, Wis.; one by the Commercial Club of the city of Ripon; and a fourth by the members of the Oshkosh and Fond du Lac councils of the United Commercial Travelers of America. The petition of the Commercial Club of Ripon alleges that the depot maintained by the Chicago, Milwaukee & St. Paul Railway Company at Ripon is inadequate, dangerous, and unsanitary, and that the business done by that company in Ripon warrants better service. It also sets forth that the station facilities maintained jointly by both respondents at Ripon Junction are inadequate. The Commission is therefore requested to order the erection of a depot in keeping with the needs of the city. The other petitions make no formal allegations, but seek an order requiring the erection of a depot at Ripon Junction to be used as a city station by the Chi-

ago, Milwaukee & St. Paul Railway Company, and also as a transfer station by both respondents.

The Chicago & North Western Railway Company, in its answer, alleges that it maintains a station in the city of Ripon, and that a platform is provided at Ripon Junction which is sufficient for all business transacted at that point. It therefore asks the dismissal of the petitions.

The Chicago, Milwaukee & St. Paul Railway Company filed no answer.

A hearing was held on June 24, 1912, at the city hall, Ripon, Wis. *S. M. Pedrick* appeared for the petitioners; *P. C. Eldredge*, for the Chicago, Milwaukee & St. Paul Railway Company; and *C. A. Vilas*, for the Chicago & North Western Railway Company.

STATION FACILITIES AT RIPON JUNCTION.

It appears from the testimony that both of the respondent railway companies have been accustomed to stop their trains and to receive and discharge passengers at Ripon Junction, a point of intersection between the two lines, located approximately one-fourth of a mile from the Ripon depots of both companies. A platform with a shed is maintained at this point jointly by the two respondent companies. Witnesses stated that the platform is frequently in a filthy condition, and that the shed is not kept in repair. It was shown that trains are often late at the junction, and that even when they are on time persons desiring to change from one line to the other at the junction are obliged to wait a considerable time between trains, since close connections are not always made. During such periods of waiting no shelter is available other than the shed, which affords little comfort in cold or inclement weather, as it is in a dilapidated condition. Moreover, no provision is made for the transfer of baggage at the junction, and passengers are obliged to handle their own or hire assistance at their own expense.

The amount of passenger traffic handled by the respondents at Ripon Junction is not clearly indicated by the testimony. One witness stated that several persons boarded and alighted from each train. Another estimated that on an average about twelve persons boarded each train and that an even greater number alighted at the junction. The representative of the Chicago, Milwaukee & St. Paul Railway Company stated that a count

made of all passengers on both lines using the platform at the junction, for a week previous to the hearing, showed an average of only thirty per day. Witnesses for the petitioners, however, asserted that these data were gathered at a season when the traffic was unusually light.

It appears from the testimony that, owing to the poor facilities at Ripon Junction, many persons who would otherwise transfer there, ride on to the city station and transfer by bus to the other city station or to the junction. This method is inconvenient when trains on the two lines make fairly close connections, and it also causes additional expense, especially to persons traveling with baggage. Traveling men testified that the bus fare was 25 cts. for a person and 25 cts. per trunk. Moreover, it appears that should adequate facilities be provided at the junction, many persons living in that section of town, who now use the platform only in pleasant weather, would probably take the train there in inclement weather also. Witnesses for the petitioners stated that satisfactory service would be afforded by the maintenance of a heated waiting room and the employment of a man to take care of it and attend to the transfer of baggage. Some of the witnesses also wished to have tickets sold at the junction, but it was conceded that this was not essential to satisfactory service.

After a careful review of the testimony and of our engineer's report we find that the station facilities at Ripon Junction are inadequate. A suitable waiting room for passengers should be erected and placed in charge of a competent caretaker, whose duty should be to keep it properly cleaned, heated, and lighted, and to attend to the baggage of passengers.

STATION FACILITIES AT RIPON.

The testimony shows that the depot now maintained by the Chicago, Milwaukee & St. Paul Railway Company at Ripon was constructed about 1856 and is in poor condition. It contains two waiting rooms, about 14x20 feet in dimension, with a seating capacity of seventeen for women and thirteen for men. These rooms are heated by stoves and lack proper ventilation. The floors are worn and dirty. No adequate toilet facilities are provided. The platform between the station and the track is only about eight or nine feet wide, so that when a number of persons are waiting for trains, the movement of a loaded baggage truck along the platform is dangerous and inconvenient for passengers.

It appears from the testimony that Ripon has a population of 3,839, and that considerable passenger traffic originates there. One witness stated that it is usual to see seventy-five to one hundred persons waiting for a train at the Chicago, Milwaukee & St. Paul railway depot. It is a common occurrence for men and women to be obliged to stand on the open platform because the waitingrooms are crowded. An engineer of the Commission reports that on the day of his visit to Ripon, just prior to the arrival of the afternoon southbound train, all seats in the women's waitingroom were occupied and twelve women were standing on the platform. At the same time the men's waitingroom was partially filled and some twenty-five or thirty men were standing on the platform.

The following statement of the passenger traffic at Ripon was furnished by the Chicago, Milwaukee & St. Paul Railway Company after the hearing. It does not include passengers traveling on mileage books, but was said to represent fairly well the number of passengers using the Ripon station.

	Number of tickets sold at Ripon.	Tickets to Ripon sold at other points, including cash fares.	Total number of passengers.	Revenue from outgoing passengers.
January 1912.....	2,457	2,908	5,365	\$1,079 96
February ".....	2,523	2,903	5,326	1,032 00
March ".....	2,916	3,388	6,304	1,242 85
April ".....	3,115	3,706	6,821	1,333 58
May ".....	2,756	3,349	6,105	1,245 36
June ".....	2,968	3,331	6,299	1,053 89
Total.....	16,735	19,485	36,220	\$7,587 64
Average per month.....	2,789	3,248	6,037	\$1,264 61

It is clear from the foregoing statement that the present passenger traffic at Ripon warrants better service than that now afforded. This was conceded by the representative of the Chicago, Milwaukee & St. Paul Railway Company at the hearing. He stated that his company desired to keep its freight and passenger business together, and that for this reason it was opposed to the erection of a new station at Ripon Junction or any point other than the site of the present structure. He expressed the willingness of his company to replace the present structure by a new and adequate depot. Residents of Ripon in their testimony

questioned the possibility of erecting a depot of sufficient size at the present site because of the limited area available there, but stated that any of the suggested locations would be satisfactory, provided the facilities furnished are adequate and in keeping with the needs of the city. Traveling men who testified at the hearing were in favor of locating the new depot at Ripon Junction as a matter of convenience to the public and of economy to the railway company, but they raised no objection to the present site, provided adequate facilities were also furnished at Ripon Junction.

After a careful review of the testimony and of our engineer's report, we find that the station facilities provided by the Chicago, Milwaukee & St. Paul Railway Company at Ripon are inadequate. A modern depot of sufficient size to accommodate the passenger traffic, equipped with proper conveniences for public use should be erected to replace the present structure. The matter of location is left to the determination of the railway company, subject to the approval of the Commission as to the adequacy of the site selected.

NOW, THEREFORE, IT IS ORDERED, That the respondents, the Chicago, Milwaukee & St. Paul Railway Company and the Chicago & North Western Railway Company, each provide or, at their option, jointly provide a proper and sufficient waiting room for passengers at Ripon Junction, Wis., and place same in charge of a competent caretaker who will properly heat and light it, keep it in a sanitary condition, and attend to the transfer of baggage.

Four months is deemed a sufficient time within which to comply with this order.

IT IS FURTHER ORDERED, That the respondent, the Chicago, Milwaukee & St. Paul Railway Company, provide a station building at Ripon, Wis., which shall be reasonably adequate for the passenger traffic obtaining at that station, according to its adopted standards of construction, plans to be submitted to the Commission for approval.

Nine months is deemed a reasonable time within which to comply with this order.

TOWN OF BYRON

vs.

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

Submitted Aug. 6, 1912. Decided Nov. 27, 1912.

Complaint was made by the town of Byron, Fond du Lac county, Wis., that two highway crossings on the line of the M. St. P. & S. S. M. Ry. Co., located respectively about 300 feet north of the depot at Hamilton, and about 300 feet east of the depot at Byron, are dangerous to human life because of the surrounding physical conditions.

Held: The two crossings in question are unusually dangerous and require some form of protection. It is ordered that the respondent install and maintain an automatic electric bell with an illuminated sign for night indication at each of the two crossings. Plans and specifications are to be submitted to the Commission for approval. Sixty days is deemed a sufficient time within which to comply with this order.

The petitioner, a regularly organized town in the county of Fond du Lac, alleges that two highway crossings on the line of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, located respectively about three hundred feet north of the depot at Hamilton and about three hundred feet east of the depot at Byron, are dangerous to human life because of the surrounding physical conditions. The Commission is therefore asked to require the respondent to provide adequate protection at these crossings.

No answer was filed by the respondent in this matter.

A hearing was held on August 6, 1912, in the town hall at Byron, Wis. *M. F. Bannison* appeared for the petitioner. The respondent was unrepresented.

CROSSING THREE HUNDRED FEET NORTH OF THE HAMILTON DEPOT

The testimony shows that this crossing is formed by the intersection of a highway which leads to Fond du Lac and connects with a road to Milwaukee, and the tracks of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company. The highway runs east and west and the railroad northwest and southeast,

the angle of crossing being about 60 degrees. The chief source of danger is the obstruction of the view to the northwest by the sides of a cut, which were said to be from six to twelve feet high. The cut extends southeast of the crossing, but is not deep enough on that side to seriously obstruct the view. The railroad is on a curve for a considerable distance on each side of the highway. The view to the northwest is also obstructed by farm buildings, by weeds along the banks of the cut, and, during the winter, by snow piles. It was pointed out that the highway is narrow at the crossing and that both approaches are on a down grade to the track, conditions which make the control of frightened teams difficult. The traffic over the highway appears to be comparatively light, consisting of a few automobiles, farm wagons, and teams hauling stone from a quarry near the crossing. A number of accidents were said to have been narrowly averted at this point. Witnesses stated that it would be possible to widen the highway approaches and that, with this improvement, the installation of a crossing alarm would afford sufficient protection.

CROSSING THREE HUNDRED FEET EAST OF THE BYRON DEPOT.

It appears from the testimony that this crossing is formed by the intersection, at an acute angle, of the respondent's line, which runs southeast and northwest, and an important highway, which runs north and south and connects Lomira and Fond du Lac. The chief point of danger is to teams moving south from trains approaching from the southeast, the view of which is obstructed by an orchard and by farm buildings. In the other angles of the crossing there are no serious obstructions to the vision. Witnesses stated that the usual week day traffic over the highway is approximately fifty vehicles, including a number of tourist automobiles, and that on Sundays the road is much more heavily traveled, often being used by as many as one hundred automobiles in addition to other vehicles. About twelve school children are obliged to cross the tracks on their way to and from school. Several serious accidents were said to have been narrowly averted at this crossing. Witnesses stated that a crossing alarm bell would probably afford sufficient protection for the public.

It was developed at the hearing that the train movements over both crossings are numerous, and that a considerable number

of the trains do not stop at Hamilton or Byron and hence pass the crossings at high speed. Our engineer reports twenty-one daily trains over this line, of which eight do not stop at Hamilton. After a careful examination of the testimony and of our engineer's report we find that each of the crossings in question is unusually dangerous to public travel and require some form of protection.

IT IS THEREFORE ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, install and maintain an automatic electric bell with an illuminated sign for night indication at each of the two highway crossings on its line, located respectively about three hundred feet north of the depot at Hamilton and about three hundred feet southeast of the depot at Byron, plans and specifications to be submitted to the Commission for approval.

Sixty days is deemed a sufficient time within which to comply with this order.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE RATES ON SAND, GRAVEL AND CRUSHED STONE ON THE LINE OF THE CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Decided Nov. 29, 1912.

The Commission, on its own motion, investigated the rates on sand, gravel, and crushed stone for Wisconsin points on the C. M. & St. P. Ry. In the case of the *Waukesha Lime & Stone Co. v. C. M. & St. P. R. Co. et al.* 1912, 9 W. R. C. R. 87 (on rehearing, 9 W. R. C. R. 347), the Commission established a distance tariff to be applied upon sand, gravel and crushed stone from Waukesha to all Wisconsin points on the lines of the respondents in that case. In the decision of the Commission on the rehearing of the case, the recommendation was made that the rates therein ordered for Waukesha be made general throughout the state by the carriers involved. This recommendation was followed by the C. & N. W. Ry. Co., and the M. St. P. & S. S. M. Ry. Co. also, though not a party to the case, put into effect the Commission's rates on these commodities. The C. M. & St. P. Ry. Co., however, has not adopted the distance rates proposed by the Commission, and various shippers on that line of railway have complained informally to the Commission of this fact. It appears that the respondent is willing to put the Commission's tariff into effect, provided that rates now lower than those named in that tariff may be raised to the level of the Commission's rates.

Held: It seems inadvisable to delay longer the effectiveness of the Commission's rates on the respondent's line. It is ordered that the respondent make effective between all points upon its line of railway in Wisconsin the tariff of distance rates on sand, gravel and crushed stone fixed by the Commission for shipments from Waukesha, Wis., in its orders of April 25, 1912, and June 24, 1912 (9 W. R. C. R. 87, 347). When the company is prepared to submit a list of the lower commodity rates which it desires to cancel, its application for authority to cancel them will be passed upon by the Commission in its regular course.

In the case of the *Waukesha Lime & Stone Co. v. C. M. & St. P. R. Co. et al.* 1912, 9 W. R. C. R. 87 (on rehearing, 9 W. R. C. R. 347), this Commission established a distance tariff to be applied upon sand, gravel and crushed stone from Waukesha to all Wisconsin points on the lines of the respondents in that case. In the decision of the Commission on the rehearing of the case, the recommendation was made that the rates therein ordered for Waukesha be made general throughout the state by the carriers

involved. This recommendation was followed by the Chicago & North Western Railway Company, and the Minneapolis, St. Paul & Sault Ste. Marie Railway Company also, though not a party to the case, put into effect the Commission's rates on these commodities. The Chicago, Milwaukee & St. Paul Railway Company, however, has not adopted the distance rates proposed by the Commission, and various shippers on that line of railway have complained informally to the Commission of this fact, for the reason that the general level of sand, gravel and crushed stone rates on the North Western and "Soo" lines is now somewhat lower than it is on the Chicago, Milwaukee & St. Paul line.

In view of the facts just stated, the Commission issued a notice of investigation on its own motion setting a time for hearing on the question whether the Commission's distance rates should be made effective generally on the line of the respondent, the Chicago, Milwaukee & St. Paul Railway Company, in this state.

At the hearing, which was held in the office of the Commission November 12, 1912, the only appearance was that of the respondent company, which was represented by *J. N. Davis*.

It appears from the statements on the part of the respondent company at the hearing, that the company is willing to put into effect the Commission's tariff, provided that rates now lower than those named in that tariff may be raised to the level of the Commission's rates. The respondent company expressed a desire to submit to the Commission a compilation of all such rates, showing the circumstances under which they were made and the position of the respondent with respect to their continuance. Some of these rates, it was stated, the respondent might wish to leave in effect for one reason or another, but in general the desire of the respondent would be for a cancellation of all rates lower than the Commission's schedule. It was because of the respondent's unwillingness to put into effect the Commission's distance scale and at the same time leave in effect rates lower than that scale that the company refrained from establishing the Commission's rates at once, since the Commission's order contained a provision that all commodity rates lower than the Commission's rate should be retained.

The respondent's compilation of rates lower than the Commission's scale has not at this date been received. The Commission continues to receive inquiries on the subject from shippers

located on the respondent's line, and 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. The respondent company will therefore be ordered to make these rates effective between all points on its lines in the state of Wisconsin, it being understood that no commodity rates on such lines lower than the rates herein ordered shall at this time be superseded by them. When the respondent company is prepared to submit a list of the lower commodity rates which it desires to cancel, its application for authority to cancel them will be passed upon by the Commission in its regular course.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, Milwaukee & St. Paul Railway Company, make effective between all points upon its line of railway in Wisconsin the tariff of distance rates on sand, gravel and crushed stone fixed by this Commission for shipments from Waukesha, Wis., in its orders of April 25, 1912 and June 24, 1912 in the case of *Waukesha Lime & Stone Co. v. Chicago, Milwaukee & St. Paul Railway Company et al.*

KIECKHEFER BOX COMPANY

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY,
CHICAGO AND NORTH WESTERN RAILWAY COMPANY,
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY
COMPANY.

Submitted Sept. 18, 1912. Decided Nov. 29, 1912.

Complaint was made of the rates on wooden packing boxes from Milwaukee to Wisconsin points. The petitioner alleged that the present rates fixed at 5 cts. per cwt. above lumber rates, are excessive, especially when applied to the shorter distances. The petitioner also suggests that the minimum weight for car-load shipments be increased from 16,000 lb. for cars 40 ft. and less in length, and 20,000 lb. for cars over 40 ft. in length, to a minimum weight of 20,000 lb., subject to rule 6—B of the western classification.

Held: In order to remedy the unfair condition existing on the short haul the present rates should be adjusted on the percentage basis with a 5 ct. arbitrary as a maximum. It is ordered that the respondents discontinue the rates in question on their respective lines and substitute therefor a rate equal to 150 per cent of the rate on lumber, with a maximum excess over such lumber rates of 5 cts. per cwt. Minimum weights are to remain as at present. It is recommended that the respondents apply the rates as ordered upon traffic between all points on their respective lines in the state of Wisconsin.

The petitioner is a corporation engaged in the manufacture of wooden packing boxes at Milwaukee, Wis. The complaint is to the effect that the present rates on such boxes, fixed at 5 cts. per 100 lb. above lumber rates, are excessive, especially when applied to the shorter distances over which the petitioner ships, and that a class D rating on boxes would be fair. At the same time, the petitioner suggests that the minimum weight for car-load shipments be increased from 16,000 lb. for cars 40 ft. and less in length, and 20,000 lb. for cars over 40 ft. in length, to a minimum weight of 20,000 lb., subject to rule 6—B of the western classification. The complaint details many facts which are in the nature of evidence, as to the conditions surrounding the petitioner's business and traffic, and allusion to such of these facts as appear to be material will be made later.

The answer of the respondent Chicago & North Western Railway Company denies that the rates complained of are unjust, unreasonable or discriminatory; that of the respondent Chicago, Milwaukee & St. Paul Railway Company alleges that a change in the present uniform rating would cause a discrepancy between intrastate and interstate rates, would complicate the rate situation, and would unreasonably reduce rates which are already low; while the answer of the "Soo" line admits that there is some cause for complaint against the present system in the case of short hauls, and expresses an intention to offer suggestions at the hearing for alleviation of this hardship.

The hearing was held at the office of the Commission, September 18, 1912. The petitioner was represented by *C. R. Hanson*, the Chicago, Milwaukee & St. Paul Railway Company by *J. N. Davis*, and the Chicago & North Western Railway Company by *H. C. Cheyney*. There was no appearance for the Minneapolis, St. Paul & Sault Ste. Marie Railway Company.

The petitioner's shipments consist of "set up" packing boxes, of such sizes that one box can be completely enclosed within two others. The box ordinarily shipped is used mostly in the canning business, and is much smaller than the packing boxes used in many lines of business, its dimensions being 13"x10"x9". The weight of the box is about 6 lb. and its value 6 cts. This makes the value per 100 lb. about one dollar. The petitioner is able to load about 3,500 of these boxes in a 36 ft. car, and about 4,000 in a 40 ft. car; thus the petitioner's loading per car is about 21,000 lb. for the 36 ft. car and 24,000 lb. for the 40 ft. car. The petitioner's shipments amount to about 2,000 cars a year, some two-thirds of which go outside of this state. Within Wisconsin the principal markets are the points at which canneries are located, including Two Rivers, Manitowoc, Sheboygan, Baraboo, Eau Claire, Chippewa Falls, Randolph, Columbus, Dodgeville, and other points largely in the southern and southwestern parts of the state.

The petitioner has a practical monopoly of the "set up" box business in the southern part of Wisconsin. Its only important competition comes from manufacturers of box shooks, or the wooden parts ready to be nailed up into boxes by the purchasers. The box shook manufacturers are located at northern Wisconsin points like Wausau, where they obtain their raw material on

low concentration rates and ship out their product on lumber rates, and are therefore subject to much less freight expense than the petitioner, which must pay the full lumber rate on its lumber in, and 5 cts. above the lumber rate on its boxes shipped out. This freight advantage of the manufacturer of box shooks is so decided that the petitioner's success in competing with him depends on the advantage of a ready-made box over a box requiring a further manufacturing process before it can be used. For example, under the present rates the petitioner ships lumber in from points taking a 10 ct. rate to Milwaukee, and ships boxes out to Janesville at a 10 ct. rate. The total cost at Janesville is thus 20 cts. per 100 lb. The Wausau manufacturer would obtain his raw material on a 3 ct. concentration rate and ship the box shooks to Janesville at 10.5 cts. per 100 lb., so his total cost is 13.5 cts. per 100 lb., or 6.5 cts. less than the Milwaukee manufacturer's cost. This difference is accentuated if the product is shipped to a point north or northeast of Milwaukee, for in that case the petitioner's in and outbound shipments will to some extent double over the same territory, while the shipments of the Wausau manufacturer will have a shorter haul than the haul to Janesville.

The petitioner also emphasized the fact that wooden pails, tubs and kits (minimum weight 24,000 lb.), and wooden barrels, casks, drums, kegs, tierces and well buckets (minimum weight 14,000 lbs.), are given a class D rating by the western trunk line rules, while sash, doors and blinds (minimum weights 20,000 and 24,000 lb.) and various kinds of interior and exterior house trimmings are accorded rates one cent above the lumber rates. All of these articles were stated to be made of much more expensive material than the wooden boxes of the petitioner, and their loading per car, so far as indicated by the minimum weights prescribed, was little if any greater than that of the petitioner's product. These facts were brought forward in support of the claim for a class D rating on wooden boxes.

The representative of the Chicago & North Western Railway Company at the hearing conceded the injustice of a 5 ct. arbitrary above lumber rates on short distance hauls, but suggested that a uniform percentage, such as 150 per cent above lumber rates, would solve the difficulty, instead of applying a class D rating as proposed by the petitioner. The class D rating, it was

pointed out, would make a very material reduction below present rates for the longer as well as the shorter distances, and would result, in many cases, in rates on "set up" boxes lower than the rates on lumber and box shooks. This, it was urged, would bring trouble upon the petitioner itself, by forcing the box shook manufacturer into the manufacture of set up boxes in competition with the petitioner.

The following table shows the present rates on "set up" boxes from Milwaukee to most of the important points in the state on the lines of the respondent companies and of the Chicago, St. Paul, Minneapolis & Omaha Railway Company. It also shows the rates that would apply if the box rate were fixed at 150 per cent of the lumber rate, and the class C and class D rates as well. In all cases where more than one of the railway lines reach the same point, the distance given is that over the shortest line.

PRESENT AND PROPOSED RATES ON BOXES FROM MILWAUKEE TO WISCONSIN POINTS.

From Milwaukee to	Railway.	Dis- tance.	Present rate.	Proposed rates		
				150% of lbr. rate.	Class C rate.	Class D rate.
Waukesha.....	C. & N. W.....	20	8	4.5	4.5	4
Racine.....	C. & N. W.....	23	9	6	4.5	4
Port Washington.....	C. & N. W.....	25	10	7.5	5	4.4*
Kenosha.....	C. & N. W.....	33	9	6	5	4
West Bend.....	C. & N. W.....	33	10.5	8.25	5.5	5
Hartford.....	C. M. & St. P.....	37	9	6	5.5	5
Burlington.....	C. M. & St. P.....	43	10	7.5	6	5
Watertown.....	C. M. & St. P.....	44	10.5	8.25	7	5.5
Whitewater.....	C. M. & St. P.....	51	9.5	6.75	7	5.5
Elkhorn.....	C. M. & St. P.....	52	10	7.5	6	5
Sheboygan.....	C. & N. W.....	52	11	9	7	5.5
Jefferson.....	C. & N. W.....	52	10	7.5	7	5.5
Plymouth.....	C. M. & St. P.....	54	11	9	7	5.5
Ft. Atkinson.....	C. & N. W.....	57	10	7.5	7	6
Juneau.....	C. & N. W.....	57	11.5	9.75	7	6
Fond du Lac.....	C. & N. W.....	62	12	10.5	7.5	6
Beaver Dam.....	C. M. & St. P.....	64	12	10.5	7.5	6
Columbus.....	C. M. & St. P.....	64	12	10.5	7.5	6
Waupun.....	C. M. & St. P.....	68	12	10.5	7.5	6
Janesville.....	C. M. & St. P.....	72	10	7.5	7.5	6
Manitowoc.....	C. & N. W.....	77	11	9	8	6.5
Chilton.....	C. M. & St. P.....	78	12	10.5	8	6.5
Oshkosh.....	C. & N. W.....	80	12	10.5	8*	6.5
Madison.....	C. M. & St. P.....	81	13	12	8.5	6.5
Beloit.....	C. M. & St. P.....	81	10	7.5	8.4	6.5
Stoughton.....	C. M. & St. P.....	81	12	10.5	8.5	6.5
Ripon.....	C. & N. W.....	84	12	10.5	8.5	6.5
Two Rivers.....	C. & N. W.....	85	11	9	8	6.5
Neenah-Menasha.....	C. & N. W.....	92	12	10.5	8.5	6.5
Portage.....	C. M. & St. P.....	92	13	12	8.5	7
Evansville.....	C. & N. W.....	93	10	7.5	8.5	7
Berlin.....	C. M. & St. P.....	96	12	10.5	9	7
Appleton.....	C. & N. W.....	99	12	10.5	9	7
Kaukauna.....	C. & N. W.....	106	12	10.5	9	7
Monroe.....	C. M. & St. P.....	106	12.5	11.25	8.8	7
New London.....	C. & N. W.....	111	12	10.5	9.5	7.5

PRESENT AND PROPOSED RATES ON BOXES FROM MILWAUKEE TO WISCONSIN POINTS—Concluded.

From Milwaukee to	Railway.	Distance	Present rate	Proposed rates		
				150% of lbr. rate	Class C rate	Class D rate
Green Bay.....	C. M. & St. P.	112	12	10.5	9.5	7.5
Wautoma.....	C. & N. W.	117	15	15	9.5	7.5
Baraboo.....	C. & N. W.	119	13	12	9.5	7.5
Clintonville.....	C. & N. W.	127	13.5	12.75	10	8
Mauston.....	C. M. & St. P.	128	13	12	10	8
Dodgeville.....	C. & N. W.	129	15	15	10	8
Waupaca.....	Soo	131	14	13.5	10	8
Darlington.....	C. M. & St. P.	138	15	15	10	8
Richland Center.....	C. M. & St. P.	140	14	13.5	10.5	8
Shawano.....	C. & N. W.	142	13.5	12.75	10.5	8.5
Oconto.....	C. & N. W.	144	13.5	12.75	10.5	8
Mineral Point.....	C. M. & St. P.	153	15	15	10	8
Tomah.....	C. M. & St. P.	154	13	12	11	8.5
Elroy.....	C. & N. W.	156	13	12	10.5	8.5
Grand Rapids.....	C. & N. W.	159	15	15	11	8.5
Stevens Point.....	Soo	159	16	16.5	11	8.5
Platteville.....	C. M. & St. P.	161	15	15	11	8.5
Marinette.....	C. & N. W.	164	13.5	12.75	11.5*	8.5
Lancaster.....	C. & N. W.	168	15	15	12	9
Sparta.....	C. M. & St. P.	170	15	15	12	9
Antigo.....	C. & N. W.	178	15	15	13	10
Prairie du Chien.....	C. M. & St. P.	179	15	15	13	10
Wausau.....	C. & N. W.	180	15	15	13	10*
Black River Falls.....	Omaha	184	15	15	13	10.5*
Marshfield.....	C. & N. W.	184	15	15	11	8.5
La Crosse.....	C. M. & St. P.	196	15	15	15	12
Viroqua.....	C. M. & St. P.	205	15	15	15	12
Neillsville.....	Omaha	207	15	15	13	11
Trempealeau.....	C. & N. W.	215	15	15	15	12
Owen.....	Soo	218	15	15	15.5	13
Crandon.....	C. & N. W.	222	16	16.5	15	13
Rhinelanders.....	C. & N. W.	227	16	16.5	15	13
Medford.....	Soo	227	15	15	15	13
Eagle River.....	C. & N. W.	234	16	16.5	15	13
Stanley.....	Soo	237	15	15	17	14
Eau Claire.....	Omaha	240	16	16.5	17	14
Mondovi.....	Omaha	245	16	16.5	17.5*	14.5*
Merrill.....	C. M. & St. P.	246	15	15	17	10.5
Chippewa Falls.....	Omaha	250	16	16.5	17	14
Prentice.....	Soo	255	16	16.5	15	13
Ladysmith.....	Soo	263	17.5	18.75	17	15
Menomonie.....	Omaha	266	16	16.5	17	14
Tomahawk.....	C. M. & St. P.	268	15	15	15	13
Phillips.....	Soo	268	16	16.5	15	13
Park Falls.....	Soo	286	16	16.5	17	14
Cameron.....	Omaha	290	17.5	18.75	17	15
Rice Lake.....	Omaha	296	17.5	18.75	17	15
Hurley.....	C. & N. W.	299	17	18	17	14
Hudson.....	Omaha	307	18	19.5	17	14
New Richmond.....	Omaha	317	17	18	17	14
Spooner.....	Omaha	321	17.5	18.75	17	15
Ashland.....	C. & N. W.	338	19	21	19	17
Hayward.....	Omaha	346	18	19.5	19	17
St. Croix Falls.....	Soo	349	17.5	18.75	19	17
Washburn.....	Omaha	351	19	21	19	17
Bayfield.....	Omaha	363	19	21	19	17
Superior.....	Soo	371	21	24	19	17

* Wisconsin distance tariff rate (lower than class rate as published).

It will be seen that the 150 per cent basis effects a very considerable reduction on the shorter distances, but when the 10 ct. group rate on lumber is reached, beginning at about 140 miles, the 150 per cent basis results in the same rate as the 5 ct. arbi-

bitrary basis. Where the lumber rate is higher than 10 cts., beginning at about 220 miles, the 150 per cent rate is higher than the lumber rate plus a 5 ct. arbitrary. The class D rates, on the other hand, are all lower than the present box rates, and also lower than the rates would be on the 150 per cent basis. They range from 1 ct. to 6.5 cts. lower than the present rates. The class C rates, also, are lower in practically all cases than both the present rates and the 150 per cent rates, the greatest margin between the two being 5.5 cts.

It is evident from the above compilation that the 150 per cent basis would largely alleviate the hardship caused by the present 5 ct. arbitrary in the case of short hauls, but would not result in a general decrease in the rates on boxes. The class C and class D rates, on the other hand, while remedying the defect complained of in the present rate system, would at the same time effect a general reduction throughout the state. While the petitioner in its complaint and at the hearing made mention of other commodities taking class D rates and claimed that boxes were entitled to such rates by comparison with these commodities, the burden of the complaint was against the excessiveness of the short haul rate. The petitioner in connection with its request for a class rate suggested an increase in minimum weight and contended that such increase in minimum would largely offset the decrease in rating. It was thus evident from the position of the petitioner that the object of the complaint was not to obtain a general reduction of rates, but to arrive at what was considered to be a fair adjustment of them. When the proposal for a 150 per cent scale was made by one of the respondents, the petitioner assented to that plan as a substitute for the class rates originally suggested. It would seem, therefore, that the present needs of the petitioner will be satisfied by the establishment of the percentage basis without making at this time a decided change in either the rates or the minima on boxes. While the petitioner was entirely willing to have the minimum weight raised to 20,000 lb., subject to rule 6—B, as a measure of compensation for the suggested reduction of rates, it is not certain that all box manufacturers in the state are in a position to load as heavily as the petitioner; and since the matter complained of may be satisfied by the application of a percentage instead of an arbitrary, without changing the minimum weights, no change will be made in

the latter at this time. The establishment of the 150 per cent basis will relieve the competitive situation of the petitioner to some extent by reducing its rates on boxes to southern and central Wisconsin points, but it will not seriously disturb the relation between rates on boxes and rates on box shooks.

The establishment of the 150 per cent basis in place of the 5 ct. arbitrary would result in a slight increase of rates where the lumber rate is over 10 cts. It appears from the testimony that little if any of the petitioner's product is shipped to Wisconsin points taking a rate higher than 10 cts., but as there may be other box manufacturers whose shipments cover a wider territory within the state, and as it is not the intention in the fixing of the 150 per cent basis to increase rates but merely to remedy an unfair condition existing on the short haul, it seems best to make the 5 cts. arbitrary a maximum. While the order in this case is confined by the scope of the present proceedings to shipments from Milwaukee to Wisconsin points, the Commission's investigation has been extensive enough to indicate that the same basis of rates on boxes ordered for Milwaukee should be applied to other Wisconsin points. It will therefore be recommended that the 150 per cent basis, with a 5 ct. arbitrary as a maximum, be applied generally by the respondent companies throughout the state.

IT IS THEREFORE ORDERED, That the respondents, the Chicago, Milwaukee & St. Paul Railway Company, the Chicago & North Western Railway Company, and the Minneapolis, St. Paul & Saulte Ste. Marie Railway Company, discontinue their present rates on wooden packing boxes from Milwaukee to Wisconsin points on their respective lines and substitute therefor a rate equal to 150 per cent of the rate on lumber from Milwaukee to the same points, with a maximum excess over such lumber rates of 5 cts. per 100 lb.; minimum weights to remain the same as at present.

It is recommended, that the above named respondent companies apply the rates above ordered upon traffic between all points on their respective lines in the state of Wisconsin.

PERLEY LOWE & COMPANY

vs.

WISCONSIN AND MICHIGAN RAILWAY COMPANY,
S. N. HARRISON, RECEIVER.

Submitted Nov. 12, 1912. Decided Nov. 29, 1912.

Complaint was made of excessive rates on shipments of piling from Buda, Hanley, Jarvis, Carlton, and Sycamore, to Bagley Junction, Wis. The charges were based on the regular distance tariff rates applying on lumber at the time of shipment. It appears that the rates complained of are substantially higher than similar rates prevailing on other roads under substantially similar conditions.

Held: The rates charged are unusual and exorbitant and the reasonable rates that should have been in effect and applicable to the shipments are the rates of the Wisconsin distance tariff, as in force generally as maximum rates on practically all Wisconsin lines. Refund is ordered on this basis. It is also recommended that the respondent make such further changes in its distance rates on lumber as may be necessary to bring them in line with the changes in class rates previously made effective.

During the months of May and June, 1912, the petitioner shipped thirty-two carloads of piling from Jarvis, Hanley, Buda, Carleton and Sycamore, Wis., to Bagley Junction, Wis., all points on the respondent's line, on which charges were assessed at the lawful rates in force at the time of shipment. The distances involved vary from ten to sixteen miles, and the rates charged were the regular distance tariff rates applying on lumber and articles taking lumber rates, including piling, for distances of ten, fifteen and twenty miles, the rates for these distances being 5, 6 and 6 $\frac{1}{4}$ cts. per 100 lb., respectively. The petition alleges that these rates are unjust, unreasonable and exorbitant to the extent that they exceed 3 cts. per 100 lb.

The matter was heard on November 12, 1912. The petitioner was represented by *Edward Laveille*, and the respondent by *S. N. Harrison*.

On behalf of petitioner, reference is made to the fact that lumber rates apply to more than fifty different articles, some of which were manufactured from lumber, but the reasonableness

of such rates in and of themselves, except insofar as they applied to the shipments of piling complained of, is not questioned. For many of the articles taking lumber rates these rates were conceded to be reasonable, but when applied to lumber in a crude state they were not so regarded by petitioner. To sustain its contention, petitioner compared the rate on piling from Sycamore to Bagley Junction with rates on the same commodity from Peshtigo to Appleton, Wis., and Chicago, Ill., with distance rates on mining timber and with rates on logs between points on the respondent's line, showing that the rates complained of were proportionately very much higher than the other rates referred to, and submitted that, assuming the rates on mining timber and logs to be reasonable rates, the fairness of a 3 ct. rate on piling and reparation of all charges paid in excess thereof became evident.

The representative of the respondent railway company stated that the railway company did not want the rates complained of to stand if relief could be granted; that there was a rate of $4\frac{1}{2}$ cts. on piling from all points on respondent's line to Marinette, Wis., and Menominee, Mich., which he suggested be applied in lieu of the rates exacted. He said that he would hardly consider mining timber, such as respondents contemplated handling under the rates referred to by petitioner, in the same class with piling, but that the $4\frac{1}{2}$ ct. rate on piling to Marinette and Menominee would be a basis for settlement agreeable to respondent.

The charges complained of aggregate \$790.25 and the total weight of the thirty-two shipments was 1,323,900 lb. At the time these shipments moved there was a rate or $4\frac{1}{2}$ cts. per 100 lb. on piling carloads, from all stations on the respondent's line to Marinette, Wis., and Menominee, Mich., and to all intermediate points not named in the tariff. This rate is published in respondent's tariff G. F. D. No. 2458, effective May 15, 1912, and still in effect. Bagley Junction, the destination of the shipments in question, is intermediate between the points of shipment and Marinette and Menominee. Such rate applies, therefore, to shipments passing through Bagley Junction coming from the points where shipments complained of originated, but does not apply to shipments destined to Bagley Junction, for the reason that it is named in the tariff. If Bagley Junction were not named in the tariff, such rate would have been properly applicable to the

shipments here under consideration. Should there be a point not named in the tariff where carload freight was received, outside of and beyond Bagley Junction, toward Marinette and Menominee, the 4½ ct. rate would apply to such point, even though the point was not more than a foot outside the limits of Bagley Junction. This condition is due entirely to the fact that the so-called intermediate clause of the tariff limits the application of rates to intermediate points not named therein. For instance, one of the points where shipments complained of originated, Buda, is not named in this tariff. If this point happened to be or is anywhere between Marinette and any other point where the 4½ ct. rate applies, such rate could be properly applied to shipments of piling to Buda. Under the conditions there seems to be no reason why the 4½ ct. rate should not be made applicable as a maximum rate on piling to all intermediate points on respondent's line.

There is, however, another matter entitled to consideration in connection with the present case. Effective May 15, 1912, respondent made certain changes in its distance rates on classes between all points on its line. These changes generally were substantial reductions from the rates previously in force. The rates in force prior to and since May 15, 1912, for distances up to and including twenty miles are given in the table following:

WISCONSIN & MICHIGAN RY. LOCAL DISTANCE RATES.
RATES IN CENTS PER 100 LB.

Date.	Miles.	All classes.										On lumber.
		1	2	3	4	5	A	B	C	D	E	
Prior to May 15, '12..	5	10	8	7	6	5	5	4½	4	3½	3	4.
Effective " " " "	5	9	8	7	6	4	4	3½	3	3	2	No change.
Prior to " " " "	10	13	11	10	8	6	6	5½	5	4½	3½	5.
Effective " " " "	10	12	10	9	8	5	5	4	4	3.4	3	No change.
Prior to " " " "	15	15	13	12	10	7	7	6½	6	5	4	6.
Effective " " " "	15	15	12	10	9	6	6	4½	4.3	3.5	3.4	No change.
Prior to " " " "	20	18	15	13	11	8	8	7	6½	5½	4	6½.
Effective " " " "	20	18	15	12	10	7	7	5	4½	4	3.8	No change.

The distance rates on lumber are entered above for the purpose of comparison. It will be noted that prior to May 15, 1912, the rates on lumber were the same as class C rates for the same distances, while since that date they are the same as the fifth class

and class A rates for distances up to 15 miles, and the rate for 20 miles is higher than class B rate. The class rates effective May 15, 1912, are the same as those in effect generally on all lines, on single line traffic, in Wisconsin. The rates on lumber, in effect generally on most of these lines, single line traffic in Wisconsin for 5, 10, 15, and 20 miles are 3, $3\frac{1}{4}$, 4 and $4\frac{1}{2}$ cts. per 100 lb., respectively. It would seem therefore that since May 15, 1912, respondent's distance rates on lumber are out of line with its class rates and with rates on lumber in force generally on other lines.

The discrepancies between the distance class and distance lumber rates on respondent's line, referred to above, occur in like manner for all distances, but the present case involves only distances up to 20 miles. The rates complained of were undoubtedly out of line and excessive to the extent that they exceeded a reduction corresponding to the reduction voluntarily made by the respondent May 15, 1912, in its class rates for distances of 10, 15, and 20 miles, and inasmuch as these class rates are the same as the distance class rates in force on other lines, there seems to be no reason why lumber rates should not also be the same as distance rates on lumber on other lines. The respondent's application for the Commission's approval of the changes in class rates effective May 15, 1912, gave as the reason for these changes "to make them the same as the Wisconsin distance tariff rates in force via other lines." The Wisconsin distance tariff rates on lumber in force on lines other than respondent's for the distances involved in this case, namely, 10, 15 and 20 miles, are $3\frac{1}{4}$, 4 and $4\frac{1}{2}$ cts. per 100 lb., respectively. These rates are in line with respondent's class rates now in force, while the rates complained of are very much out of line. There seems to be nothing in connection with the present complaint that would call for the fixing of rates that are lower than those generally in force on other lines. While the lumber rate as applicable to many of the manufactured articles of lumber may be too high as applied to piling, it may be said, on the other hand, that such rate is probably too low, comparatively, for some of these articles. The Commission therefore will not, in the present case, disturb this condition. Reparation will be authorized on the basis of 3.25 cts. per 100 lb. on the shipments taking distance rate for 10 miles, 4 cts., per 100 lb. on the ship-

ments taking distance rate for 15 miles, and 4½ cts. on the shipments taking distance rate for 20 miles, and the Commission will order that these rates be applied in future, until lawfully changed, from and to the points named in the petition. It is also recommended that respondent make such further changes in its distance rates on lumber as may be necessary to bring the same in line with the changes in class rates effective May 15, 1912, referred to above.

Freight bills filed with the Commission show that the charges paid on the shipments involved in this proceeding were as follows:

From.	To	No. of cars.	Total weight.	Rate.	Charges paid.
Buda.....	Bagley Jct.	3	111,000	5 cts.	\$55.50
Hanley.....	"	6	235,000	6 "	141.00
Jarvis.....	"	12	545,900	6 "	327.54
Carlton.....	"	4	151,600	6 "	90.96
Sycamore.....	"	7	280,400	6½ "	175.25
	Total.....	32	1,323,900	.....	\$790.25

Charges on the same shipments based on rates named in the Wisconsin distance tariff, as in force generally as maximum rate on practically all Wisconsin lines, would be as follows:

From	To	Miles.	Total weight.	Rate.	Charges paid.
Buda.....	Bagley Jct.	(*)	111,000	3½ cts.	\$36.08
Hanley.....	"	14	235,000	4 "	94.00
Jarvis.....	"	15	545,900	4 "	218.36
Carlton.....	"	11	151,600	4 "	60.64
Sycamore.....	"	16	280,400	4½ "	126.18
	Total.....	.....	1,323,900	.....	\$535.26

*Rate charged on shipments complained of is the rate for distance of 10 miles. This point is not named in table of distances on file with the Commission.

The finding of the Commission is that the rates charged the petitioner for the shipments of piling in question are unusual and exorbitant and that the reasonable rates that should have been in effect and applicable to such shipments are those named in the last preceding schedule.

The excessive charges for which reparation will be ordered amount to the difference between \$790.25 and \$535.26, or \$254.99.

NOW, THEREFORE, IT IS ORDERED, That the respondent railway company, or S. N. Harrison, its receiver, be and the same is hereby authorized and directed to pay to the petitioner, Perley Lowe & Company, the excess charge of \$254.99.

IT IS FURTHER ORDERED, That the respondents and each of them refrain and desist from charging the rates exacted of the petitioner for the aforesaid shipments of piling, and in lieu thereof charge the following rates on piling, to wit: From Buda to Bagley Junction, 3.25 cts. per 100 lb.; from Hanley, Jarvis and Carlton to Bagley Junction, 4 cts. per 100 lb.; and from Sycamore to Bagley Junction, 4½ cts. per 100 lb.

IN RE APPLICATION OF THE EASTERN FOND DU LAC COUNTY
TELEPHONE COMPANY FOR AUTHORITY TO INCREASE
RATES.

Decided Nov. 29, 1912.

Application was made by the Eastern Fond du Lac Co. Tel. Co. for authority to increase its rates for rural service. The company operates rural lines in and about Eden, Fond du Lac county, Wis., and bases its application on the ground that the cost of labor and materials has increased during the last year and that the old code system is being replaced by a selective ring system.

An appraisal of the physical property operated by the company shows that the cost new on October 1, 1912, totals about \$16,671 and the present value \$11,115.

Held: An increase in rates is necessary to provide for operating expenses, taxes, depreciation and a reasonable return on the depreciated value. It is ordered that the company discontinue its present rate of \$12 per annum per subscriber on January 1, 1913, and substitute therefor a rate of \$14.

The above named telephone company, operating rural lines in and about Eden, Fond du Lac county, petitions that its rates for rural service be increased from \$12 to \$14 per year, on the ground that the cost of labor and materials has increased during the last year and that the old code system is being replaced by a selective ring system.

Hearing in the matter was held on October 23, 1912, at the office of the Railroad Commission, in the city of Madison, Wis. *John Rohlf*s and *George H. Nourse* appeared for the company.

An appraisal of the physical property operated by the company shows that the cost new on October 1, 1912, totals about \$16,671, and the present value, \$11,115. The table below gives the final summary of the various property items as computed by the engineering staff:

PHYSICAL APPRAISAL.

EASTERN FOND DU LAC COUNTY TELEPHONE COMPANY.

October 1, 1912.

Classification.	Cost new.	Present value.
A. Land.....		
B. Distribution system.....	\$14,186	\$9,379
C. Buildings and miscellaneous structures.....		
D. Exchange equipment.....	285	189
E. General equipment.....	121	63
F. Paving.....		
Total.....	\$14,592	\$9,631
Add 12% (see note below).....	1,751	1,156
Total.....	\$16,343	\$10,787
H. Material and supplies.....	328	328
Total.....	\$16,671	\$11,115

Note:—Addition of 12% to cover engineering, superintendence, interest during construction, contingencies, etc.

In making computations to ascertain whether the company's present revenues are adequate, no definite conclusions can be drawn from most of the data given in the reports to this Commission. The company has failed to distinguish ordinary expenses from construction, or labor expense from materials expense. For instance, in the report of 1912, the item \$684.41 appears as the total expense for wire plant labor and materials under operating expenses, appears as wire plant wages under the distribution of pay roll, and as wire plant construction under additions to property. However, it seems that the revenues reported by the company may be accepted as a basis for computations.

In the following table the total annual allowance for depreciation, interest, and profit has been deducted from the annual revenues, giving the amount which would be available for operating expenses and taxes. On this basis the operating ratio and expense per phone has been computed and compared with the results obtained for class A and B independent telephone companies of this state.

COMPARISON OF EXPENSES PER PHONE AND OPERATING RATIOS OF THE
EASTERN FOND DU LAC COUNTY TELEPHONE CO. AND CLASS
A AND B TELEPHONE COMPANIES OF WISCONSIN,

1909-1912.

Year Ending June 30.

	1909	1910	1911	1912
Exchange earnings.....	\$1,449.63	\$1,785.40	\$2,040.70	\$2,354.10
Connecting line earnings.....	267.23	278.25	153.20	580.25
Total earnings E. F. C. Tel. Co.....	\$1,716.86	\$2,063.65	\$2,193.90	\$2,934.35
Depreciation, interest and profit:*				
E. F. C. Tel. Co.....	1,551.05	1,643.42	1,821.15	1,923.62
Amount remaining for operating expenses and taxes: E. F. C. Tel. Co.....	\$165.78	\$420.23	\$372.75	\$1,010.73
Operating ratio, E. F. C. Tel. Co.....	9.6%	20.3%	17%	34.4%
Operating ratio of class A and B telephone companies:				
Average.....	49.4%	52%	53%	52%
Median.....	49. %	50%	56%	.....
Allowance for expenses and taxes per phone: E. F. C. Tel. Co.....	\$1.00	\$2.28	\$1.74	\$4.38
Actual expenses per phone for class A and B independent telephone companies:				
Minimum.....	\$6.12	\$3.81	\$5.26	.....
Average.....	9.46	9.31	9.89	\$9.51
Median.....	9.16	8.65	9.44	.....

*Depreciation figures at 6.5% on cost new, Interest and profit at 7% on the present value.

It will be noted that the amount remaining for expenses and taxes in 1909 amounted to \$165.78, in 1910 to \$420.23, in 1911 to \$372.75, and in 1912 to \$1,010.73. The larger comparative increase in the last year was due almost entirely to an increase in revenues from connecting lines which amounted to \$580.25 in 1912, more than \$300 greater than any preceding year. It will be observed that the ratio of the operating expense allowance to revenues for the Eastern Fond du Lac County Telephone Company rose to the maximum of 34.4 per cent in 1912, which is considerably lower than the actual average or median operating ratio for the class A and B companies as shown. The expense allowance per phone for the Fond du Lac company is given as \$1.00 in 1909, and \$4.38 in 1912. Class A and B companies show a minimum not lower than \$3.81, and an average and median expense per phone for the four years exceeding \$9.00 in every instance excepting one. Although these A and B companies are not exactly comparable with the class D company under

consideration, the figures given serve to indicate in a general way what the operating ratio and expense per phone should be in the absence of such data for smaller companies. The difference between the classes is not very great. In the case *In re Appl. Wautoma and Mt. Morris Farmers' Tel. Co. for Authority to Increase Rates*, 1911, 6 W. R. C. R. 419, 421, statement was made that \$6.11 per phone for a class D company is a reasonable expense and that the average is about from \$5.00 to \$7.00 per phone. From the information given in the testimony and report, the central office and wire plant wages for the Fond du Lac company amounted to about \$5.70 per phone in 1912. With the inclusion of materials used for maintenance the expense on the basis of the number of phones reported in 1912 would probably be in the neighborhood of from \$7.50 to \$8.00 per phone. In view of these facts it is quite certain that the allowance for expenses and taxes, even in 1912, was hardly adequate, or, in other words, the revenues of the company during the past four years have not been sufficient to provide for operating expenses, taxes, depreciation, and 7 per cent return on the depreciated value. There is no indication that conditions prior to 1909 were any more favorable than at present, as the company began operation in 1906 and the report of 1908 shows 93 phones bringing a revenue of \$845, or about \$9 per phone.

If a \$14 rental per phone be substituted for the present rental of \$12, the revenues on the basis of 1912 data will aggregate \$3,234. Assuming that the connecting line revenue is the same, the total revenues would be \$3,814, leaving \$1,890 for expenses and taxes after deducting \$1,924 for depreciation and interest. This would result in an allowance for expenses and taxes of a little over \$8 per phone and an operating ratio of about 50 per cent. If, however, due to the increase in rates, there should be a net loss of 5 per cent of the subscribers, and assuming only \$300 for connecting line revenues, the total earnings would amount to \$3,380, or about \$6.50 per phone, with an operating ratio of 44 per cent.

In view of the foregoing discussion and computations it is quite apparent that a rate of \$14 per subscriber per year would be reasonable.

It was brought out in the testimony that the rural service consisted of from eight to twelve phones per line, but that about

fifteen subscribers in Eden were on four-party lines. As the exchange of the company is about four and one-half miles from Eden, it does not seem necessary at this time to make a distinction in rates between the rural service and Eden service.

IT IS THEREFORE ORDERED, That the Eastern Fond du Lac County Telephone Company discontinue its present rate of \$12 per annum per subscriber on January 1, 1913, and substitute therefor a rate of \$14 per annum per subscriber.

IN RE APPLICATION OF THE CITY OF NEENAH FOR A REVISION
OF WATER RATES.

Decided Nov. 29, 1912.

Application was made by the city of Neenah, Wis., for a revision of its water rates so that its water works plant may be placed upon a paying basis. A valuation of the property was made and the receipts and expenditures were investigated. An apportionment was made over output, capacity and consumer expenses and a further apportionment among the different departments of the service.

A valuation of the property as of May 20, 1912, showed a cost of reproduction new of \$127,419 and a present value of \$117,038.

Held: Certain adjustments in the rates for general service and for fire protection are necessary in order to bring them into line with the cost of service. The rates for sprinkling systems and for street sprinkling are to remain the same. It is ordered that the city of Neenah discontinue its present rates and substitute the schedule approved by the Commission. If the experience of the utility shows that a reduction in the charge for water under the meter rates can be made, a further revision will be undertaken when the necessary facts are available.

All services except those applying to hydrants and sprinkler systems are to be metered by July 1, 1913.

As regards the meters which were installed at the expense of consumers before the city adopted the policy of furnishing meters, these should be acquired by the city as the utility should own all meters used upon its system and the city should offer a reasonable price at which the owners can turn them over. The Public Utilities Law prohibits the granting of any lower rates to consumers who own their meters than to those who do not, and to avoid injustice the meters should be acquired by the utility as soon as possible.

The city of Neenah, on February 13, 1912, filed with the Commission an application for an adjustment of its water rates. The application shows that the city of Neenah has been operating a water works plant since about 1893, and that for some time the plant had not been on a paying basis, as the revenue was not sufficient to enable the city to make adequate provision for interest and depreciation. The applicant asks that the Commission investigate, as fully as may be necessary, all matters pertaining to the water works of the city of Neenah, and, after such investigation, revise the water rates so as to permit a reasonable income on the investment and a sufficient allowance for deprecia-

tion and establish the amount chargeable for meter rental, based upon the installing of meters by the city of Neenah.

Hearing was held at Madison, June 21, 1912. *Mayhew Mott* appeared for the city of Neenah. There were no other appearances.

Matters relating to the application and to the value of the property were under consideration at the hearing. Attention is called to such portions of the testimony as are relevant, later in this decision.

Valuation of the property was made by the Commission, as of May 20, 1912.

At the hearing there was little discussion of the valuation as determined by the Commission. So far as total value was concerned, the city stated that it considered the results of the Commission's valuation to be fair and reasonable. The only question raised in connection with the valuation relates to the value of meters. The city stated that the valuation determined by the Commission in connection with the valuation relates to the value of meters. It was estimated by the city that the average cost per meter of all meters would be \$12. A further investigation by the Commission tends to partially corroborate the testimony introduced by the city relative to the cost of meters, and it seems that some allowance should be made on this account. Meters have been placed on the larger number of services, but at the time of the hearing some seventy or eighty services were still unmetered, and the testimony shows that most of those still on a flat rate basis were so situated that meter boxes would have to be installed. The cost of such boxes, according to the testimony of the superintendent, is about \$12 each.

Following is a summary of the valuation showing the value of the physical property and the amount apportioned to each class of service:

	Domestic and Industrial.		Fire Service.		Total.	
	Cost new.	Present value.	Cost new.	Present value.	Cost new.	Present value.
A. Land	\$425	\$425	\$425	\$425	\$850	\$850
B. Transmission and distribution.....	30,180	29,558	48,953	48,029	79,133	77,587
C. Buildings and miscellaneous structures.....	17,748	15,789	9,495	8,555	27,243	24,344
D. Plant equipment.....	3,007	873	3,676	1,065	6,683	1,938
E. General equipment.....	263	131	232	116	495	247
Total	\$51,623	\$46,776	\$62,781	\$58,190	\$114,404	\$104,966
Add 10%	5,162	4,678	6,278	5,819	11,440	10,497
Total	\$56,785	\$51,454	\$69,059	\$64,009	\$125,844	\$115,463
Materials and supplies.....	1,097	1,097	478	478	1,575	1,575
Total	\$57,882	\$52,551	\$69,537	\$64,487	\$127,419	\$117,038

The records of the utility show that the cost of the plant has been very nearly equal to the value arrived at by the Commission. Valuation of the intangible elements is impracticable because of the absence of complete operating and financial records.

Revenues and expenses of the utility filed with the Commission were as shown below, for the years indicated :

	Year ended	
	June 30, 1911	March 31, 1912
REVENUES:		
Earnings from comm. sales.....	\$6,598.44	\$5,679.66
" " ind.	117.00	
" " mun. hyd. rentals.....	4,700.00	
" " street sprinkling.....	247.23	
" " mun. depts.....	629.60	6,221.30
Misc. earnings from operation.....	15.00	124.58
Total operating revenues.....	\$12,297.27	\$12,025.54
EXPENSES:		
Pumping.....	\$4,862.06	\$4,697.67
Distribution.....	795.59	171.05
Commercial.....	120.00	
General.....	671.66	892.42
Undistributed.....	45.63	19.40
Total operating expenses.....	\$6,494.94	\$5,780.54

The financial statement for the year ended March 31, 1912, has not followed strictly the uniform classification of accounts, but the totals seem to be correct. For the year ended June 30, 1911, the amount listed under each group of revenues and expenses is

the amount shown in the annual report to the Commission and appears to be the amount properly to be placed in that group.

This statement of the revenues and expenses leads to the consideration of elements which may enter into the future operation of the plant which are likely to have an effect on earnings and costs of operation. According to the report filed with the Commission there was a total of seven meters in service on June 30, 1911. During the past fiscal year the utility has adopted a policy of general metering and on inspection of the consumers' ledger showed that on June 30, 1912, there were 532 meters connected. Flat rate consumers on June 30, 1912, were as, follows:

Commercial	55
Industrial	15
Public	10
	<hr/>
Total	80

It is apparent that the use of meters will lead to certain expenses which did not exist under the flat rate plan. Provision must be made for interest and depreciation upon the additional investment and for such expenses as reading and maintaining meters, together with such office expenses as are incurred as a result of the meter system. With the exception of changes which will result from the policy of metering all consumers, the expenses as reported for the year ended June 30, 1911, seem to constitute a proper basis for an adjustment of rates. Meter maintenance expenses and collection expenses have been excluded from the amounts reported by the utility for purposes of apportionment of expenses, and an amount equal to approximately \$1 per meter has been included to make provision for all meter expenses, exclusive of interest and depreciation. An apportionment of these expenses has been made, as outlined in former decisions, which apportionment shows that capacity expenses amount to \$3,176.90 and output expenses to \$3,778.43. Capacity expenses may be further divided as follows:

Capacity	\$2,399.90
Consumer	582.18
Direct to fire.....	194.82
	<hr/>
Total	\$3,176.90

Capacity expenses, amounting to \$2,399.90, have been apportioned between fire and general services as shown below:

Fire service	\$1,319.94
General service	1,079.96
	<hr/>
Total	\$2,399.90

With an allowance to cover interest, depreciation, and taxes, computed at 7 per cent of the cost new of the property, the division of these items between fire and general service would be as follows:

Fire service	\$4,861.03
General service	4,058.30

The total cost of fire service is as follows:

Capacity expenses	\$1,319.94
Consumer	194.82
Interest, depreciation, taxes.....	4,861.03
	<hr/>
Total	\$6,375.79

The interest, taxes, and depreciation, as apportioned above, include the amount of such items on meters included in the valuation. For purposes of our analysis these will be excluded at this point and handled as consumer expense which can be charged against the various sizes of meters directly. This leaves a total of interest, depreciation, and taxes amounting to \$3,605.85 to be divided between capacity and output expenses of **general service**. The total of each class of expenses of general service, excluding interest, etc., on meters, which are treated as a consumer expense, is as follows:

Capacity	\$2,479.03
Output	5,985.21
Consumer	582.18
	<hr/>
Total	\$9,046.42

Use of Water: The consumer records of the utility, as of June 30, 1912, showed a total of 532 consumers on a meter basis and 80 on flat rates. Of the 532 metered users, 524 had meters in use for a long enough time prior to June 30, 1912, so that one or more meter readings had been obtained by that date. In many cases the use of water for a time after the installation of

meters was very large, but after the first reading the consumption fell to about a normal level. Based upon the consumption statistics obtained from the records of the utility, the average use of water of the 524 consumers referred to was 105.14 gallons per meter per day. The 80 unmetered consumers, as shown above, include 55 commercial and 15 industrial users, and 10 services for city use. It was pointed out by the officials of the city that residences which were supplied on a flat rate basis at the end of the last fiscal year were in many instances large users of water. It appears certain, also, that the industrial and public users on flat rates will use considerably more than an average of 105 gallons per day. Some idea as to the probable use of water by these consumers may be obtained from the sizes of service pipes supplying them. These are as follows, according to a statement submitted by the superintendent of the water works:

	½"	¾"	1"	1½"	2"	4"	5"	8"
Commercial	2	35	10	.....	5	.....	.....	.....
Industrial .....	.....	2	.....	1	5	4	5	1
Public.....	.....	3	4	.....	1	2	.....	.....

The total number of services reported here agrees with the number of unmetered services reported for June 30, 1912, although the number in each class is slightly different. Part of the services to the industrial users are for the purpose of supplying private fire protection systems only, and are not used for other purposes. The number of such services, as shown by the utility, is as follows:

4"	2
6"	5
8"	1

It appears, therefore, that a total of 72 services were in use on June 30, 1912, which should be metered, distributed as follows over the various sizes of service;

5/8"	2	1½"	1
¾"	40	2 "	11
1 "	14	4 "	4

It is a difficult to estimate the amount of water to be used through these services. The use for parks, fountains, etc., will

depend largely upon whether or not automatic shut-offs are used. For purposes of this case it is probably fair to assume an average use of water per meter per day for all meters of 125 gallons, excluding the amounts used for street sprinkling, fires, and sewer flushing. This will be equivalent to a total use, exclusive of that for the purposes mentioned above, amounting to 27,557,500 gallons per year, which is probably a rather conservative estimate. This is only a small fraction of the indicated pumpage, but the indicated amount of pumpage may bear very little relation to the amount of water actually used. It is not improbable that the use of water will exceed the estimate given above, but in view of the experience of cities fairly comparable, in a general way, to Neenah it seems that rates for metered service should be based upon the foregoing estimate of consumption. If experience shows that the actual use of water is greater than our estimate, a revision of the rates may be necessary when further data have been obtained.

The number of meters reported by the utility for the year ending June 30, 1912, does not agree with the number obtained by an inspection of the consumers' ledger, but for practical purposes the number stated above may be used. Although it is impossible to state in advance just how many meters of each size will be in use with a completely metered system, the following statement is not very far in error:

5/8"	325	1 1/2"	10
3/4"	220	2 "	5
1 "	40	4 "	4

The following table shows the amount of consumer expenses, and a reasonable allowance for taxes, interest, and depreciation per meter:

Size.	Consumer expense.	Taxes, interest and depreciation.	Total.
5/8"	\$0.96	\$1 00	\$1 96
3/4" .....	.96	1 35	2 31
1" .....	.96	1 85	2 81
1 1/2" .....	.96	3 85	4 81
2" .....	.96	6 00	6 96
4" .....	.96	11 40	12 36

The following table shows the annual service charges for the various sizes of meters which are considered reasonable under

the circumstances, the amount of consumer expenses for each size of meter, and the amount of capacity expenses for each size of meter which will be met by the service charge:

Size.	Consumer expense.	Annual service charge.	Capacity expense.
3/8"	\$1 96	\$3 00	\$1 04
3/4"	2 31	4 00	1 69
1"	2 81	6 00	3 19
1 1/2"	4 81	10 00	5 19
2"	6 96	20 00	13 04
4"	12 36	40 00	27 64

With the number of meters of each size as stated above, the total capacity expenses to be provided by the service charge would be as shown below:

Size.	No. of meters.	Amount per meter.	Total.
3/8"	325	\$1 04	\$338 00
3/4"	220	1 69	371 80
1"	40	3 19	127 60
1 1/2"	10	5 19	51 90
2"	5	13 04	65 20
4"	4	27 64	110 56
Total.....			\$1,065 06

This would leave capacity expenses amounting to \$1,413.97 and output expenses of \$5,985.21, or a total of \$7,399.18, to be met by the charge for water. The revenue from street sprinkling during the past fiscal year was \$300, and the amount of water used for this purpose was reported as 4,529,549 gallons. Although the rate for water used for sprinkling streets is rather low, the fact that this use influences the fixed expenses of the plant very little, indicates that the present rate is not unreasonable. With revenue amounting to \$300 from this source, there remains a total of \$7,099.18 to be provided by the charge for water. This is equivalent to an average rate of 25.7 cts. per thousand gallons. This average rate for water might be somewhat reduced by the application of higher service charges than those outlined above, but, in view of conditions as shown by the consumer statistics of the utility, it is believed that a rather low service charge will best meet the needs of the situation.

The utility asks for a ruling regarding certain meters which were installed at the expense of consumers before the city adopted the policy of furnishing the meters. The last report of the utility shows a total of sixty-two such meters. The utility should acquire all meters used upon its system. It will not be practicable here to fix the price for such meters, but the city should offer a reasonable price at which the owners can turn them over. The Public Utilities Law prohibits the granting of any lower rates to consumers who own their meters than to those who do not, and to avoid injustice the meters should be acquired by the utility as soon as possible.

According to the facts submitted by the utility there are five 6", two 4", and one 8" connection to its mains, to supply sprinkler systems. A uniform rate of \$75 per year for each 6" and 8" connection and for two 4" connections was established by the city, but considerable difficulty seems to have been experienced in collecting the earnings from this source. There seems to be considerable difference of opinion among water works operators concerning the basis of charging for this class of service. The Commission is conducting an investigation of this question at present and it is thought best to leave the rates for this service as fixed by the city until such time as the results of this investigation may warrant a change. The total revenue from this service would be \$525 per year.

This leaves about \$5,850 of the cost of fire protection, which should be a charge against the city for general fire protection.

From the facts as disclosed in this proceeding it is concluded that rates as determined above should be put into effect. If the experience of the utility shows that a reduction of the charge for water under the meter rates can be made, such adjustment as may be necessary will be undertaken when the necessary facts are available.

IT IS THEREFORE ORDERED, That the city of Neenah discontinue its present schedule of rates and substitute the following schedule:

I. METER RATES.

A. *Service charges*—one consumer on a meter

$\frac{5}{8}$ " meter \$0.75 per quarter.

$\frac{3}{4}$ " " 1.00 " "

1" " 1.50 " "

$1\frac{1}{2}$ " " 2.50 " "

2" " 5.00 " "

4" " 10.00 " "

50 cts. per quarter for each additional consumer supplied through a meter.

B. *Charges for water:*

For the first 1,200 cu. ft. per quarter through a meter—22.5 cts. per 100 cu. ft.

For the next 4,800 cu. ft. 18 cts. per 100 cu. ft.

For all over 6,000 cu. ft. 12 cts. per 100 cu. ft.

II. FIRE PROTECTION.

The charge to the city for fire protection shall be \$5,850 per year.

Rates for sprinkling systems shall remain as at present.

III. STREET SPRINKLING.

Rates for street sprinkling shall remain as at present.

IV. OTHER SERVICES.

All services except those supplying hydrants and sprinkler systems shall be metered by July 1, 1913.

IN RE APPLICATION OF THE RANDOM LAKE TELEPHONE COMPANY FOR AUTHORITY TO INCREASE RATES.

Decided Dec. 2, 1912.

Application was made by the Random Lake Tel. Co. for authority to increase its rates. The company operates lines in the village of Random Lake and rural lines in Sheboygan and Ozaukee counties, Wis.

A valuation of the property used for telephone service as of Oct. 1, 1912 shows a cost new of \$17,030 and a present value of \$13,246.

Held: While the present flat rate of \$10 per subscriber per annum is insufficient, the rates proposed by the company appear somewhat excessive. The company is authorized to put in effect the rates approved by the Commission. In the present case a discount of 50 cts. per subscriber per quarter, for payment within thirty days, is reasonable.

The Random Lake Telephone Company operates the telephone lines in the village of Random Lake, Wis., and rural lines in Sheboygan and Ozaukee counties. The petition states that the present flat rate of \$10 per subscriber per annum for rural service and Random Lake service is insufficient and application is made to establish the following rates, payable semiannually in advance, with 20 per cent discount for prompt payment within thirty days:

RANDOM LAKE SERVICE.

	Gross rate per annum.	Net rate per annum.
One-party business	\$24.00	\$19.20
Two-party business	21.00	16.80
Three-party business.....	18.00	14.40
Four-party business.....	15.00	12.00

RURAL SERVICE.

Rural business.....	\$15.00	\$12.00
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Computations show that the present flat rate of \$10 is inadequate to provide a reasonable return. As the expenses of the

company are not ascertainable from its reports to this Commission, computations to determine the reasonableness of the above rates must follow different methods than usually employed. The engineer's appraisal of the property used for telephone service, as of date October 1, 1912, shows the cost new to be \$17,030, and the present value \$13,246. Allowing 6.5 per cent on the cost new for depreciation and 7 per cent on the present value for interest and profits, the amount for these purposes foots up to a little over \$2,000, and by subtracting this from the probable revenues based on 1912 data and the above net rates, an allowance for operating expenses and taxes is obtained of \$8.80 per phone, with an operating ratio of 55 per cent. In comparison with total class A and B independent telephone companies of Wisconsin this expense allowance and operating ratio appears excessive. The average for the last four years for these companies was about \$9 for operating expenses per phone and about 50 per cent for operating ratio. When figuring 7 per cent returns on the cost new of the Random Lake company, the resulting allowance for expenses also seems excessive. General indications show that from \$5 to \$7 per phone for class D companies is adequate for expenses. Another objection to the rate petitioned for by the company is the high discount for prompt payment. For one-party business a subscriber will receive \$2.40 in discount on a six month's bill of \$12 or \$1.20 on a quarterly bill of \$6. On the other hand, if unvoidably the six months' or quarterly bill shown is not paid within the prescribed thirty days, the discount will be forfeited, which in some cases, no doubt, will result in a hardship to the subscriber. Furthermore, if bills be paid at intervals of six months as proposed by the company, a larger amount of working capital will be required than on a quarterly basis. This does not seem desirable.

An examination of the reports of the company to the Commission shows that the number of subscribers during the fiscal year 1910 increased from 78 to 145, or 85 per cent, in 1911 from 145 to 203, or 40 per cent, and in 1912 from 203 to 279, or 37 per cent. Considering these facts and that the rates and discounts proposed by the company appear slightly excessive in comparison with the average, it seems equitable to all concerned that the following rates and discounts be adopted:

	Gross rate per annum.	Net rate per annum.
One-party business.....	\$20 00	\$18 00
Two-party business.....	17 00	15 00
Three-party business.....	14 00	12 00
Rural business.....	14 00	12 00

The rates for three-party and rural business have been placed upon the same basis because it is deemed that the higher central office expense per subscriber for the three-party service is about offset by the higher maintenance cost of pole and line for the rural service. As the company renders no four-party service, it is not considered necessary at this time to establish such a rate. Using the subscriber data as given for the close of the fiscal year 1912, computations show that the above net rates would allow the company slightly over \$7 for expenses and taxes per phone and an operating ratio of about 50 per cent. This allowance, according to observations made for other class D companies operating a metallic circuit, seems to be adequate.

In connection with this case it may be well to call attention to certain features of the company's connecting line rates for toll service which appear to require adjustment.

IT IS THEREFORE ORDERED, That on January 1, 1913, the Random Lake Telephone Company adopt the following rates for telephone service:

	Gross rate per subscriber per annum.
One-party business	\$20.00
Two-party business	17.00
Three-party business	14.00
Rural business	14.00

Bills shall be payable quarterly with a discount of 50 cts. per subscriber per quarter for payment within thirty days.

MARINETTE-GREEN BAY MANUFACTURING COMPANY

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Sept. 17, 1912. Decided Dec. 2, 1912.

The petitioner alleged that the respondent formerly had in effect a tariff of distance rates on saw logs and bolts for manufacture and reshipment over its line, but that in a reissue of this tariff excelsior bolts were expressly excluded. The petitioner further alleged that the higher rates resulting from this change are unreasonable and excessive, and prayed that the reshipment rates formerly in effect be restored. It appears that the rates which were supposed to have superseded the reshipment rates were never in legal effect because the tariff was not submitted to the Commission for approval and has never been approved. The tariff at present in effect is therefore the one which the petitioner supposed was superseded.

Held: Under the circumstances, it is unnecessary for the Commission to consider the merits of this case. Since the reshipment rate has never been lawfully canceled, and the higher basis of rates is not in effect on such of the petitioner's raw material as is to be reshipped over the respondent's line, the grievance complained of does not in contemplation of law exist. The petition is dismissed.

The petitioner, a corporation engaged in the manufacture of excelsior at Marinette and Green Bay, Wis., alleges in its complaint (as amended) that the respondent company formerly had in effect a tariff of distance rates on saw logs and bolts for manufacture and reshipment over its line, but that in a reissue of the same tariff, effective May 30, 1912, excelsior bolts were expressly excluded from the enjoyment of the rates named therein. The effect of this change in the respondent's tariff, it is alleged, was to require the petitioner to pay the rates fixed in another distance tariff, which rates are not conditioned on reshipment of the product out and are substantially higher than the reshipment rates formerly applicable to the petitioner's shipments. The petitioner alleges its ability and willingness to ship out over the respondent's line the product manufactured from raw material brought in over that line, alleges further that the higher rates just referred to are unreasonable and excessive, and prays that the reshipment rates formerly in effect be restored

The answer of the respondent Chicago, Milwaukee & St. Paul Railway Company, after calling attention to various defects in the petition which were later corrected by the filing of an amended petition, put in a general denial as to the matters complained of, and alleged that all shipments covered by the complaint were carried under the respondent's lawfully published rates.

The matter was heard at the office of the Commission September 17, 1912. The petitioner was represented by *Walter Drew* and the respondent company by *J. N. Davis*. A brief has been filed on the part of the petitioner.

The conclusion to which the Commission is forced under the law in this case renders it unnecessary to review the testimony or, in fact, to consider the merits of the case made by the petitioner. The tariffs naming distance rates on saw logs and bolts, conditioned on reshipment of the product out over the respondent's line, have been the series of G. F. D. Nos. 7881—A, 7881—B, 7881—C and 7881—D. The first of these tariffs went into effect September 15, 1909, and the principal changes in the succeeding issues down to and including 7881—D were changes in minimum weight, without any changes in rates. The latter tariff was effective October 30, 1910. In April, 1912, the respondent company issued its tariff No. 7881—E, to be effective May 30, 1912, making no change in rates, but adding after the words "saw logs and bolts" the following: "Except pulp wood logs, pulp wood bolts, excelsior bolts and wood wool bolts." This tariff No. 7881—E was never submitted to the Commission for approval, and has never been approved. It is therefore not the lawfully published tariff of the respondent company, and the tariff at present in effect on excelsior bolts for manufacture and reshipment over the respondent's line is its G. F. D. No. 7881—D.

Sec. 1797—4a of the Wisconsin statutes (as amended by ch. 160, laws of 1911), is explicit in its mandate that changes in railway tariffs must be approved by the Commission before they may become effective. The statute reads as follows:

"No change shall thereafter be made in any schedule, including schedule of joint rates, or in any classification, unless such change shall be first approved by the commission, and all such changes shall be plainly indicated upon existing schedules, or

by filing new schedules in lieu thereof, thirty days prior to the time same are to take effect.”

It was pointed out by the respondent at the hearing that the rates which were supposed to have superseded the reshipment rates named in G. F. D. No. 7881—D, were rates fixed by this Commission in *Keogh Excelsior Mfg. Co. et al. v. C. M. & St. P. R. Co.* 1908, 2 W. R. C. R. 717. It was the position of the respondent that these rates, having been fixed by the Commission in an order which did not restrict their application to any particular points within the state, became the lawful rates of the respondent on excelsior bolts throughout the state, and that when it was brought to the attention of the respondent that such bolts were enjoying a different rate under G. F. D. No. 7881—D, the respondent canceled that tariff as to excelsior bolts in order to comply with the Commission's order. The rates fixed in the *Keogh* case, however, were not conditioned on the reshipment of the product out, but were made entirely independent of further carriage by the railway. They were, therefore, a different class of rates than those fixed in G. F. D. No. 7881—D, and there is no inconsistency in the establishment by the carrier of a different and lower basis of rates where the product is to be reshipped over the same line, than where no further movement is intended. The rates conditioned on reshipment of the product contemplate a different quality of service than the straight distance rates as fixed by the Commission, and are generally recognized as a separate and distinct kind of rate. Since the reshipment rate was not inconsistent with the Commission's order in the *Keogh* case and was therefore not an illegal rate, the cancellation of that rate as to excelsior bolts was such a change of rates as required the approval of the Commission under sec. 1797—4a of the statutes.

The only course which is open to the Commission is a dismissal of the complaint. The thing complained of is the cancellation of the reshipment rates and the application of a higher basis of rates upon the petitioner's raw material. Since the reshipment rate has never been lawfully canceled, and the higher basis of rates is not in effect on such of the petitioner's raw material as is to be reshipped over the respondent's line, the grievance complained of does not in contemplation of law exist. If the petitioner is paying and has paid rates higher than those named in

the respondent's G. F. D. No. 7881—D on intrastate shipments of excelsior bolts, the product of which has been or is to be re-shipped over the respondent's line, the rates so paid were unlawful insofar as they exceeded the rates named in respondent's G. F. D. No. 7881—D.

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

IN RE INVESTIGATION, BY THE COMMISSION, OF CERTAIN LOCOMOTIVE HEADLIGHTS IN CONNECTION WITH SECTION 1809v OF THE LAWS OF 1911.

Decided Dec. 4, 1912.

An opinion having been requested by several railroad companies as to the merits of certain locomotive headlights in connection with sec. 1809v, Wis. laws of 1911, an investigation of the headlights presented was made with reference to efficiency and to safety in the operation of trains.

Held: None of the oil headlights fulfill the requirements of the law. The acetylene headlights tested show that the one equipped with the 18 inch reflector and with the cluster of three burners each having a capacity of one-half cubic foot per hour fulfills the requirements of the law, provided the reflector is kept well polished and in good condition. The electric arc headlights tested fulfill the requirements of the law, but certain prescribed restrictions should be recognized in their use. There are probably other power headlights than those presented for investigation that have sufficient illuminating capacity to comply with the law.

Early in the year 1912 inquiries were directed by the Commission to the various railroads to which the provisions of sec. 1809v, laws of 1911, apply, to learn what preparations were being made to meet the requirements of this law when it should take effect on July 1, 1912. It appeared from the resulting correspondence that the railroad companies were interested in having the Railroad Commission investigate and report upon the merits of certain headlights which they proposed using, and in consequence a thorough investigation of the following headlights has been made:

1. The Standard type oil headlight with 16" case.
2. The Bunn Safety oil headlight with 16" lens.
3. The Bunn Safety oil headlight with 18" lens.
4. The Commercial acetylene headlight with 18" reflector.
5. The Commercial acetylene headlight with 27" reflector.
6. The Pyle National electric arc headlight.
7. The American electric arc headlight.

In making these investigations the Commission has kept in view the necessity of guarding the safety of operation of trains

and the investigations have therefore been conducted along two general lines, namely, to determine whether or not the light given by the headlight was sufficient to comply with the provisions of the law above mentioned, and to determine whether or not the headlight might endanger the safety of operation of trains through interference with signal lights or in any other way.

The efficiency of the various headlights with respect to visibility of objects on the track was observed in a number of road tests, at which a large proportion of the observers were practical railroad men in the employ of the various railroads in the state. Later observations were taken by the Commission's staff from the cab of engines in regular service and while on their regular runs.

The tests relating to safety of operation consisted of observations made on signal and switch lights with a large proportion of the observers practical railroad men in regular service. During these tests all observations were taken while the observers were stationary and the results obtained revealed the necessity of making further examinations of the high power headlights in regular operation with the train moving continuously. Such examinations were made by the Commission's staff by riding the engines equipped with these headlights while on their regular runs.

Following is a brief statement of the results of the studies made of the various lights:

Oil Headlight: Observations made at the road tests together with those made in actual operation, indicate that none of the oil headlights fulfill the requirements of the law.

Acetylene Headlight: Observations on a headlight of this type having a 27" reflector were not conclusive, as the reflector was defective. The observations made on that having the 18" reflector would appear to indicate that the acetylene headlight equipped with a cluster of three burners, each having a capacity of one-half cubic foot of gas per hour and having the 18" reflector, fulfills the provisions of the law.

An acetylene light in regular service having a double burner and a reflector that had been poorly maintained did not give satisfactory results, while another in regular service having the double burner and a well polished reflector was much more satisfactory. It is believed that it will be necessary to maintain the

reflector in a high degree of efficiency and to use the cluster of three burners in order to obtain satisfactory results with this type of light.

Electric Headlight: Observation both at the road tests and in regular service indicate that certain electric arc headlights fulfill the requirements of the law.

There are some features, however, connected with the operation of arc headlights on locomotives which should not pass unnoticed. The following items should be considered:

1. Liability of reflected light from the roundels of signals whose lights have become extinguished or have burned low, being mistaken for a clear indication.

2. Difficulty of distinguishing classification lights and engine numbers on locomotives equipped with arc headlights.

3. Dazzling effect on yardmen, flagmen and others who are required to perform their duties in the rays of these strong headlights.

As for the first item, observations made by the Commission's staff on electric headlights in actual service with the engine moving continuously at usual speeds, demonstrate the fact that dangers from this source are not nearly so great as were indicated by the earlier tests at which the observers were invariably stationary while the readings were being taken. While numerous phantom lights were detected in the regular service tests, they were not of such a nature as to cause serious confusion to the trainmen. It was also found that the position of the blades become visible, in general, before the phantom lights are seen, and that these phantom lights are much in the nature of mere flashes when the engine is running at the usual speeds.

As for the second item, it is believed that some precautions should be taken to place classification lights and engine numbers at such a distance from the headlight that the latter may not materially interfere with correct reading of them.

As for the third item, it is believed that the arc lights should be switched off while the train is passing through large yards as well as at other points when it may have a tendency to interfere with the performance of duty by yardmen, flagmen, etc., or to endanger their lives. An incandescent lamp should then be switched on whose illuminating capacity is sufficient to act as a marker for the engine and give warning of its approach.

This means should also be employed on engines carrying colors when it is necessary that the fact be made known to the crew of another train or to other interested parties. It can also be used in case there is any confusion of signal lights resulting from the high power of the headlight.

It is believed, however, that the electric headlight does not endanger the operation of trains either on single or double track, provided precautions, such as those above outlined, are observed.

It should be stated that the investigations made are not conclusive with respect to the use of the electric arc headlight on roads equipped with the disc type of signal. A brilliant reflection is cast by this light from a plain glass surface of the size used in front of the large disc for day indications. The small disc for night indications is located a few inches above this large glass surface and it is possible that the brilliant reflection from the latter may interfere with the correct reading of the night indications. The lack of blades to serve as a check is another feature which differentiates this signal from the semaphore type. Careful tests should be made to determine this point before the attempt is made to operate electric arc headlights on a road thus equipped.

It should be borne in mind that these investigations have covered only the headlights named herein, though from some inconclusive observations it would appear that there are other types of power headlights now on the market that may be expected to give good results, both as to illuminating capacity and freedom from objections as regards the safety of train operation.

There are also other makes of arc headlights which probably compare favorably with the two investigated, and to which the same objections might be raised as those above enumerated.

A complete report giving the details of all the investigations made in this matter will be published at an early date.

BARKER & STEWART LUMBER COMPANY

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Decided Dec. 7, 1912.

Complaint was made of excessive charges on carload shipments of tanbark from a point on the Heineman branch of respondent's line to Sheboygan, Wis. It appears that the sum of the locals was charged. Subsequent to the shipments the Wausau group rate was put into effect. Under this rate the charges for the shipments in question would have been $8\frac{1}{2}$ cts. per cwt.

Held: The rate exacted of the petitioner is unusual and exorbitant and the reasonable rate for the services rendered would have been $8\frac{1}{2}$ cts. per cwt. Refund is ordered on this basis.

The petition alleges that during the months of December 1910 and January 1911 the petitioner shipped thirty-two carloads of tanbark from a point on the Heineman branch of respondent's line to Sheboygan, Wis., on which the charges paid were based on a rate of $11\frac{1}{2}$ cts. per cwt., the total weight of the shipment being 993,500 lb. and the total charges paid \$1,142.61, and that such rate was erroneous to the extent that it exceeded the rate of $8\frac{1}{2}$ cts. per cwt., for the reason that the point where such shipments originated is not designated in respondent's tariff, and therefore such shipments are entitled to the rate in effect at the time of shipment from the nearest point designated in the tariff, which is Heineman's Mills, to the destination of shipment, Sheboygan. Wherefore, petitioner asks that reparation be awarded to it in the sum of \$298.05.

The respondent railway company, in its answer to the petition, denies that the charges exacted were unreasonable or discriminatory and alleges that the rates as charged were the legal published tariff rates.

The claim was submitted upon the pleadings, papers, and documents on file.

The rate charged on the shipments in question is made up of the rate on tanbark in carload lots, applicable from Heineman's Mills to Sheboygan, which is $8\frac{1}{2}$ cts. per cwt., as named in re-

spondent's tariff G. F. D. No. 5600—B, plus the rate on such commodity for distances of five miles or less, which is 3 cts. per cwt., as named in respondent's tariff G. F. D. 8437. Each of these tariffs was in effect at the time the shipments moved, and the rates quoted were properly applicable in the manner stated. The point from which the shipments moved, however, as stated in the petition, is not designated in respondent's tariff and there is nothing on file with the Commission which shows the distance from this point to the nearest point named in the tariff, Heineman's Mills. Assuming that the shipping point is not more than five miles beyond Heineman's Mills, the rate of 11½ cts. per cwt., as charged, seems to be the rate properly applicable.

The point of origin of the shipments is on the Heineman branch of respondent's line. The end of this branch is 17.4 miles west of Antigo and 11.5 miles west of Heineman's Mills. At the time the shipments moved, respondent's tariff made no specific provision for rates from points on this branch west of Heineman's Mills. Effective February 25, 1911, however, in supplement No. 13 to respondent's tariff G. F. D. 5600—B, rates were provided as follows:

“The rates authorized from Heineman's Mills, Wis., to stations on the C. & N. W. Ry. in Wisconsin will also apply from sidings on the Heineman line west of Heineman's Mills, to stations on the C. & N. W. Ry. in Wisconsin.”

The tariff referred to, G. F. D. 5600—B, names rates on lumber and articles taking lumber rates, including tanbark. Since February 25, 1911, therefore, the rate on tanbark from and to the points named in the petition, has been 8½ cts. per cwt., which is the rate petitioner asks to have applied to the shipments here under consideration.

The rate on lumber, including tanbark, from Heineman's Mills to Sheboygan, and since February 25, 1911, from the point of origin of the shipments in question to Sheboygan, is what is designated in the tariff to which reference is made above as the “Wausau group” rate. The Wausau group includes practically all points on respondent's line, including branches, from Eland Junction west to Marshfield and a few points south of Marshfield, and from Eland Junction north to Pratt Junction and Jeffris Junction. The latter point is on a branch line and is over twenty miles further from Sheboygan than the point of origin of the shipments here complained of. All these points

take the Wausau group rate on lumber, including tanbark, which is $8\frac{1}{2}$ cts. to Sheboygan. These facts show very clearly that the rate in question was out of line and that the Wausau group rate is the logical one to apply in lieu thereof. Inasmuch as the Wausau group rate is now lawfully in effect from and to the points named in the petition it will not be necessary to order any change in the rate. Refund of all charges paid on the shipments in excess of $8\frac{1}{2}$ cts. per cwt., aggregating \$298.05, will be authorized.

We therefore find and determine that the rate exacted of the petitioner by the respondent upon the shipments of tanbark from point of origin on the Heineman branch of the respondent's line to Sheboygan, Wis., is unusual and exorbitant, and that the reasonable rate for such transportation charges should have been $8\frac{1}{2}$ cts. per cwt.

IT IS THEREFORE ORDERED, That the respondent railway company be and the same is hereby authorized and directed to refund to the petitioner, the Barker & Stewart Lumber Company, the sum of \$298.05.

PULP WOOD COMPANY

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Decided Dec. 7, 1912.

Complaint was made of excessive charges on carload shipments of pulp wood and pulp wood logs over the respondent's line from various points in Wisconsin to Appleton, Kimberly, Combined Locks, and Kaukauna, Wis. It appears that these overcharges accrued through the failure of the respondent to allow for car stakes. Subsequent to the shipments the rule providing for deduction for car stakes was voluntarily made applicable over respondent's line.

Held: The charges exacted were unusual and exorbitant and no charge should have been made for the transportation of car stakes. Refund is ordered on this basis.

This is a proceeding for refund of \$117.11 alleged to have been paid by the petitioner in excess of the lawful charges on 688 carload shipments of pulp wood and pulp wood logs over the respondent's line from various points in Wisconsin to Appleton, Kimberly, Combined Locks and Kaukauna, Wis., during the period of February 1 to May 15, 1912.

The petition sets forth that these alleged unlawful charges accrued through the failure or neglect of respondent's agents to deduct 500 lb. from the weight of each carload shipment listed in the petition for stakes used on each car, which deduction or allowance was provided for in respondent's tariffs applicable to the shipments according to petitioner's understanding of these tariffs.

The respondent, answering the petition, states that inasmuch as the tariffs applicable to the shipments complained of did not specifically provide for a deduction for stakes, the respondent did not feel that it had authority to make such deduction, but that it will not resist an order from the Commission authorizing reparation on the basis asked for in the petition.

The claim was submitted upon the papers, pleadings, and documents on file.

The tariff applicable to the shipments in question in this case, respondent's G. F. D. No. 10761—A, as understood by the Commission's tariff experts, did not provide for or authorize any allowance for stakes. This tariff, however, was canceled by respondent's G. F. D. No. 10761—B, effective May 15, 1912, which carried the same rates named in the former tariff and in addition thereto was made subject to western trunk lines rules, circular No. I—I, issued by W. H. Hoamer, agent for the lines interested, including the respondent line.

Western trunk lines circular No. I—I, referred to above, provides for a deduction or allowance of 500 lb. per car for weight of stakes used on carload shipments of forest products loaded on flat or gondola cars, the weight of the shipment not to be reduced below the minimum weight provided by tariff. A similar deduction or allowance is also provided in the western classification, the rules of which are quite generally applicable in connection with rates applying over western lines, including the respondent line, the Chicago & North Western Railway. These provisions are now in force and have been in force without material change for many years.

Generally speaking, all tariffs naming intrastate rates between points in Wisconsin are subject to the western trunk line rules, referred to above, or to the western classification, or both. There are, however, quite a number of tariffs applying in this territory that are not subject to these rules. Shipments to which such tariffs apply cannot lawfully be given the advantages, if there are advantages, of the western trunk lines or western classification rules for the reason that these publications, or tariffs, specifically provide that the rules named therein apply only in connection with tariffs made subject thereto.

Examination of numerous tariffs on file with the Commission, tariffs that are not subject to western trunk lines or western classification rules, referred to above, fails to show any particular reason why such tariffs are not made subject to such rules. In most instances failure to provide for this application seems to be a mere oversight; at least it does not appear to be the result of careful deliberation on the part of the issuing line, and in a great many cases during the last four years many tariffs have been reissued or supplemented in order to make them subject to the rules referred to. Insofar as shipments of pulp wood are

concerned, and the rates applicable thereto, there appears to be no reason whatever why the rule providing for an allowance or deduction of 500 lb. should not apply. As already stated above, this rule is now properly applicable in connection with shipments of pulp wood over the respondent line. This application was made voluntarily by the respondent. There is, therefore, no necessity for an order from the Commission to cover this part of the complaint. Refund will be authorized on the basis asked for in the petition. Freight bills submitted in the case show that the refund asked for, \$117.11, includes \$1.13 already allowed on six cars. The aggregate refund, therefore, to which petitioners are entitled is \$115.98.

We find and determine that the charges exacted of the petitioner by the respondent for the transportation of car stakes on 682 carloads of pulp wood shipped from various points in Wisconsin to Appleton, Kimberly, Combined Locks and Kaukauna during the period from February 1 to May 15, 1912, are unusual and exorbitant, and that no charge should have been made for the transportation of such car stakes.

IT IS THEREFORE ORDERED, That the Chicago & North Western Railway Company be and the same is hereby authorized and directed to refund to the petitioner, the Pulp Wood Company, the sum of \$115.98.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF THE ALDRICH STREET CROSSING OF THE CHICAGO AND NORTH WESTERN AND THE CHICAGO, MILWAUKEE AND ST. PAUL RAILWAYS, IN THE CITY OF MILWAUKEE.

Submitted April 13, 1912. Decided Dec. 9, 1912.

The Commission, on its own motion, ordered an investigation into the condition of the crossing of the C. & N. W. Ry. and the C. M. & St. P. Ry. tracks near the foot of Aldrich street in Milwaukee, Wis. The crossing is formed by the intersection of the C. & N. W. spur track leading to the plant of the Milwaukee Corrugating Co. with the Bay View transfer track of the C. M. & St. P. Ry.

Held: The crossing in question is unusually dangerous and requires some form of protection. Since a contract between the two companies places the obligation of protecting the crossing upon the C. & N. W. Ry., that company is ordered to install, maintain and operate a gate equipped with a suitable light for night indication which can be swung so as to cover either of the two tracks. It is further ordered that the C. & N. W. Ry. Co. swing this gate over the track of the C. M. & St. P. Ry. Co. before using the crossing and after such use swing it back and keep it closed over its own tracks.

This proceeding was instituted on motion of the Commission to determine whether a grade crossing of the tracks of the Chicago & North Western Railway Company and the Chicago, Milwaukee & St. Paul Railway Company, located about 185 feet west of the foot of Aldrich street in Milwaukee, is dangerous to human life. The investigation was occasioned by a collision which occurred there on January 18, 1912, resulting in the death of a brakeman and the demolition of a freight car.

A hearing was held on April 13, 1912, in the city hall, Milwaukee, Wis. *C. A. Vilas* appeared for the Chicago & North Western Railway Company, and *H. J. Killilea* for the Chicago, Milwaukee & St. Paul Railway Company.

The testimony shows that at the crossing in question the Chicago, Milwaukee & St. Paul Railway Company's Bay View transfer track intersects the Chicago & North Western Railway Company's spur, which serves the Milwaukee Corrugating Company, at an angle of 72 degrees. The Chicago & North Western track

runs north and south, and that of the Chicago, Milwaukee & St. Paul Railway northwest and southeast, entering a 16 degree curve about four hundred feet to the southeast. At the crossing both lines are single tracked. The Bay View spur runs from the main line of the Chicago division to a connection with the Elgin, Joliet & Eastern Railway, at the plant of the Illinois Steel Company at Bay View. The spur of the Chicago & North Western Railway connects with the main line and ends about four hundred feet south of the crossing. The track south of the crossing is doubled about forty feet from the intersection of the tracks, and serves only the Milwaukee Corrugating Company.

It was shown that a heavy train of from twenty to thirty-five cars, known as the Bay View Transfer, is operated over the Chicago, Milwaukee & St. Paul tracks twice daily, and that in addition approximately one hundred cars a day are switched over the crossing on the Bay View spur in serving the local industries. The crossing is used by Chicago & North Western trains about twice daily in serving the Milwaukee Corrugating Company. The superintendent of the Chicago, Milwaukee & St. Paul Railway Company testified that there is an informal agreement between the two companies whereby the Chicago & North Western Railway Company agrees to stop its trains and to protect the crossing by sending a flagman ahead before proceeding across. Chicago, Milwaukee & St. Paul trains do not in all cases stop at the crossing, their crews expecting to find the crossing clear unless protected by a flagman from a Chicago & North Western Railway Company train. It was shown at the hearing that, due to the existing track conditions at the Illinois Steel Company's plant at Bay View, it is customary to back westbound trains over this crossing. Because of the curve in the track and the presence of buildings near it, signals from the brakeman on the rear car of a twenty-five car train backing toward the west over this crossing cannot be seen readily by the engineer.

The accident which occasioned this investigation was shown to have resulted from a collision between a train of twenty-five cars backing west on the Bay View spur, and a Chicago & North Western train switching cars south of the crossing. The latter train had pulled some cars from one of the two stub tracks at the Milwaukee Corrugating Company's plant and had moved north over the crossing until the rear car was clear of the switch, the en-

gine and several of the cars being north of the crossing. It then moved south to spot cars on the other stub track. During this switching a flagman was stationed on the crossing, but since he was west of his own train he could not see the Chicago & North Western train which was backing slowly from the east and which did not stop before attempting to cross. The brakeman of the rear car of the Chicago and St. Paul train made an ineffectual attempt to stop his train by opening the angle cock in the rear car. The collision resulted in the death of a brakeman and the demolition of a freight car. A witness stated that a very similar accident occurred at this crossing about twelve years previous.

Officials of the Chicago & North Western Railway Company, in their testimony, asserted that the protection of the crossing by an interlocking plant is not practicable, because such a device would have to include several nearby crossings, and because the installation of such a plant with derails at the usual distance from the crossing would destroy the usefulness of the limited track facilities of the Milwaukee Corrugating Company. It was also stated by engineers of the Chicago & North Western Railway Company that the traffic at this point is insufficient to warrant such protection, and that interlocking plants are not ordinarily used at crossings of this kind. The trainmaster of the Chicago Milwaukee & St. Paul Railway Company, on the other hand, stated that in this opinion an interlocking plant was both practicable and desirable. He also testified that to require Chicago & North Western trains of twenty-five cars or more to stop four hundred feet from the crossing and send a flagman ahead would cause the rear part of such trains to foul the main line of the Chicago & North Western Railway Company, which is crossed by the Bay View spur about one-fourth of a mile east of the crossing in question.

The engineer of the Commission reports after investigation that the interlocking of this crossing is not practicable, nor warranted by the traffic conditions. His report states further the installation of "stop" signs on the two tracks at the crossing would result in blocking the main line of the Chicago & North Western Railway Company for short periods of time, a condition which should be avoided if possible. He recommends the protection of the crossing by the installation of a gate which can be swung over either track.

After a careful review of the testimony and of our engineer's report, we find that the crossing in question is unusually dangerous, and that it requires some form of protection. Since the contract, introduced at the hearing, which was entered into by the two railway companies involved in this proceeding at the time the Chicago & North Western track was constructed, places upon that company the obligation of providing such protection as the crossing may require, the order made herein is directed to the Chicago & North Western Railway Company.

IT IS THEREFORE ORDERED, That the Chicago and North Western Railway Company install and maintain and operate at the crossing of its spur track leading to the plant of the Milwaukee Corrugating Company with the Bay View transfer track of the Chicago Milwaukee & St. Paul Railway, near the foot of Aldrich street in Milwaukee, a gate, equipped with a suitable light for night indication, which can be swung so as to cover either of the two tracks.

IT IS FURTHER ORDERED, That the Chicago & North Western Railway Company swing this gate over the track of the Chicago Milwaukee & St. Paul Railway before using the crossing and after such use swing it back and keep it closed over its own tracks.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF
THE DIVISION STREET CROSSING AT DODGEVILLE ON THE
LINE OF THE ILLINOIS CENTRAL RAILROAD COMPANY.

Submitted Sep. 16, 1912. Decided Dec. 10, 1912.

An order having been made for the protection of the I. C. R. R. crossing at Division street in Dodgeville, Wis. (9 W. R. C. R. 367), a rehearing was granted on complaint of the petitioner that the order is excessive and burdensome. The petitioner asks for permission to stop its trains before reaching the highway and to flag the crossing in lieu of installing an automatic crossing alarm with a light for night indication.

Held: Since relatively few trains are operated over this crossing and these at a low speed, the plan suggested appears reasonable under the circumstances in the present case. The former order in this matter is modified and in lieu of providing the protective devices as previously ordered, the respondent is directed to stop each of its trains within 100 feet of the crossing and to protect the crossing by a flagman who is to precede the train to the highway and remain there to warn travelers until the train has passed.

MODIFICATION OF ORDER.

Rehearing in this matter was granted on petition of the Illinois Central Railroad Company, which alleges that the order of the Commission issued July 1, 1912 (9 W. R. C. R. 367), is excessive and burdensome. The petitioner asks for a modification of the order permitting it to stop its trains before reaching the highway in question and to flag the crossing, in lieu of installing the automatic crossing alarm with a light for night indication, as ordered.

Hearing was held on September 16, 1912, at the office of the Commission, Madison, Wis. *Jones & Schubring*, by *Mr. Schubring*, appeared for the Illinois Central Railroad Company.

The petitioner's roadmaster testified that if trains were stopped within one hundred feet of the crossing they could be readily seen by approaching teams, and would be unable to develop enough speed before reaching the crossing to be dangerous. He expressed the opinion that if trains were stopped within one hundred feet of the crossing it would be unnecessary to protect the highway by sending a flagman ahead to warn travelers. Such flagging, he stated, would cause needless delay to trains.

We do not regard as desirable the practice of stopping trains at crossings which can be made reasonably safe by the use of the ordinary protective devices. Furthermore, it is generally true that bell protection is more economical than the stopping of trains. However, in view of the fact that relatively few trains are operated over this crossing and these at low speed, we regard the plan suggested by the petitioner as reasonable in this case. It is deemed necessary that a flagman precede each train to the crossing and remain there to warn travelers on the highway until the train has passed.

NOW, THEREFORE, THE FORMER ORDER in this matter (9 W. R. C. R. 367) IS HEREBY MODIFIED, and in lieu of providing the protective devices ordered therein, the Illinois Central Railroad Company is hereby directed to stop each of its trains within one hundred feet of the crossing in question and to protect the crossing by a flagman who shall precede the train to the highway and remain there to warn travelers until the train has passed.

GEORGE B. PARKHILL

vs.

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

Submitted July 23, 1912. Decided Dec. 11, 1912.

Petitioner alleges that the station facilities at Thorpe, Wis., are inadequate for handling freight and passenger traffic, that the train service is inadequate, and that the grade crossing of the M. St. P. & S. S. M. Ry. Co. tracks with Washington street is dangerous because of surrounding physical conditions.

Held: The Commission has no jurisdiction in proceedings instituted by an individual in matters of crossing protection.

Present train service is adequate, and that part of the petition which relates to the stopping of respondent's limited trains at Thorpe is dismissed.

New station facilities are required. Respondent is ordered to provide an adequate station building before March 1, 1913. Plans are to be submitted to the Commission for approval.

The petitioner, a resident and taxpayer of Thorpe, Clark county, Wis., alleges, in substance, that the depot facilities furnished by the respondent at Thorpe are inadequate for handling the freight and passenger traffic which obtains there; that the station building is closed and no telegraphic service is available after 7:15 p. m.; that the train service is not reasonably adequate in that two limited trains, No. 3 and No. 4, do not stop at Thorpe; and that a grade crossing of the respondent's tracks with Washington street in Thorpe is dangerous to human life because of unfavorable physical surroundings. The Commission is therefore asked to require the respondent to furnish adequate train and station service, and to protect the specified highway crossing at Thorpe.

The respondent, in its answer, alleges that its management has authorized the erection of a new station building at Thorpe. It sets forth that there is no justification for stopping the limited trains referred to at this station; that these trains do an interstate business, carrying mails and operating on a fast schedule in competition with other interstate lines; and that to require them to stop at Thorpe would constitute an unwarranted interference

with interstate commerce. The respondent further alleges that there is no necessity for night telegraphic or station service, and that the maintenance of such service would require an additional expense unwarranted by the income from the station. With regard to the grade crossing referred to in the complaint, the respondent alleges that it is not especially dangerous as compared with other grade crossings, and that its surroundings will be made more favorable by the construction of the new depot. The dismissal of the petition is therefore asked.

A hearing was held on July 23, 1912, in the town hall of Thorpe, Wis. The petitioner, *George B. Parkhill*, appeared in his own behalf, and *C. B. Culbertson* represented the respondent.

Since the law does not give the Commission jurisdiction in the matter of crossing protection in proceedings instituted by an individual, we are unable to act upon that phase of the present petition, nor will the testimony relative thereto be reviewed. The remainder of the complaint is directed toward the adequacy of train service, and the adequacy of the passenger and freight station facilities at Thorpe.

TRAIN SERVICE.

With regard to train service, it appears from the testimony that three passenger trains in each direction pass through Thorpe daily. Of these, one in each direction is a limited train operating between Chicago and Minneapolis, which does not stop at Thorpe. The nearest point to Thorpe at which the limited trains stop is Stanley, located 6.8 miles west. The other passenger trains stop at Thorpe on the following schedule:

Westbound	Eastbound
11:38 a. m.	7:32 a. m.
7:51 p. m.	12:55 p. m.

Three freight trains in each direction are operated on this division of the road, one of which is a way freight carrying passengers for accommodation. This way freight arrives at Thorpe at about 2:05 p. m. westbound, and about 9:35 a. m. eastbound. The greater part of the testimony with reference to the adequacy of train service was directed towards showing the necessity for stopping the westbound limited train No. 3 at Thorpe. This train leaves Chicago at 6:30 p. m. and passes Thorpe at 3:45 a. m.

To reach Thorpe from Chicago by this train, a passenger is obliged to continue his ride to Stanley and wait there for more than three hours until he can return to Thorpe on the morning train which arrives there at 7:32 a. m. For a person leaving Chicago at the close of the day the only alternative is to take the train leaving at 11:30 p. m., which arrives in Thorpe at 11:38 a. m. Thus a resident of Thorpe desiring to return home after transacting a day's business in Chicago is obliged either to wait for a number of hours in Chicago, thereby losing a half of the following day, or to break up his night's rest by the early morning wait in Stanley. It was shown that a number of cattle shippers living at or near Thorpe, who make a practice of accompanying their consignments to Chicago, are inconvenienced by the conditions described above. Witnesses stated that in addition to the traffic to and from Chicago which would be served by stopping the limited trains, considerable use would be made of them by residents of Thorpe for travel to less distant points. Several witnesses testified that they would have frequent occasion to travel on these trains should they be stopped at Thorpe. The petitioner in his testimony urged that the freight and passenger earnings at Thorpe are as great as those at Stanley, and that for this reason the failure to stop the limited trains there is discriminatory. A statement of the comparative earnings of the two stations for the year ending July 31, 1912, submitted by the respondent after the hearing, follows:

	Thorpe.	Stanley.	Percentage Thorpe of Stanley.
Number of tickets sold.....	11,201	25,714	43.6
Passenger revenue.....	\$8,990 77	\$20,964 82	42.9
Freight revenue.....	47,881 59	46,457 37	104.1
Total revenue.....	\$56,872 36	\$37,422 19	84.3

It will be noted that the freight earnings at the two stations are approximately equal, but that less than half as many tickets are sold at Thorpe than at Stanley. This proportion should doubtless be modified to a small extent by the fact that residents of Thorpe who desire to use the limited trains naturally buy their tickets at Stanley where they must go to take the train, thus

swelling the Stanley revenue; but allowing for this correction, it appears that the passenger traffic at Stanley is much heavier than that at Thorpe. The petitioner admitted that stations west of Chippewa Falls on the respondent's line, such as Downing and Glenwood, have one passenger train each way less than Thorpe has at present, and consequently have more of a claim from the standpoint of passenger service than does Thorpe for the stopping of limited trains.

An examination of the respondent's time tables shows that the limited trains in question do not stop at the following stations:

Station	Population
North Fond du Lac.....	1,960
Weyauwega	967
Abbotsford	947
Colby	869
Cadott	765
Thorpe	741
Amherst	629
Mukwonago	615
Lomira	529
Boyd	527
Withee	443

Each of these stations appears to have equally as good grounds for desiring the limited service as has Thorpe. The extension of the service to them, however, would involve eleven additional stops, which would increase the running time between Chicago and Minneapolis about forty-five minutes. As was pointed out by the respondent, these trains compete with other interstate trains on other lines. At present the scheduled time of the respondent's trains is greater than that of competing trains, due to its longer route. In view of these facts we believe that an order requiring the stopping of trains No. 3 and No. 4 at Thorpe would not be justified at this time.

STATION FACILITIES.

The testimony shows that the station building now in use at Thorpe is an old, antiquated structure. It has but one small waiting room which must be used by both men and women. This room is not properly ventilated and is frequently in an unsanitary condition. Moreover, it is often the case that more people than can conveniently use the waiting room desire to do so. At such times passengers are obliged to wait on an open platform

unprotected from the elements. The only toilets provided are earth closets back of the depot. The room for storing freight was also shown to be insufficient for the amount of business done. The respondent's station agent testified that a box car is used for storage purposes to supplement the depot. It was developed at the hearing that the population of Thorpe is 741 and that it is surrounded by a prosperous farming community. Five cheese factories were said to be tributary to the railroad at this point. Subsequent to the hearing, the respondent submitted a statement of its freight and passenger earnings at Thorpe as follows:

Month.	Number of tickets sold.	Passenger revenue.	Freight revenue.	Total revenue.
August 1911.....	838	\$961 75	\$2,699 38	\$3,681 13
September ".....	965	854 77	2,990 47	3,845 24
October ".....	788	796 46	5,190 06	5,986 52
November ".....	856	684 84	4,524 53	5,209 37
December ".....	945	577 81	4,261 88	4,839 69
January 1912.....	800	540 72	3,243 66	3,784 38
February ".....	800	595 85	3,131 24	3,727 09
March ".....	995	655 65	4,849 74	5,505 39
April ".....	1,040	718 89	5,272 24	5,991 13
May ".....	1,012	733 43	4,280 59	5,014 02
June ".....	955	842 89	3,874 08	4,716 97
July ".....	1,207	1,007 71	3,563 72	4,571 43
Total.....	11,201	\$8,990 77	\$47,881 59	\$56,872 36
Average per month.....	933.4	749 31	3,990 13	4,739 36

It appears from the testimony that the station agent at Thorpe is on duty from 7:15 a. m. to 7:15 p. m. During this time he acts as telegraph operator and general station agent. Up to December 1911, the depot was regularly closed at 7:15 p. m., about half an hour before the arrival of the evening westbound train. This condition occasioned frequent complaints with the result that in December 1911, the agent was given an assistant whose duty it is to open and heat the depot before the arrival of the agent in the morning and to keep it open, sell tickets, and look after baggage for the evening train after the agent has finished his day's work. There was some little complaint that the station was closed and the light on the platform put out too soon after the evening train arrived, but on the whole the present arrangement was regarded by witnesses as satisfactory.

The testimony shows that the movement among the residents of Thorpe to secure a better depot is one of several years' stand-

ing. Letters were introduced at the hearing to show that the erection of a new depot has been authorized by the management.

Upon a careful examination of the testimony and of our engineer's report, we find that the existing freight and passenger depot at Thorpe is not reasonably adequate, and that a new building should be erected in keeping with the demands of the traffic.

IT IS THEREFORE ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, provide a station building at Thorpe, Wis., which shall be reasonably adequate for the passenger and freight traffic obtaining at that station, according to its adopted standards of construction, plans to be submitted to the Commission for approval.

March 1, 1913, is regarded as a reasonable date at which the station building shall be opened for public use.

That part of the petition which refers to stopping respondent's limited trains at Thorpe is hereby dismissed.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF
THE HIGHWAY CROSSING NEAR CALVERT OF THE CHI-
CAGO, BURLINGTON & QUINCY AND THE LA CROSSE &
SOUTHEASTERN RAILROADS.

Decided Dec. 11, 1912.

An order having been issued requiring the La Crosse & S. E. R. R. Co. to protect its crossing at the Mormon Coulee road near Calvert, Wis., the company asks for a modification of the order. (8 W. R. C. R. 519.)

Held: The plan suggested by the company would provide adequate protection. The former order is modified and the company is ordered to stop each of its trains before crossing the highway in lieu of installing the bell protection as previously ordered.

MODIFICATION OF ORDER.

An order was issued in this matter on January 19, 1912 (8 W. R. C. R. 519), requiring the La Crosse & Southeastern Railway Company, among other things, to install and maintain an automatic audible alarm at the crossing of its tracks with the Mormon Coulee road. This company now seeks a modification of that order, permitting it to stop its trains at the crossing in lieu of providing bell protection. It appearing that the suggested plan would provide adequate protection for the public, our former order is hereby modified, and the La Crosse & Southeastern Railway Company is hereby ordered, in lieu of installing bell protection, to stop each of its trains at the Mormon Coulee road before crossing the highway.

IN RE APPLICATION OF THE LIGHT AND WATER COMMISSION
OF THE CITY OF LAKE MILLS FOR AN INVESTIGATION OF
ITS RATES, RULES AND PRACTICES.

Decided Dec. 11, 1912.

Application was made by the Light and Water Commission of Lake Mills, Wis., for an investigation of its rules and practices in conducting the business of the Lake Mills municipal water works and electric light plant. It appears that the affairs of the department were conducted contrary to the express provisions of the statute (secs. 925—95b to 925—95f) (laws 1911, ch. 233). There was no charge of intentional wrong-doing and the matters were submitted to the Commission for consideration and advice.

The provisions of the trust deed executed by the city to secure the mortgage certificates for the electric plant were entirely ignored by the light and water commission. The trust deed provides that the income from the operation of the plant over and above the actual and necessary running expenses and maintenance shall be kept as a separate fund in the city treasury, out of which fund the interest on the certificates shall be paid. Contrary to the provisions of ch. 233, laws of 1911, which prescribes the manner in which the business of municipal plants shall be conducted, the commission permits the manager of the plant to collect all revenues and to make all the disbursements for the plants without any audit of the commission. The funds are kept in the bank and drawn upon by him as manager of the plant. The city treasurer has no information whatever of the financial transactions of the water and light department.

It is very clear that the water and light commission should change its method of caring for the finances of the plants. The man in charge of collecting the funds should deposit his collections daily with the city treasurer. All accounts against the department should be audited by the commission, and, if approved, should be paid by orders upon the city treasurer, issued and signed by the president and secretary of the commission (sec. 925—95b). The city treasurer should keep as a separate fund all income and revenue derived from the plants and any funds specifically provided therefor by the common council, and pay therefrom all orders drawn upon him by the commission (sec. 925—95c).

In accordance with the provisions of the statute (sec. 925—95e, subsec. 6) the commission should employ a superintendent who should have charge of both the lighting and water plants. There should also be an office man charged with the duty of keeping the books and accounts of the department, attending to complaints, collecting the revenues, and performing what

ever additional duties the commission may find necessary to impose upon him. The plants should be treated as a business enterprise and kept separate from other municipal functions. It is recommended that the water and light commission adopt the suggestions made.

Certain differences between the majority of the members of the water and light commission and the mayor, who is *ex officio* a member of the commission, respecting the management and operation of the water works and electric light plant in the city of Lake Mills, were submitted to the Railroad Commission for consideration and advice. From the investigation it appears that the city constructed the water works a number of years ago and recently purchased the electric light plant of the Creamery Package Company, which, prior to the sale, operated the plant primarily for its own purposes and incidentally served the city of Lake Mills and the public with electric current for light and power purposes. Since the city has come into possession of the electric light plant, it has been operated in connection with the water works.

Upon purchasing the electric light plant the city executed a trust deed securing \$35,000 of mortgage certificates which were issued and sold to pay the purchase price. In the trust deed it is provided that the income from the operation of the plant over and above the actual and necessary running expenses and maintenance shall be kept as a separate fund in the city treasury, out of which fund the interest on the certificates shall be paid. This provision of the trust deed has been entirely ignored by the commission.

When the plant was turned over to the city and the commission assumed management and operation of same in connection with the water works, it appointed a manager of both plants. His duties are manifold. He keeps the books of the department, collects all revenues, purchases all materials and supplies, and makes all the disbursements without any audit of the commission. The funds are kept in the bank and drawn upon by him as manager of the plant. The city treasurer has no information whatever of the financial transactions of the water and light department. All this is in violation of ch. 233 of the laws of 1911, which prescribes the manner in which the commission shall conduct the business. It provides that all accounts against the water or light department, or both, shall be audited by such

commission, and, if approved, shall be paid by orders upon the city treasurer, issued and signed by the president and secretary of the commission (sec. 925—95b); that the city treasurer shall keep as a separate fund all income and revenue derived from such lighting plant and water works, or both, and any funds specifically provided therefor by the common council, and pay therefrom all orders drawn upon him by the commission operating such plant or works (sec. 925—95c).

The statute further provides that the commission shall have power and authority to prescribe rules of order for the regulation of its own meetings and deliberations; to enact, amend and repeal all necessary rules and regulations for the government, operation and maintenance of such plant or works and their employes; to contract for and purchase all fuel, supplies, and repairs necessary; to enact, amend, and repeal all needful rules and regulations under which the patrons of such plant or works shall be served, subject to the approval of the city council and the control of the Railroad Commission; to contract to purchase, construct, and install all extensions, additions, and alterations to such plant or works, whenever the same shall have been ordered and funds provided therefor by the city council; to employ a superintendent for a period of not to exceed one year under any one contract, and at a salary not to exceed \$1,500 per annum, unless a larger salary be expressly authorized by the common council (sec. 925—95e).

The commission has also failed to comply with the provisions of the statute relating to the management of the plant. It appears that when the water and light commission was appointed by the former mayor he encountered difficulty in securing citizens of standing and business ability to serve upon the commission. As an inducement to one or more members of the commission, some concessions were made in the handling of the finances of the department, contrary to the express provisions of the statute. The mayor and board acted with the best intentions in the premises. The desire was to conduct the plant in the most economical and efficient manner, and although it has not followed the statutes in the respect mentioned, no charge of intentional wrong-doing has been or can be made against the commission as a whole or its members individually. The commission is composed of exceptionally intelligent and high class business men.

The only objection that has ever been urged against the commission is that its method of conducting the affairs of the department is contrary to the express provisions of the statute. It may be observed, however, that even if the statute had been literally followed, the disbursements made under the present system would nevertheless have been made, as they were in every respect proper and necessarily required for the operation of the plant and the management of the affairs of the department.

The audit made of the books of the water and light commission by an expert accountant, shows that an examination of all the vouchers presented discloses that none of them had been approved by the commission as required by law. Yet in the report he says specifically:

“While I am satisfied that all of the disbursements made were in payment of legitimate charges against the light and water fund, I do not believe that the commission should continue its present method in regard to disbursements. All bills and claims against the water and light department should be presented to the commission for payment in the same manner that claims and accounts against the city are brought before the common council, and if found correct should be approved and their payment authorized and the action of the commission spread upon the minutes. Another matter to which we wish to call attention is, that the funds of the commission have not been placed on deposit with the city treasurer, as required by law, but are kept in a separate account bearing the name ‘A. E. Cook, Manager.’”

It is very clear that the commission should change its method of caring for the finances of the water and light department. The man in charge of collecting its funds should deposit his collections daily with the city treasurer. All claims should be allowed by the commission and vouchers drawn upon the city treasurer for the same as provided by the statute. By pursuing this policy the commission will obviate any question in the future as to the proper management of the finances of the department.

The commission should also, in accordance with the provisions of the statute, employ a superintendent who should have charge of both the lighting and water plants. He should be a man having technical knowledge of the engineering and operating features of both plants and should be competent to supervise the operation of the plants and any construction work by reason of extensions or additions that may be required from time to time.

In addition to the superintendent, there should be an office man charged with the duty of keeping the books and accounts of the department, attending to complaints, collecting the revenues, and performing whatever additional duties the commission may find necessary to impose upon him. From the experience of other plants of approximately the same size as the ones here under consideration, it has been demonstrated that there is no economy in attempting to concentrate the functions of the purely clerical and business sides of the plant and that of superintendence of construction and operation in one person. The plants should be treated as a business enterprise and kept separate from other municipal functions. If placed upon a sound business basis, in the hands of proper agents, the water and light commission will have no difficulty in the administration of the department.

There is no valid reason why any differences of opinion should exist between the mayor and the commission. All are men of excellent business judgment and capacity. They should find no difficulty in working together harmoniously in the management of the plants. Doubtless if the plants were privately owned and operated by the members of the commission, no conflict of opinion would be found as to the proper policy that should be pursued in conducting the affairs of the business.

We therefore recommend that the water and light commission adopt the suggestions herein made.

CITY OF SPARTA

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Sept. 30, 1912. Decided Dec. 11, 1912.

Complaint was made of inadequate protection at the crossing of the tracks of the C. & N. W. Ry. and South Water street in Sparta, Wis.

Held: The crossing in question is more than ordinarily dangerous. On account of the large amount of switching, the irregular train movements, the surrounding physical conditions, and the amount of traffic, some protection is necessary. The respondent is ordered to maintain a flagman at the crossing between the hours of 6:30 a. m. and 6:30 p. m.

The petitioner, a municipal corporation in Monroe county, Wis., alleges that there is great necessity for the installation of gates and the maintenance of a day watchman at the intersection of the respondent's tracks and South Water street, in the city of Sparta; and that the respondent refuses to provide the necessary protection although it has been repeatedly requested to do so. The Commission is therefore asked to require the respondent to render this crossing reasonably safe.

The respondent, in its answer, alleges that the crossing in question is not dangerous or obstructed in any way; and that, because of the proximity of the crossing to the depot, the speed of all trains is very much reduced when they pass over South Water street. It therefore asks the dismissal of the petition.

A hearing was held on September 30, 1912, at the city hall of Sparta, Wis. *Z. S. Rice* appeared for the petitioner, and *C. A. Vilas* for the respondent.

The testimony shows that South Water street runs north and south, and the railroad northeast and southwest. The street is approximately level on both sides of the crossing. Approaching from the south on the highway the view of the tracks to the east is comparatively unobstructed, but the view to the west is obstructed by a residence and a shed, and by a slight rise of ground

upon which corn is grown, until the house is passed, after which a clear view in both directions may be had. Approaching from the north on the highway, the view to the west is not seriously obstructed after crossing the C. M. & St. P. tracks, a distance of about 150 feet from the crossing in question. To the east, however, the vision is hindered by the foliage of trees. The respondent's division superintendent testified that the trees referred to did not seriously obstruct the view and that they could be trimmed higher if necessary. He also stated that a tool shed which is located near the crossing would be removed. It was shown that the C. M. & St. P. Ry. Co. tracks parallel the respondent's tracks at a distance of about 150 feet. The train movements over the C. M. & St. P. Ry. Co. tracks were said to be more frequent than those over the respondent's line. Moreover, since many travelers from the north turn off to the Chicago & North Western station without crossing the respondent's tracks, the crossing in question is not so heavily traveled as that on the C. M. & St. P. line. It was stated at the hearing that the C. M. & St. P. Ry. Co. had agreed to maintain a flagman at its South Water street crossing, and a flagman is now stationed there. Witnesses for the petitioner testified that the nearness of the two crossings frequently results in confusing travelers and in frightening horses. The testimony shows that at the crossing in question South Water street is crossed by the main track and by two sidetracks which lead to the Sparta freight yards. Freight trains waiting to be passed by other trains often stand close to the crossing, thus obstructing the view of the main track. It was shown that the track arrangement is such that engines switching in the freight yards are obliged to cross South Water street frequently. The respondent's division superintendent, however, asserted that recent changes in the freight service have eliminated much of the switching at Sparta, all such work being done now by a way freight in the early morning and late afternoon.

It appears from the testimony that the train movements over the crossing are frequent and at a comparatively high speed. A count of traffic made by a witness for the petitioner, which is given in detail later, shows an average of seven trains in the period between 7:00 a. m. and 6:00 p. m. A witness for the respondent stated that there were eleven regular train move-

ments daily, and that at some seasons as many as ten extra freight trains passed through Sparta. There was some difference of opinion expressed as to the speed at which trains pass the crossing. Witnesses for the petitioner stated that they had timed a passenger train with stop watches, and that it traveled the eighty rods immediately west of the crossing in twenty-three seconds. It was conceded that the train was reducing speed preparatory to stopping at Sparta station which is located about 450 feet east of the crossing. The respondent's division superintendent testified that since all trains stop at the Sparta station their speed is necessarily low at the crossing. He estimated the usual speed of passenger trains at this point to be about twenty-five or thirty miles per hour.

An exhibit was offered by the petitioner showing the results of a count taken between the hours of 7:00 a. m. and 6:00 p. m., for seven consecutive days, of the traffic over both the railroad and the highway as follows:

Date.	Number of teams.	Number of pedestrians.	Number of trains.
June 6, 1912.....	146	38	11
" 7, ..	145	40	10
" 8, ..	163	23	10
" 9, ..	90	100	6
" 10, ..	122	15	10
" 11, ..	101	20	12
" 12, ..	162	30	10
Total.....	929	266	69
Average per day.....	132.7	38.0	9.9

The greater part of the traffic on the highway was said to be from the country, since the settled portion of the city does not extend south of the Chicago & North Western tracks. South Water street, however, is a continuation of an important highway leading to Leon, which is now being improved, and which will probably be more heavily traveled on account of these improvements.

After a careful consideration of the testimony and of our engineer's report, we find the crossing in question to be more than ordinarily dangerous. The fact that a flagman is on duty at a crossing only 150 feet distant would naturally lead travelers to expect the same protection at this crossing, and its absence

would, without question, prove confusing to the traveling public. Moreover, because of the relatively large amount of switching done, the train movements over the crossing are irregular. In view of these facts, and in the light of the physical conditions and the traffic at the crossing, we believe that the most satisfactory method of protection would be to station a flagman at this crossing to warn travelers of the approach of trains.

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, protect the crossing of its tracks and South Water street in the city of Sparta by maintaining a flagman there between the hours of 6:30 a. m. and 6:30 p. m.

IN RE APPLICATION OF THE DURAND MUNICIPAL WATER WORKS PLANT FOR SUSPENSION OF THE RULE REQUIRING THAT METERS AND SERVICE PIPES BE FURNISHED BY THE UTILITY.

Decided December 12, 1912.

The city of Durand, Wis., made application that the Durand municipal water works be excused from the rule requiring that meters and service pipes be furnished by the utility.

Held: The intention of the Public Utilities Law is that all equipment incident to the production, transmission, and measurement of gas, electricity, water, etc., shall be owned and maintained by the utility, but in cases where conditions are such as to make the strict application of this rule impossible, the Commission is given authority to grant a certain amount of relief.

The experience of the Commission has been that it is best for all concerned for a water works to install and maintain meters and lay service pipes to the curb at its own expense. On account of the financial condition of the city the rule relating to meters and service pipes is temporarily suspended, however, the city is expected to acquire the ownership of all water meters on its system and all service pipes extending from the main to the curb line as soon as its financial condition will permit.

A petition, dated December 9, 1912, and signed by the mayor and city clerk of the city of Durand, Pepin county, prays that the ordinance passed by the common council October 9, 1912, establishing rules, regulations, and rates of the municipal water works, be approved by the Commission.

After a careful examination of the ordinance it is found that, with two exceptions, the rules therein contained are in accordance with the provisions of the Public Utilities Law and the decisions of the Commission. These exceptions are, namely: that meters shall be installed and maintained at the expense of the consumers, and that a charge of \$8 shall be made for tapping the main and furnishing the corporation cock, goose neck, curb cock, and curb box in addition to the consumers' furnishing and laying the service pipes. The intention of the Public Utilities Law is that all equipment incident to the production, transmission, and measurement of gas, electricity, water, etc., shall be owned and maintained by the utility, but in cases where condi-

tions are such as to make the strict application of this rule impossible, the Commission is given authority to grant a certain amount of relief.

The petition in this case sets forth that the indebtedness of the city amounts to \$29,400; that the assessed valuation is \$668,247; and that the tax levy for the year 1912 is \$16,706.17, which with a road tax of 2 mills brings the rate of taxation up to 2.7 cts. on the dollar.

In view of the fact that the city is in a rather questionable financial condition, and that the water works has just been installed and will, therefore, be productive of no revenues for some time, it seems expedient and in accord with public policy to allow the city to put into force the ordinance as submitted to the Commission.

However, the experience of the Commission has been that it is best for all concerned when a water works installs and maintains meters and lays service pipes to the curb at its own expense, and in the granting of relief in this case it is to be understood that the municipal water works of Durand is expected to acquire the ownership of all water meters on its system, and all service pipes extending from the main to the curb line as soon as the financial condition of the city will permit.

IT IS THEREFORE ORDERED, That until such time as the finances of the city will permit of the application of the rules mentioned governing the ownership of meters and service pipes to the curb line, the city of Durand be allowed to put into force the provisions of the above mentioned ordinance, and the ordinance is hereby approved.

WISCONSIN LAKES ICE AND CARTAGE COMPANY
vs.
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Nov. 12, 1912. Decided Dec. 13, 1912.

The petitioner alleged that the respondent's rate of 2.5 cts. per 100 lb. on ice from Silver Springs to Cudahy, Wis., is excessive and unreasonable and prays that the rate be reduced to 1.75 cts. per 100 lb. The rate of 1.7 cts. per 100 lb., fixed by the Commission (9 W. R. C. R. 101) for the haul from Silver Springs to Milwaukee, a distance of 7 miles, was fixed after a careful study of the cost of service and the conditions surrounding the shipment and marketing of the commodity. In the present case there is an additional distance of 7 miles which would increase the movement costs, but terminal charges remain about the same.

Held: An increase in the rate of 0.2 cts. per 100 lb. for the extra length of haul is about as much as the railway company is entitled to and the resulting rate of 1.9 cts. per 100 lb. is deemed reasonable in the present case. The respondent is ordered to discontinue its present rates between the points in question and to substitute therefor the rates prescribed by the Commission, subject to the same minimum weight and other regulations as at present in effect.

The petitioner, a corporation engaged in the harvesting and shipping of ice, alleges in its complaint that the respondent company's rate of 2.5 cts. per 100 lb. on ice from Silver Springs to Cudahy, Wis., is excessive and unreasonable and prays that the rate be reduced to 1.75 cts. per 100 lb.

The answer of the respondent company consists of a denial of the unreasonableness of the rate complained of.

The matter was heard at the office of the Commission November 12, 1912. The petitioner was represented by *George A. Schroeder* and the respondent company by *C. A. Vilas*.

The petitioner and the point of shipment in this case are the same as in the case of the *Wisconsin Lakes Ice & Cartage Co. v. C. & N. W. R. Co.* 1912, 9 W. R. C. R. 101, in which case this Commission fixed a rate of 1.7 cts. per 100 lb., or 34 cts. per ton on ice from Silver Springs to Milwaukee. The haul involved in that case was 6.9 miles, while the haul from Silver Springs to

Cudahy is 14.3 miles, the latter point being 7.4 miles south of Milwaukee. The method of shipping and marketing the ice, however, differs to some extent as between the former case and this. The movement in the earlier case was fairly continuous, from the petitioner's ice houses at Silver Springs to certain sidings in Milwaukee, and was made in competition with other ice shippers who, though located farther from Milwaukee, paid rates only a little higher than those then paid by the petitioner. In the present case, according to the testimony, the movement is not from ice houses but is direct from the river to the cars, and is confined to the first two months of the year, except in the rather infrequent instances when the customer at Cudahy runs short of ice in the summer time. The Cudahy Brothers Packing Company is the consignee at Cudahy. The petitioner meets no competition at Cudahy with other ice dealers, but the packing company has continually forced the petitioner's price down by threatening to establish an ice manufacturing plant of its own—which plant, according to the testimony, could make ice at from 60 to 75 cts. per ton. The present contract price at which the petitioner's ice is delivered at Cudahy is 80 cts. per ton, which, after taking out the 50 cts. freight charges paid under the present rate, leaves the petitioner only 30 cts. per ton for cutting and loading the ice. This margin was claimed by the petitioner to be entirely too small for profit.

As to the character of the movement from a transportation standpoint, it was testified by the president of the petitioner that the average loading is about forty to sixty cars per day when sufficient cars are available for so heavy a movement. The movement during the two months in which shipment is made amounted to 450 cars in 1912 and 305 cars in 1911. The loading per car appears to be somewhat heavier than that shown in the case of the shipments to Milwaukee in the earlier proceeding; 60,000 to 75,000 lb. per car was mentioned as the loading of cars to Cudahy. The haul, as was testified by a representative of the respondent, crosses the city of Milwaukee from north to south, passing through the main terminal yards of the respondent company and across two drawbridges.

The assistant general freight agent of the respondent company stated at the hearing that although the present 2.5 ct. rate was considered to be reasonable, still, considering the char-

acter of the commodity and the other circumstances of the case, the respondent would be willing to reduce the rate to 2 cts.

The movement of the petitioner's ice to Cudahy, while confined to a short period each year, is exceedingly heavy while it continues, and is made under conditions very favorable to a low cost of transportation. The equipment used is in no sense special, nor is the service of the railway company complicated by any necessity of switching at a large terminal. The haul is made in straight trainloads of heavily loaded cars from the petitioner's siding at Silver Springs to the Cudahy Bros. Packing Co. siding at Cudahy. The commodity is in itself a cheap commodity, and the purpose for which it is used, i. e. the cooling of refrigerators and refrigerator cars, makes it in a sense a dead loss to the user. As compared with the conditions shown to exist in the earlier case before this Commission, involving the haul from Silver Springs to Milwaukee, there are elements tending to entitle the present movement, if anything, to lower rates, distance considered, than the rates fixed in that case. The former case involved a switch within Milwaukee to different yards and team tracks, and the commodity transported was sold at an average price of about \$2 per ton. In the present case, due both to the potential competition of manufactured ice and the fact that the ice is taken direct from the river to the cars instead of being stored, the commodity is supplied to the consumer at 80 cts. per ton, and is thus less able to bear a high transportation charge than the ice involved in the earlier case, though the quality of the ice is probably the same in both cases.

The rate of 1.7 cts. per 100 lb., fixed by this Commission for the haul from Silver Springs to Milwaukee, a distance of 7 miles, was fixed after a careful study of the situation with respect to the cost of the service to the carrier and the conditions surrounding the shipment and marketing of the commodity. As in the case of all railway rates based primarily on cost, the 1.7 ct. rate was made up of a terminal charge and a movement charge, the latter being necessarily much smaller than the former on account of the very short haul. In the present case, while the addition of 7 miles to the distance results in an almost proportionate increase in the movement cost, the terminal charge remains about the same, so that the increased cost to the carrier of the 14 mile haul over the 7 mile haul is by no means propor-

tionate to the increase in mileage. In fact, when all the circumstances are considered, it seems that an increase in rate of 0.2 cts. per 100 lb. for the extra length of haul is about as much as the railway company is entitled to, and the resulting rate of 1.9 cts. per 100 lb. for the service performed between Silver Springs and Cudahy is deemed by the Commission to be in this case a reasonable rate.

We therefore find and determine that the respondent company's rate of 2.5 cts. per 100 lb. on shipments of ice from Silver Springs to Cudahy, Wis., is excessive and unreasonable, and that a reasonable rate to be applied on such shipments would be a rate of 1.9 cts. per 100 lb.

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, discontinue its present rate of 2.5 cts. per 100 lb. on carload shipments of ice from Silver Springs, Wis., to Cudahy, Wis., and that it substitute in lieu thereof a rate of 1.9 cts. per 100 lb., subject to the same minimum weight and other regulations as are at present in effect.

E. JUDD AND G. JUDD ET AL.

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Oct. 15, 1912. Decided Dec. 13, 1912.

Complaint was made that there are no facilities for the handling of freight maintained by the C. & N. W. Ry. Co. at Engle, Wis. Petitioners pray that the company be required to maintain a freight depot, stock yards, and sidings. The nearest shipping point is Dalton, three miles from Engle.

Held: Present facilities are adequate. The petition is dismissed. It is recommended that the company resume the practice of stopping freight trains for the receipt and discharge of freight in less than carload lots.

The petitioners are farmers living in the towns of Scott and Randolph in Columbia county, and in the town of Kingston, Green Lake county, respectively. They allege that the nearest railroad station and the one most accessible to them at which respondent stops its passenger trains, is Engle, a station about five miles from their places of residence; that no freight is received or delivered at this station and that their nearest shipping point is Dalton, which is about three miles from Engle; that facilities for the shipment and receipt of freight at this station are necessary for the convenience of the petitioners and others engaged in farming and dairying who reside in the vicinity of the station. Wherefore, petitioners pray that the respondent be required to maintain a freight depot, stockyards, and sidings at Engle for the shipment of produce and stock to and from Engle.

Respondent, answering the petition, denies that the business at the point in question is sufficient to warrant establishing a station or any shipping facilities.

The hearing was held October 15, 1912. *David M. Bogue* and *C. H. Christensen* appeared for the petitioners, and *C. A. Vilas* for the respondent.

At the hearing it was shown that the country surrounding the village of Engle is devoted to diversified farming. Large crops of potatoes, cabbage, grain and other produce are raised. The

dairy industry is also quite extensive. A creamery located in the village manufactures 95,000 lb. of butter and cheese annually, and another creamery naturally tributary to Engle produces approximately the same amount. All these various products are shipped to points in and out of the state. Notwithstanding the large volume of freight available in this vicinity, the service rendered by the railway company has been wholly inadequate to meet the requirements of the shippers. In order to dispose of their products, shippers are obliged to haul them long distances in order to reach shipping stations. For some time after the construction of the road the railway company stopped its trains at Engle to receive and deliver freight in less than car-load lots, but since the filing of the petition herein such service has been discontinued. At present one local passenger train each way stops at this station to take on and let off passengers.

The shipping points nearest to this station by highways are Dalton, four and one-half miles distant, Friesland, over seven miles distant, Cambria, over eight miles distant, and Pardeeville and Markesan, each about thirteen miles distant. The highways leading to some of these stations are very sandy and it is almost impossible for that reason to haul heavy loads over them. According to the contention of the petitioners, the territory naturally tributary to Engle extends about six or seven miles toward Markesan, four miles toward Friesland, four and one-half miles toward Cambria, and six or seven miles toward Pardeeville. All this territory consists of highly productive land which is particularly adapted to the raising of potatoes, which yield about \$150 per acre. It was estimated that 100 cars of potatoes would have been shipped from this station if proper facilities existed. With proper facilities the acreage devoted to the raising of potatoes will be largely increased. According to the petitioners' estimate, if products could be shipped in and out of this station the volume of traffic would increase at least one-third.

On the part of the respondent railway company it is contended that the physical conditions around Engle are such that the erection of a station there would be very objectionable, for the reason that it would necessarily be located on a curve with a 5 per cent grade approaching from west to east, which would hinder the movement of both passenger and freight trains; that

regular freight trains on this division average from 2,500 to 3,000 feet in length and are composed of from sixty to seventy cars, and that way freight trains consist of from thirty to thirty-five cars; that the resistance of freight trains in starting and stopping on such a curve is very great. The division engineer of the railway company stated, however, that to establish a station at this point would neither be unreasonable nor difficult in his estimation from an engineering standpoint, as the present track at a distance of 1,200 feet from the crossing of the highway is on a level with the surrounding land and therefore practically no grading would be required for the installation of a siding. It also appeared that it would not be necessary to place the siding at this curve for the reason that just east of the curve the track is practically level.

The railway company further contended that no station should be required at this point because of the expense of maintaining same and the danger that would be incurred in stopping local trains. In response to this objection the petitioners called attention to the fact that trains had made stops regularly previous to the filing of the petition herein and could easily continue making them, and that the danger would be diminished rather than increased on account of trains necessarily slowing up at this point instead of going under full headway over the highway crossing, which is located but a short distance from the place of the proposed station building.

The railway company was also charged with having an interest in lands in Dalton, and therefore not wishing to establish a station at Engle which would necessarily tend to hinder the growth of Dalton as a shipping point. This, however, was strenuously denied by the railway company. The reason for locating a station at Dalton, it is said, was determined by the location of the Military road, and not by the fact that the railway company had any interest in lands at Dalton, nor by the fact that Kingston and Markesan, which are but a few miles distant from Engle, are located in territory naturally tributary to the line of the Chicago, Milwaukee & St. Paul Railway Company. The company insists that Dalton is the natural location for a station in this territory. The physical conditions at Dalton are exceedingly favorable. The land is level, and therefore approaching trains and any obstruction within a distance of a mile in

either direction can be plainly seen. Automatic signals are installed west of Dalton.

In locating the station at Dalton the railway company gave the industries, that have since located there, the impression that no station would be located at Engle. At the present time the industries at Dalton consist of a lumber yard, two potato warehouses, general store, restaurant and stockyards. There is likewise at Friesland a lumber yard, coal and building material yard and stockyards. The latter were established with a view of drawing business from the territory lying southeast and northeast of the station. Randolph to the southeast, and Markesan to the northeast, can only be reached from this territory by a long wagon haul.

There was also considerable testimony offered relative to alleged oral promises of a station at Engle made by agents of the respondent railway company to the owners of land through which the railway runs when the right of way was being secured by the company. It is claimed that the owners of such land granted the right of way to the railway company at a less price than it was worth because of such promises. The testimony shows, however, that the petitioners generally received \$100 per acre, including damages, and some received more than this where private crossings were necessary and that the value of the land in the vicinity ranges from \$50 to \$100 per acre. But these are matters which cannot influence the Commission in determining the inquiry whether a station and shipping facilities at Engle are reasonably required to serve the public at that point. If in the light of all the facts and circumstances, it would be unreasonable to require the establishment of a shipping station at such point, the fact that some promises were made prior to the construction of the road could not alter the situation. It is the duty of the railway company to establish stations along its line whereby the public may be reasonably served in the matter of transportation of persons and property. In locating such stations regard must be had to the safe operation of trains as well as to the general convenience of the public at large. If stations are properly spaced along the line, although some may not be as conveniently located as might be desired from the standpoint of some of the population tributary thereto, the railway company cannot be condemned for its judgment in the premises. In case of a new

line, such as the one in question, it often happens that new stations must be opened after the line has been in operation for some time in order to render adequate service to those who require railway facilities. In the instant case we do not deem it advisable or necessary under the circumstances to require the construction and maintenance of a station building at Engle at the present time.

The distance by rail from Engle to Friesland is 5.86 miles, and from Engle to Dalton 2.96 miles. Unless some controlling necessity exists for a depot at Engle, the railway company should not be required to maintain one at such station. Three depots within a distance of less than nine miles are more than should be maintained in the absence of unusual conditions prevailing. The situation of petitioners respecting shipping facilities is no different from that of the majority of patrons of a railway company in a farming region. For the greater convenience of the public the company should resume the practice of stopping its way freight trains for the receipt and discharge of freight in less than carload lots. The discontinuance of the service was doubtless due to the apprehension that it might be regarded as evidentiary of the necessity of a station building and agent being maintained at that point. We recommend the resumption of such service.

If, as asserted by the petitioners, certain parties desire to build a warehouse at that point, then, upon proper application under the statute, the railway company could be obliged to construct a sidetrack to such warehouse for the purpose of serving the same. Whenever it is essential for the successful operation of an industry that a sidetrack be installed to serve the same, the railway company can be compelled to construct the same under the terms of the statute, providing, of course, that such sidetrack would not be unusually unsafe or dangerous to the operation of the road or unreasonably harmful to public interests. Sec. 1797—11m.

It follows from what has been said that the petition must be dismissed.

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

FREDERICK KNAPP ET AL.

vs.

MATTESON TELEPHONE COMPANY.

Submitted April 16, 1912. Decided Dec. 16, 1912.

Petitioners alleged that the Matteson Tel. Co. unjustly charges certain subscribers at Shiocton and Welcome, Wis., an equipment rental. The subscribers bought Western Electric telephones, the transmitters and receivers of which were rented to the respondent by the Wis. Tel. Co. The Western El. Co. later sold the receivers and transmitters to individuals and the subscribers were permitted to own any instruments they chose. The subscribers who purchased the instruments under the earlier arrangement are charged the rental complained of in addition to the regular rate charged subscribers who own their instruments complete. It appears that the rental was not explained at the time of purchase and these subscribers believed the charge was unjustly discriminatory.

Held: A payment not stated in the published schedule is illegal and leads to misunderstandings, as in the present case. Rates are to be adjusted to cover rental for all equipment used but not owned by the company. It is ordered that the company pay the rentals due the Wis. Tel. Co. for Bell receivers and transmitters from the regular revenues of the company and no special collection is to be levied upon subscribers.

It appears that the present rates of the company are inadequate and that certain features of the rate schedule are unlawful. A valuation was made and the revenues and expenses investigated.

A valuation of the physical property as of date October 1, 1912, shows a cost new of \$13,423, and a present value of \$9,509. A later correction in the number of rural phones gave a cost new of \$13,878 and present value of \$9,841.

The respondent in the present case has not provided a depreciation reserve in the belief that such a reserve is not necessary if the system is kept in good repair.

Held: Depreciation which cannot be made good by current repairs is continually taking place. An allowance for a depreciation reserve is made in accordance with the Public Utilities Law (sec. 1797m—15).

The rate schedule in the present case provides a rebate to subscribers who own their telephone instruments and keep them in repair.

Held: The practice of rebating is in violation of the Public Utilities Law (sec. 1797m—90). The rebate is to be eliminated and a proper rental provided in the rate schedule to be paid subscribers owning and maintaining equipment used by respondent.

It is ordered that the respondent discontinue the present rates and put into effect the schedule as approved by the Commission.

The company is to adjust its accounting procedure so as to conform with the requirements of the Commission under the Public Utilities Law.

On January 11, 1912, twenty-six subscribers of the Matteson Telephone Company at Shiocton and Welcome, Wis., joined in this complaint against the respondent. The petitioners allege that the Matteson Telephone Company is a public utility, engaged in the business of furnishing telephone service at Welcome and vicinity, and subject to the laws relative thereto, and that under the rules and regulations of the respondent the subscribers furnish and maintain the telephone instruments. The petition claims that in the fall of 1907 the respondent sold to its subscribers and stockholders Western Electric Telephone instruments, such instruments being equipped with the Western Electric transmitter and receiver, the property of, or under the control of the Wisconsin Telephone Company, with which the respondent company is connected, and for which the Wisconsin Telephone Company charges a rental of 50 cts. per year; that the Wisconsin Telephone Company requires companies with which it is connected to equip instruments with the Western Electric transmitter and receiver for which it charges a rental; and that a large number of the instruments of the subscribers of the respondent are equipped with such transmitters and receivers. The petition states, furthermore, that at the time such instruments were sold, the purchasers supposed they purchased and owned the entire instrument, nothing being said about the transmitter and receiver being the property of or under the control of the Wisconsin Telephone Company and that the purchaser or subscriber would have to pay a rental of 50 cts. per year therefor, and that the respondent demands of the petitioners, or a portion thereof, that they pay the rentals as are in arrears and in the future pay the rentals as may fall due under the terms of its contract with the Wisconsin Telephone Company. The petitioners prayed that the Commission make an order which it may deem necessary and just in the premises.

The respondent, in its answer, stated it was unable to see where it had discriminated against the petitioners and indicated its willingness to have the matter investigated.

The hearing was held on April 16, 1912, in the village of Bear Creek, Wis. *Frederick Knapp* appeared for the petitioners and *Llewellyn Cole* for the respondent.

From the testimony it appears that in the fall of 1907, when the respondent extended its line into the district where the petitioners live, they all bought Western Electric telephones, the transmitters and receivers of which belonged to or were under the control of the Wisconsin Telephone Company and were rented to the respondent at a rental of 50 cts. per year per set. It also appears that at this time, in 1907, the Western Electric Company would not sell its transmitters and receivers to individuals, but did sell them to the Bell Telephone Company. Consequently, individuals could buy all parts of the instrument excluding the receivers and transmitters. For the latter they were obliged to pay a rental of 50 cts. per year. The testimony shows, furthermore, that the Wisconsin Telephone Company at that time would not give connections to the respondent unless its phones were equipped with either the Western Electric receivers and transmitters or the Bell receivers and transmitters. The testimony of Mr. Noyes Matteson, president of the respondent company, explains that these practices were later changed, so that at the time this complaint was filed (January 1912) the Western Electric Company was selling its transmitters and receivers to individuals. It appears also that by this time the respondent permitted its subscribers to use any instrument they chose, so that by buying the Western Electric or other type of receiver and transmitter the subscribers could avoid the payment of a rental.

There were at this time, January 1912, four principal kinds or combinations of telephones in general use on the respondent's line. There were the Kellog instruments complete, the Kellog instruments with the rented Bell receivers and transmitters, the Western Electric instruments complete, and the Western Electric instruments with the rented Bell receivers and transmitters. In addition to these four classes there were also in use two Julius Andrae phones, and one Western. These instruments were complete and not subject to the 50 ct. rental. Where the subscribers owned their instruments complete, the net rate for rural subscribers was 50 cts. per month. Where they owned the instruments except the receivers and transmitters, which were rented by the respondent from the Wisconsin Telephone Company, the net rate was 50 cts. per month and in addition 50 cts. per year as the rental charge of such transmitters and receivers. The complaint

seems to have been the result of a misunderstanding, due to the fact that the petitioners were under the impression that when their instruments were installed they had purchased them complete and owned them outright. As the rental arrangement for the receivers and transmitters was not explained to them at the time of purchase, those subscribers who had the Bell receivers and transmitters were of the opinion that they were being discriminated against because they were charged 50 cts. per year more than other subscribers of the respondent company.

It appears that the transmitters of the petitioners' instruments were stamped to the effect that they were the property of the Bell Telephone Company, but the subscribers do not appear to have taken this as an indication of ownership by the Bell people.

The reasonableness of the rental charge of 50 cts. per year was not questioned, the objection being that the rental feature was not explained when the instruments were installed. It was further developed that all who did not own their instruments complete were charged for the rent, and all who owned them complete were not charged, and thus no discrimination between the subscribers was practiced.

From the correspondence with petitioners, the petition, and the testimony it is apparent that this complaint arose out of an unfortunate misunderstanding between the petitioners and the respondent, in that the former believed they had purchased their telephones complete when they were installed, and the latter had neglected to explain that the transmitters and receivers belonged to or were under the control of the Wisconsin Telephone Company and carried with them a rental of 50 cts. per year, and could not at that time be purchased by individuals. The situation was carefully explained at the hearing, and the president of the respondent company offered to furnish at cost and install free of charge the receivers and transmitters for all subscribers who were renting them and desired to own them instead. There appeared to be no discrimination as between the subscribers and no belief that the rental was unreasonable or that the respondent had intentionally deceived the petitioners.

An examination of the rate schedule of the Matteson Telephone Company filed on April 20, 1910, in this office shows that it is granting a rebate for repairs and equipment rentals. This

is unlawful according to sec. 1797m—90 of the Public Utilities Law 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; provided nothing herein shall be construed as prohibiting any public utility from renting any facilities incident to the * * * conveyance of telephone messages and paying a reasonable rental therefor * * *.”

The Commission has determined that a telephone company may have subscribers who own their equipment and pay them a reasonable rental therefor, but rebates in the form of repairs or equipment rentals are unlawful. (*In re Badger Tel. Co.* 1908, 3 W. R. C. R. 98, 112.) Some adjustments must therefore be made in the respondent's rate schedule which will eliminate the rebate and substitute in its stead a proper rental paid by the respondent to its subscribers in consideration of equipment supplied by them for the use of respondent.

The rates of the Matteson Telephone Company filed with this Commission, April 30, 1910, and in force at the time of the hearings on the present case are as follows:

Business places on private wire	\$1.50	per month
Residence “ “	1.00	“
Business “ party line	1.00	“
Residence “ “ .....	.75	“
<i>Tolls</i>		
To nearest switchboard.....	.10	
From switchboard to any point on rural lines...	.10	
Through message .....	.15	
Rebate of 25 cts. per month to parties who own phones and keep them in repair.		

Further reference to these rates will be made later in connection with a discussion of the proposed changes in the schedule.

Our next consideration is the income supplied from these rates. The income accounts as reported by the company for June 30, 1911, and June 30, 1912, respectively, are given below in a comparative table:

	1911	1912
REVENUES.		
Exchange telephone earnings.....	\$621 00	\$1,721 75
Earnings from connecting lines.....	692 80	106 60
Misc. exchange system earnings.....	464 60	133 78
Total	\$1,778 40	\$1,967 13
EXPENSES.		
Central office—manual.....	\$300 00	\$480 00
Wire plant.....		2300 00
Commercial.....	294 73	20 33
General.....	302 40	586 57
Undistributed.....		225 00
Total of above	\$897 13	\$1,411 90
Depreciation.....	489 18	
Taxes.....	38 09	45 49
Total operating expenses	\$1,424 40	\$1,457 39
Net operating revenue	\$354 00	\$509 74

¹Footing of earnings is in error by \$3.08 and this amount has been added to "Misc. exchange system earnings" to give correct total

²Company's estimate.

An inspection of these income statements at once discloses from the irregular manner in which items fluctuate that either an accurate system of accounts has not been maintained or else the proper rules for distributing revenues and expenses have not been followed. Inasmuch as certain items of the 1912 report are labeled as estimates, the conclusion reached is that the company has not kept an accurate set of books meeting the requirements of the Commission.

As an illustration of this point let us consider the exchange telephone earnings for 1911. This necessitates first of all a statement of the subscribers as classified in the June 30, 1912 report.

CLASSIFICATION OF SUBSCRIBERS.

	First of year.	Increased.	Discontinued.	Close of year.
VILLAGE SERVICE.				
One party business.....	19		3	16
One party residence.....	17		1	16
Two party business and residence	4			4
Total village	40		4	36
RURAL SERVICE.				
Out of Welcome.....	121	4		125
Out of Clintonville.....	68	1	1	68
Total rural	189	5	1	193
Total village and rural	229	5	5	229

If the four "Two party business and residence" phones be classed as "One party residence" (since there are no two-party rates) and if the 189 rural phones be all placed on the 75 ct. rate, then the "Exchange telephone earnings" for 1911, computed from the classification of subscribers and the corresponding rates, amount to \$1,728. This would be cut down by about \$570 for rebates, leaving \$1,158 net. As only \$621 have been actually reported for 1911, it is evident that the report is in error. The toll earnings, however, as pointed out in letters from the respondent company, are a small proportion of the total business. It is therefore probable that the total earnings are not far from correct.

Operating expenses for 1911 are incompletely reported and not fully reliable. They include an item for depreciation, \$489.18, which probably is current ordinary repairs which should have been distributed among the proper maintenance accounts. This opinion is strengthened from the fact that the company has no depreciation reserve.

In view of these irregularities in the income accounts, what amounts should the Commission accept as normal? The exchange telephone earnings for 1912 seem to have been accurately reported, for when the earnings are computed from the rates and subscribers in 1912 a resulting revenue of \$2,265 is obtained. This should be reduced by the amount of rebates of \$3 per year customarily allowed by the company to those who own and maintain their phones. Allowing for this a deduction of \$579 ($193 \times \3), we find telephone exchange earnings in 1912 to be \$1,686, which is within \$35 of the amount reported by company. The other two items are small and presumably correct. Since the earnings for 1912 seem to be correctly reported and are between the 1910 earnings of \$2,061.94 and the 1911 earnings of \$1,778.40, it seems fair to accept the 1912 figure as normal.

As regards the operating expenses, we find the totals for 1911 and 1912 to very nearly correspond. Expenses for 1910 were reported at \$1,104.34, about \$300 lower than the next two succeeding years. Since the 1912 report seems to represent the company's best apportionment of expenses and as there is nothing abnormal about it, unless it be the rather high general expenses, we have accepted the 1912 expenses and earnings as normal.

The net income available for depreciation and interest, therefore, is taken to be \$509.74, the 1912 net income. The rate of return that these net earnings constitute on a valuation of the property is of the greatest importance in determining whether any adjustments in the rates are warranted.

A valuation as of date October 1, 1912, has been made by the engineering staff of the Commission. The different elements of this valuation are summarized herewith:

VALUATION.
As of October 1, 1912.

	Cost new.	Present value.
Land.....	\$400 00	\$400 00
Distribution system.....	10,005 00	6,582 00
Buildings and miscellaneous structures.....	865 00	865 00
Exchange equipment.....	450 00	412 00
General equipment.....	94 00	61 00
Paving.....		
Total.....	\$11,814 00	\$3,320 00
Add 12% (see note).....	1,418 00	998 00
Total.....	\$13,232 00	\$9,318 00
Material and supplies.....	191 00	191 00
Total.....	\$13,423 00	\$9,509 00

NOTE:—To cover engineering, superintendence, interest during construction, contingencies, etc.

The book value shown in the 1912 report is only \$6,100, but as the accounts have not been very accurately kept, this value can not be relied upon.

The net income of \$509.74 available for depreciation and interest constitutes about 3.8 per cent of the cost new and about 5.4 per cent of the present value. If an allowance of 6.5 per cent were made for depreciation, which would appear to be a fair allowance, this net income would not be sufficient even to care for depreciation, to say nothing of return on investment. It is evident, therefore, that the rates must be so altered as to allow for depreciation and interest.

Before finally determining how far short the present net income falls in providing for depreciation and return, there is a minor correction to be made in the valuation. In the detailed items under substation equipment there were included 41 city telephones and 160 rural telephones. According to a memorandum received on November 21 from Mr. Noyes Matteson, presi-

dent of the respondent company, there were 195 rural phones, and 38 city phones in use. These numbers check very closely with those reported under the table of subscribers already referred to. As this memorandum has an important bearing on the case we have reproduced it here:

CLASSIFICATION OF INSTRUMENTS BY TYPE AND OWNERSHIP.

Type.	Total in service.	Owned by customer.	Owned by company.
Julius Andrae	3	3	0
Complete Western Elec.	40	38	2
Complete Kellog.	137	125	12
Western Elec. with Bell transmitter and receiver.	40	16	24
Kellog with Bell transmitter and receiver.	12	12	0
Western	1	1	0
Total	233	195	38

From this memorandum and other correspondence with the company it appears that all rural phones are owned by the subscribers themselves. In order to show the total property valuation regardless of ownership, it will be necessary to add to the "cost new" figure an amount covering the cost new of 35 additional rural phones at \$13 per phone or \$455, and to add to the "present value" figure the present value of those 35 phones or \$332, considering them to be 27 per cent depreciated. These corrections will give a cost new of \$13,878 and a present value of \$9,841.

With these corrected valuations as a basis, we can proceed to compute allowances for depreciation and interest. A depreciation allowance of 6.5 per cent on the cost new and an interest allowance of 7.5 per cent on the present value seem fair and reasonable. A computation of 6.5 per cent on the corrected cost new figure, \$13,878, gives a depreciation allowance of \$902. When 7.5 per cent for interest is computed on the present value figure of \$9,841, we arrive at an interest allowance of \$738. The two together make \$1,640 required for interest and depreciation.

Before discussing changes in the regular charges, we have to consider what effect, if any, the substitution of a rental payment in place of the rebate of 25 cts. per month will have upon the net income.

It has already been pointed out that to allow a rebate for equipment or services furnished by subscribers is unlawful. It is permissible, however, for the utility to pay its customers a rental for instruments supplied by them. "The company may purchase or rent such instruments, or the subscribers may continue to own the instruments they now have and the company may purchase new instruments wherever necessary, but no subscriber can be allowed a lower rate on account of his owning an instrument." (*In re Badger Tel. Co.*, 1908, 3 W. R. C. R. 98, 112).

Assuming an investment of \$13 for each rural phone and allowing 14 per cent for interest and depreciation on the full value of \$13, we find that interest and depreciation per phone will amount to \$1.82 per year. The amount of interest and depreciation previously estimated for the total investment included a portion for phones owned by customers. Since the company has been spared the investment in rural phones and since they are maintained by the owners themselves, the company can afford to pay a rental which will include interest, depreciation, and ordinary maintenance for the investment of \$13 per phone. Allowing 10 cts. per month for maintenance cost, we get a total amount for rental of about \$3 per year. These allowances are very liberal and it seems clear that a monthly rental of 25 cts. to subscribers who own their instruments complete is ample.

In some way consideration must be given to the fact that some subscribers only own a portion of their instruments. That is to say, there are, according to the memorandum from the company filed on November 21, some twenty-eight subscribers who own their phones excepting the receivers and transmitters which are under the control of the Wisconsin Telephone Company and are subject to a yearly rental of 50 cts. These subscribers have invested about \$3 less in their instruments and are not entitled to so large a rental.

Under the company's practice these twenty-eight or more customers are charged 50 cts. a year in order to reimburse the Matteson Telephone Company for part of what it has to turn over to the Wisconsin Telephone Company. This practice is improper. The proper way of viewing this rental is to consider that the local company is expected to furnish telephone instruments to its subscribers. If now the subscribers see fit to buy their own instru-

ments complete, then the company should pay them a reasonable rental. Where instruments are not furnished by subscribers the company has the option of buying instruments complete (from the Western Electric Company, for example) or of getting them from the Bell people and paying them rent for receivers and transmitters. In either case, where equipment is owned by someone other than the company, the latter should pay a rental to the owner. Of course, this rental enters into the operating expenses of the plant and may necessitate higher rates to cover it. The rates should be sufficiently high to permit the utility to pay a rental for equipment used but not owned by it. The other procedure of levying a tax not stated in the published rates is illegal and leads to misunderstandings, such as we have in the present case. The only proper way, therefore, to treat these rentals of Bell receivers and transmitters is for the company itself to pay them—entirely eliminating the 50 ct. yearly charge to customers.

The effect of this treatment, then, is that the company is to pay rent for the receivers and transmitters to the Wisconsin Telephone Company and to pay rent to the subscribers for the balance of the equipment when owned by them. Since the receiver and transmitter rental is placed by the Wisconsin Telephone Company at 50 cts. per year, and since \$3 per year has been estimated as a fair rental for the equipment complete, an amount of about \$2.50 represents the yearly rental to be paid to those subscribers who own all the instrument excepting the receiver and transmitter. The amount adopted by the Commission for this rental is \$2.40 per year, making the monthly rental 20 cts.

Under the practice of rebating 25 cts. a month for repairs done by subscribers, there was rebated for 1912 about \$585 ($195 \times \3). Under the proposed plan of rentals, the company will pay to about 167 subscribers an annual rental of \$3 each, or a total of \$501; it will pay to about 28 subscribers an annual rental of \$2.40 each or a total of about \$70; and it will be obliged to pay from its regular funds an annual 50 ct. rental for Bell receivers and transmitters in use by some 28 subscribers, making a total here of \$14. The three items total up to \$585 and exactly offset the extra revenues which would be received if the company collected its full rates now in force.

Referring back to the discussion on depreciation and interest allowances, we have estimated depreciation and interest require-

ments to be \$1,640. This amount set against the actual net income of \$509, leaves \$1,131 shortage. This latter amount must be supplied through an increase in rates.

The heaviest share of this increase will have to be borne by the rural subscribers. The telephone company was primarily built for farmers, and as 195 out of a total of 233 subscribers are farmers, the increase, when distributed among them, will rest more evenly than if too high a burden were placed on village subscribers. After a careful consideration of the company's rates, it is the judgment of the Commission that this increase can most fairly be effected by raising rates in the following manner:

Class of service.	Existing rates.	Proposed increase.	Proposed rate.
1. Business places on private wire.....	\$1.50	\$0.25	\$1.75
2. Residence places on private wire.....	1.00	.25	1.25
3. Business places on party line.....	1.00	.45	1.45
4. Residence places on party line.....	.75	.45	1.20

The amount of increase and revenue that will come from each class of customers can best be estimated by turning to a classification of subscribers as submitted by the company in November 1912:

CLASSIFICATION OF SUBSCRIBERS,

As of November, 1912; According to Rates Charged.

Class of service.	Number in service.	Total annual increase in revenues.
Business phones on private wire.....	17	\$51.00
Residence phones on private wire.....	21	63.00
Business phones on party line.....	10	54.00
Residence phones on party line.....	185	999.00
Total.....	233	\$1,167.00

The above monthly increases multiplied by the phones in service give annual increases in revenues as indicated in the table.

The \$1,167 increase in revenues thus obtained is \$36 more than the shortage which had been estimated at \$1,131. At first thought these proposed rates may appear rather high. On more careful consideration however, it will become evident that they are thoroughly justified. In the first place, the company is making no

allowance for depreciation. A memorandum in their 1912 report reads,—“We have never put aside any sum for depreciation but have kept our line in good repair * * *.” This procedure ignores the fact that depreciation which can not be made good by current repairs is continually taking place. Current repairs are not sufficient, but in addition a definite allowance for other depreciation must be regularly set aside by charges to income and credits to a reserve. To ward against depreciation not covered by current repairs, a depreciation reserve must be carried on the books of the company. Another reason why this reserve is so indispensable is that it equalizes depreciation charges. From the 1911 and 1912 income accounts, given elsewhere, it appears that \$489.18 was charged against depreciation in 1911, whereas nothing was charged in 1912. With a depreciation reserve, charges are evenly divided and one year's income is not obliged to bear the burden of a replacement for which several years' operation may have been responsible. The company should immediately establish a depreciation reserve in accordance with the Public Utilities Law.

The second point calling for the increase in rates is return on the investment. Present rates do not provide for this. A rate of return of about 7.5 per cent has been considered reasonable in this case. It should be noted here that practically all of the subscribers are stockholders. That means that a portion of this increase will be returned to them in the form of dividends. As the Public Utilities Law requires that all customers be treated alike, it is not possible to make a lower rate to stockholders than to the others. The only way in which they can be reimbursed is through dividends declared after allowance has been made for depreciation.

It should also be noted that the net rates to the majority of subscribers will be somewhat lower than the gross rate. This is due to the rentals paid where subscribers own their phones. The village subscribers presumably will not have any rental paid to them so that their rates as paid will be \$1.75 and \$1.25 for business and residence respectively. Where subscribers own the entire phone, they will receive a monthly rental of 25 cts., and business party users will actually pay only \$1.20 while residence users will actually pay 95 cts. Where subscribers own all but the receivers and transmitters they will be paid a rental of 20 cts. a

month. Thus business phones on party lines, where receivers and transmitters belong to the Bell Telephone Company, will actually pay a net rate of \$1.25 per month, and residence phones under similar conditions will pay an actual net rental of \$1.00 per month. To summarize the effect of the new rates upon the classes of subscribers in another manner, it may be said that for subscribers on a party line owning the entire instrument, there will be a net annual increase of \$2.40; and for subscribers on a party line owning all but receivers and transmitters, there will be a net annual increase of \$3.00.

In making this investigation of and final adjustment in the rates of the Matteson Telephone Company, the Commission has gone beyond the scope of the original complaint. It has been necessary to do this for two reasons. In the first place, the company's practice of allowing rebates constituted a violation of law and necessitated an investigation of the rates to determine how this violation might best be eliminated. Then there was the second reason, that the company's income was so low that under its rates in force prior to this decision it could not comply with sec. 1797m—15 of the Public Utilities Law requiring public utilities to carry on their books a depreciation reserve.

In consideration, then, of the company's inability under present rates to secure adequate revenues for depreciation and interest, the proposed rates do not seem excessive.

It does not appear necessary to make any changes in toll charges.

THEREFORE, IT IS ORDERED:

1. That the respondent in this case, the Matteson Telephone Company, discontinue its present schedule of rates for telephone service and substitute therefor the following schedule:

Business places on private wire	\$1.75	per month
Residence places on private wire	1.25	“ “
Business places on party line	1.45	“ “
Residence places on party line	1.20	“ “
Tolls—to nearest switchboard	.10	per call
From switchboard to any point		
on rural lines	.10	“ “
Through message	.15	“ “

Rentals.—Where the subscriber owns his telephone instrument complete and maintains it, he shall be paid a monthly rental of 25 cts.

Where the subscriber owns all parts of the instruments excepting the receiver and transmitter, and maintains the telephone, he shall be paid a monthly rental of 20 cts.

2. In presenting bills to its customers, the bill shall show the full rate charged together with the amount of rental due from the company for the month, and subscribers' records and general books shall be so kept that (a) revenues shall represent the *total* earnings and not the net amount, and that (b) rentals paid for telephone instruments not owned by the company shall be reported as an operating expense under the account heading of "Substation expense—exchange."

3. Rentals due the Wisconsin Telephone Company for Bell receivers and transmitters in use by the company shall be paid from the regular revenues of the company and no special collection therefor shall be levied upon subscribers.

4. Rural subscribers shall continue to maintain their telephones at their own expense, rates having been adjusted on the assumption that this would be the case; village phones shall be maintained by the company.

5. The company shall establish a depreciation reserve, making regular yearly charges against income and credits to the depreciation reserve account of such an amount as will include \$900 to cover the valuation as of October 1, 1912, and 6.5 per cent on all additions to property since that time.

6. The company shall adjust its accounting procedure so as to conform with the requirements of the Commission under the Public Utilities Law.

IN RE APPLICATION OF THE CITY OF MILWAUKEE FOR AUTHORITY TO REQUIRE ALL CONSUMERS TO INSTALL WATER METERS.

Decided Dec. 17, 1912.

Application was made by the city of Milwaukee, Wis., for authority to require all flat rate consumers of water to install meters.

Held: The installation of meters is desirable and should be accomplished wherever possible. The applicant is authorized to require the installation of water meters of the type or types approved by the water department on all unmetered services.

On December 16, 1912, the city of Milwaukee, by its superintendent of water works, Mr. H. P. Bohmann, made application to the Commission for authority to require all consumers of water to have water meters installed for the purpose of measuring the amount of water used by such consumers.

It was pointed out in the application that as the result of an inspection made by the water department of the unmetered service in the city of Milwaukee, it was found that in many instances large quantities of water were being used in excess of the amount reasonably required and in excess of the amount which consumers were entitled to under the flat rate. The application attributed this waste largely to defective plumbing, such as leaky closets and faucets.

As a result of the inspection, notices to meter water services were issued to 178 consumers where the department had evidence of excessive use or waste and all but four consumers complied with the order.

Attention is called to the rule of the department which permits the ordering of the installation of meters on any premises where the department has reason to believe that an unnecessary or fraudulent use of water is being made. It is pointed out that the department has approximately 57,000 metered services and only about 650 unmetered services, and the application states that it would be to the interest of the department as well as to

the best interests of the metered consumers to require the installation of meters upon the remaining unmetered services.

No discussion of this proposed order appears to be necessary. The Commission has always taken the attitude that the installation of meters is desirable and should be accomplished wherever possible. This case appears to be no exception.

THE APPLICANT, the city of Milwaukee, IS THEREFORE AUTHORIZED to require the installation of water meters of such type or types as shall be approved by the water department upon all unmetered services to which water is supplied by the city.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF RATES, RULES AND REGULATIONS OF EVANSVILLE MUNICIPAL ELECTRIC LIGHT PLANT.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF RATES, RULES AND REGULATIONS OF EVANSVILLE MUNICIPAL WATER WORKS.

Submitted May 24, 1912. Decided Dec. 20, 1912.

The Commission, on its own motion, investigated the rates, rules and regulations of the municipal electric and water utilities of Evansville, Wis. A valuation was made and the revenues and expenses investigated. An apportionment was made between the electric and water utilities and a further apportionment between the departments of each service.

A valuation of physical property, as of date May 1, 1912, showed a cost of reproduction of the electric utility of \$29,209 and a present value of \$24,099; and a cost of reproduction of the water utility of \$39,130 and a present value of \$37,122.

A request was made for authority to discontinue the present flat rates for electric and water service.

Held: Flat rates ordinarily lead to unjust distribution of the operating burden and should be abandoned when meters can be provided.

A special rate is charged when transformers, meters and lamp renewals are furnished by the consumer. These consumers are to be charged the regular rate, and the equipment is to be purchased by the utility at the depreciated value.

Certain consumers are supplied with occasional or emergency service. The ordinary meter charge does not meet the cost of occasional service as it is largely a demand cost. A rate is provided consisting of a fixed monthly charge dependent on the active load, and a meter rate for current consumed.

Consumers who do not use service for a month or two of each year request temporary disconnection to avoid the fixed or minimum charge. This results in additional expense for disconnection and reconnection services and a charge for reconnection is provided.

For street lighting a rate per arc lamp and per 80 watt tungsten lamp per year is determined in order that the total amount for this service may be adjusted in accord with changes in the number of lamps.

It is the practice of the water utility to sell meters to consumers at a uniform rate.

Held: In the present case, it is advisable that the utility own the meters and the rates are to be adjusted on that basis. The owners of meters are to be paid the depreciated value, including the cost of installation where that cost was paid by the consumer. All meters hereafter installed by the water department are to be placed at its own expense.

A ruling is requested as to the manner of charging for the installation of services.

Held: Under ordinary conditions, the water utility should own the services to the curb and retain the responsibility for all equipment located in the public street. In the present case, early practices created a condition under which little is to be gained

by changing the existing method. The present charge for installing services is to be continued, and the water department is to bear all additional cost of the service and maintenance and renewal costs.

If reasonably accurate records are kept of the number of trips made by the sprinkling wagons the quantity of water used for this purpose may be estimated and the charge made on a quantity basis.

The rate provided for fire protection is adequate to cover the cost of water necessary for sewer flushing.

Water used by public fountains is to be charged for at commercial rates. The amount of water used by fountains not metered is to be estimated from the amount used by similar metered fountains.

It is ordered that the city abandon the present rates for water and electric service and put in effect the schedules approved by the Commission.

This matter is an investigation, on motion of the Commission, of the rates, rules and regulations of the municipal electric and water utilities of Evansville, Wis. The investigation arises from a series of requests from the city's officials for assistance in revising and adjusting the rates and practices of its utilities.

Hearing was held May 24, 1912, at the office of the Commission. The following appearances were entered: *E. S. Cary*, superintendent of the water and light department; *S. T. Swanson*, city attorney; *F. A. Frost* and *John S. Baker*.

EXISTING WATER RATES.

Flat Rates.

Banks, including one wash basin.....	\$8.00
Bakeries, daily average 2 barrels of flour.....	4.00
Each additional barrel.....	2.00
Barber shops, one chair and basin.....	5.00
Each additional chair.....	1.00
Bathtubs—In barber shop, each.....	4.00
In private dwellings, 1 tub.....	3.00
Each additional tub.....	2.00
In hotels, and boarding houses, 1 tub.....	8.00
Each additional tub.....	4.00
Billiard rooms, each table.....	2.00
Blacksmith shops, one fire.....	5.00
Each additional fire.....	1.00
Boarding and lodging houses, per room.....	1.00
No license less than.....	10.00
Bottling establishments—Meter rates	
Building purposes, bricks per thousand.....	.10
Stone per cord.....	.15
Plastering per 100 square yards.....	.15
Butcher shops.....	8.00
Cigar factories, for first 5 hands.....	5.00
Each additional hand.....	.50
Churches.....	5.00
Cisterns, filling—Special	
Dental office.....	5.00

Drug stores	\$8.00
Dwellings, for domestic purposes:	
Each family, first faucet.....	5.00
Each additional faucet.....	1.50
Bath tub, extra.....	3.00
Water closet, extra.....	2.50
Wash basin, first basin free, all others each.....	1.00
Eating houses and restaurants—Special	
Fountains, from April 1 to Nov. 1, six hours per day, 1/8	
inch orifice	15.00
1/16 inch orifice.....	10.00
Green houses—Special	
Hose, for sprinkling streets, washing windows and side	
walks, per lineal foot.....	.10
For sprinkling lawns, 1/8 inch nozzle, season from May 1	
to October 1, from 6 to 8 a. m. and 6 to 8 p. m.,	
for lot of 66 ft. front or less.....	5.00
Additional frontage per ft.....	.06
Hotels, per room.....	1.00
No license less than.....	10.00
Ice cream saloons, three tables.....	5.00
Each additional table.....	.50
Laundries—Special or meter rates	
Laundries in dwellings, per tap.....	1.50
Livery stables, per stall, including carriage washing; double	
stalls to be counted as two stalls.....	1.00
Manufacturing establishments—Special or meter rates	
Offices, one basin.....	5.00
Photograph galleries	15.00
Private stables, including carriage washing, one or two	
animals	3.00
Each additional animal over two.....	1.00
Printing offices—Special or meter rates	
Public halls, \$5.00 and upwards	
Railroad depots—Special rates	
Stores, one faucet.....	5.00
Schools, private—Special rates	
Schools, public—Special rates	
Soda fountains	5.00
Steam engines—Special rates	
Street sprinkling carts—Special rates	
Urinals, constant flow—Special rates	
Urinals in hotels, boarding houses, etc. 1 bowl.....	3.00
Each additional bowl.....	1.50
In stores, banks, offices, one bowl.....	2.00
Each additional bowl.....	1.50
In private houses, one bowl.....	2.00
Each additional bowl.....	1.50
Water closets, public, per bowl.....	5.00
Water closets, private, per bowl.....	2.50
Work shops, special rates.	

Meter Rates.

Minimum charge \$5.00 per annum.

When the daily consumption is:

10 to .	300 gallons per 1,000 gallons	\$0.30
300 to 1,000	“ “ .....	.25
1,000 to 6,000	“ “ .....	.20
6,000 to 14,000	“ “ .....	.15
14,000 to 20,000	“ “ .....	.13
20,000 to 30,000	“ “ .....	.12
Above 30,000	“ “ .....	.10

EXISTING ELECTRIC RATES.

COMMERCIAL LIGHTING.

Meter Rates:

A minimum charge of 75 cts. per month will be made on residence electric lights (one or more lights), and the following sliding scale is adopted:

- 7,000 watts per month, 15 cts. per 1,000 watts, \$1.05 per month, \$3.15 per quarter.
- 10,000 watts per month, 14 cts. per 1,000 watts, \$1.40 per month, \$4.20 per quarter.
- 15,000 watts per month, 13 cts. per 1,000 watts, \$1.95 per month, \$5.85 per quarter.
- 20,000 watts per month, 12 cts. per 1,000 watts, \$2.40 per month, \$7.20 per quarter.
- 25,000 watts per month, 11 cts. per 1,000 watts, \$2.75 per month, \$8.25 per quarter.
- 30,000 watts per month, 10 cts. per 1,000 watts, \$3.00 per month, \$9.00 per quarter.

All residence meter rents of 25 cts. per month shall be discontinued after any one consumer shall have paid four years meter rent dating from July 1, 1902. If paid in advance a discount of 10 per cent will be allowed. In event a customer discontinuing the use of electric lights, either of his own accord or by violations of the rules and regulations, the meter shall be taken out; and in event of said customer returning to the service, he shall be termed as a new customer and charged meter rent as before.

Store lighting or other large customers will be entitled to the following rates:

- Up to 70,000 watts per month, 10 cts. per 1,000 watts, \$7.00 per month, \$21.00 per quarter.
- Up to 200,000 watts per month, 9 cts. per 1,000 watts, \$18.00 per month, \$54.00 per quarter.
- Up to 400,000 watts per month, 8 cts. per 1,000 watts, \$32.00 per month, \$96.00 per quarter.

To customers using lights daily, meter rents will be discontinued under same conditions as govern residence lighting.

Stores or other large customers using electric lights partially, or for their protection only, shall be subject to a meter rent of 25 cts. per month plus 10 cents per kw-hr. consumed.

No charge made for connecting building to line.

Special Rates:

John Brand, warehouse.....	12	cts.	per	kw-hr.
Barnard & Wilder, warehouse.....	12	"	"	"
Ed. E. Smith, warehouse.....	12	"	"	"
Geo. Rummeil, warehouse.....	12	"	"	"
Baker Mfg. Co.....	8	"	"	"
D. E. Wood Btr. Co.....	8	"	"	"
Y. M. C. A.....	7½	"	"	"

Flat Rates:

- A. Richardson, 1 light, 60 cts. per month.
- R. M. Antere, 1 light, 60 cts. per month.
- Commercial Club, hitch yard two 32 c-p. lamps free.
- Grange, hitch yard, two 32 c-p. lamps free.

COMMERCIAL POWER.

Fixed Charge:

50 cts. per h. p. connected per month.

Meter Charge:

6 cts. per kw-hr. consumed.

STREET LIGHTING.

- 17 6.6 ampere, 72 volt, a. c. series enclosed arcs-burning from 1,200 to 1,400 hours per annum on a moonlight schedule. Rate \$80 per lamp per year.
- 15 60 watt. 110 volt, a. c. multiple carbon incandescent lamps, same burning schedule as the arcs. Rate \$10.00 per lamp per year.
- 37 80 watt, 6.6 ampere, a. c. series tungsten lamps, same burning schedule as the arcs. No rate established.

VALUATION.

Valuation of the physical property was made by the Commission's engineers showing the following values as of May 1, 1912:

Water utility, cost new	\$39,130
present value	37,122
Electric utility, cost new	29,209
present value	24,099

The valuation of the property was considered at the hearing. No modification was suggested. Further examination of the inventory reveals that the foregoing values should be divided as follows between municipal and commercial service:

	Cost new.	Present value.
WATER UTILITY		
Fire protection	\$25,002	\$23,800
Commercial service	14,638	3,322
ELECTRIC UTILITY		
Commercial service	24,986	20,080
Street lighting	4,823	4,019

The bonds outstanding against both departments of the business amount to \$51,000 and bear interest at 4 per cent. The funded debt is therefore about \$17,000 less than the cost of reproduction and \$10,000 less than the present value.

OPERATING COSTS.

The income accounts of the joint utility are shown for two years by the following statement:

TABLE I.
INCOME ACCOUNTS OF JOINT UTILITY.
WATER AND ELECTRIC.

	Year ending	
	June 30, 1911	June 30, 1912
OPERATING REVENUES.		
Commercial lighting earnings.....	\$7,154 58	\$8,060 03
Municipal contract lighting earnings.....	2,500 00	2,500 00
Commercial power earnings.....	374 69	625 18
Commercial water.....	1,790 08	1,954 26
Industrial	82 27	74 08
Municipal hydrant	2,000 00	2,000 00
Street sprinkling	50 00	50 00
Total operating revenues.....	\$13,951 62	\$15,263 55
OPERATING EXPENSES.		
Steam power.....	\$6,206 35	\$6,166 92
Distribution.....	1,609 79	1,186 79
Consumption.....	788 18	1,048 66
Commercial.....	47 63	15 72
General.....	550 34	451 58
Undistributed.....	20 00	121 94
Total above expenses.....	\$9,222 29	\$8,991 61
Net operating revenue.....	\$4,729 33	\$6,271 94
Non-operating revenues.....	162 83	120 00
Total remaining for interest, taxes and depreciation..	\$4,661 50	\$6,392 54
Remaining in per cent of cost of plant new.....	6.8	9.4
Remaining in per cent of present value of plant....	7.5	10.5

¹Deficit.

Although the cost of operation remained about the same, the operating revenues were about \$1,300 more for the year ending June 30, 1912, than for the preceding year. The output of the plant increased correspondingly. The pumpage for the year ending June 30, 1911, was 19,663,000 gallons and for the following year it was 20,410,000 gallons. The electric output likewise increased from 113,044 kw-hr. to 127,764 kw-hr. These facts indicate greater economy of operation during the year ending June 30, 1912. The expenses for this period are divided, in Table II, between water and electric service. Adjustment has been made of the expenses of the electric utility because some construction costs were included with operating expenses.

TABLE II.
 APPORTIONMENT OF OPERATING EXPENSES.
 BETWEEN WATER AND ELECTRIC UTILITIES.
 Year ending June 30, 1912.

	Total.	Water utility.	Electric utility.
Power.....	\$3,166 92	\$1,987 44	\$4,179 48
Distribution.....	1,186 79	307 61	879 18
Consumption.....	387 85		387 85
Commercial.....	15 72		15 72
Total of above items.....	\$7,757 28	\$2,295 05	\$5,462 23
General.....	451 58	133 67	317 91
Undistributed.....	121 94	36 09	85 85
Interest, taxes and depreciation.....	5,269 00	2,348 00	2,921 00
Total operating expenses.....	\$13,599 80	\$4,812 81	\$8,786 99

The allowances for interest, taxes and depreciation are based upon the value of the property and upon the nature of the equipment comprising the plants. These sums are to be divided between municipal and commercial service in proportion to the investment devoted to each.

ELECTRIC DEPARTMENT.

The operating expenses for the electric department have been divided between capacity and output and between commercial and street lighting service as shown below:

TABLE III.
 APPORTIONMENT OF ELECTRIC OPERATING EXPENSES
 BETWEEN CAPACITY AND OUTPUT.

	Total.	Capacity.	Output
Power.....	\$1,179 48	\$1,984 47	\$2,195 01
Distribution.....	879 18	703 34	175 84
Consumption.....	387 85	52 13	335 72
Commercial.....	15 72	7 86	7 86
Total of above items.....	\$5,462 23	\$2,747 80	\$2,714 43
General.....	317 91	159 91	158 00
Undistributed.....	85 85	43 18	42 67
Interest, taxes and depreciation.....	2,921 00	1,469 26	1,451 74
Total operating expenses.....	\$8,786 99	\$4,420 15	\$4,366 84

TABLE IV.
 APPORTIONMENT OF ELECTRIC OPERATING EXPENSES
 BETWEEN COMMERCIAL AND STREET LIGHTING SERVICE.

	Total.	Commercial	Street lighting.
Capacity Expenses:			
Power.....	\$1,984 47	\$1,704 66	\$279 81
Distribution.....	703 34	506 40	196 94
Consumption.....	52 13	21 09	31 04
Commercial.....	7 86	7 86	.....
Total of above.....	\$2,747 80	\$2,240 01	\$507 79
General.....	159 91	130 33	29 58
Undistributed.....	43 18	35 19	7 99
Interest, taxes and depreciation.....	1,469 26	1,226 83	242 43
Total capacity expenses.....	\$4,420 15	\$3,632 36	\$787 79
Output Expenses:			
Power.....	\$2,195 01	\$1,896 49	\$298 52
Distribution.....	175 84	126 60	49 24
Consumption.....	335 72	242 61	93 11
Commercial.....	7 83	7 86	.....
Total of above.....	\$2,714 43	\$2,273 56	\$440 87
General.....	158 00	132 40	25 60
Undistributed.....	42 67	35 76	6 91
Interest, taxes and depreciation.....	1,451 74	1,212 20	239 54
Total output expenses.....	\$4,366 84	\$3,653 92	\$712 02
Total expenses.....	\$8,786 99	\$7,286 28	\$1,500 71

Commercial Lighting Service.

The amount of current generated for commercial purposes for the year ending June 30, 1912, was reported as 110,348 kw-hr. The loss in distribution under such conditions as we have here is ordinarily not far from 25 per cent, which corresponds closely to the amount determined by the superintendent of the plant. On this basis the current delivered to consumers amounted to 82,761 kw-hr. The commercial output expenses of \$3,653.92 were, therefore, equal to 4.41 cts. per kw-hr. sold.

The connected lighting load was 291 kw., of which about 155 kw. are active according to classification usually employed by the Commission. The connected power load is a very small amount and is omitted in determining the capacity costs per unit. The total commercial capacity expenses were \$3,632.36. This is equivalent to \$23.43 per year, or 6.42 cts. per day per active kilowatt connected.

As the cost of serving electric consumers consists partly of a fixed charge dependent upon the demand and partly upon a

charge that varies in proportion to the quantity of current used, the average cost of current per kilowatt hour decreases as the length of daily use increases. This variable cost is shown in the following table:

TABLE V.
VARIABLE COST OF SERVICE.
COMMERCIAL LIGHTING.

No. of hours load is used daily.	Capacity cost.	Output cost.	Total average cost per kw-hr.
1.....	6.42 cts.	4.41 cts.	10.83 cts.
2.....	3.21 "	4.41 "	7.62 "
3.....	2.14 "	4.41 "	6.55 "
4.....	1.60 "	4.41 "	6.01 "
5.....	1.28 "	4.41 "	5.69 "
6.....	1.07 "	4.41 "	5.48 "
7.....	.92 "	4.41 "	5.33 "
8.....	.80 "	4.41 "	5.21 "
9.....	.71 "	4.41 "	5.12 "
10.....	.64 "	4.41 "	5.05 "

The foregoing cost curve suggests a net rate of 11 cts. per kw-hr. for the first hour's daily use of the connected load, 7 cts. per kw-hr. for the next two hours' use, and 5 cts. per kw-hr. for all use in excess of three hours daily.

Analysis of the current used by all classes of commercial consumers shows that 57.7 per cent is primary, 31.6 per cent is secondary and 10.7 per cent is excess use. These percentages have been applied to the consumption for the year ending June 30, 1912, in order that the data may correspond to the expenses of that period. The following table shows the estimated net revenue, on the basis of this division of the sales, for the rate suggested above:

TABLE VI.
ESTIMATED COMMERCIAL LIGHTING REVENUE.

Group.	Per cent of total current.	Annual kw-hr. sold.	Rate per kw-hr.	Estimated revenues.
Primary.....	57.7	47,753	11 cts.	\$5,252.83
Secondary.....	31.6	26,153	7 "	1,830.71
Excess.....	10.7	8,855	5 "	442.75
Total.....	100.00	82,761		\$7,526.29

The estimated revenue is \$240 more than the commercial expenses. This would be somewhat further increased by a provision for a minimum bill.

Authority is requested to discontinue flat rate charges now in effect. It is claimed that these charges were designed for conditions prevailing when the plant operated for a much shorter period each day than it now does, and that longer operation has resulted in proportionately more service for flat rate customers without increase in the charges. That flat rates ordinarily lead to unjust distribution of the operating burden has been found repeatedly in other cases. It is hardly necessary to demonstrate the need of abandoning such rates when the utility is ready to eliminate them.

A special rate of 12 cts. per kw-hr. is in force when transformers, lamp renewals, and meters are furnished by the consumer. The board of water and light commissioners desires to place such consumers on the same terms as other users. This request should be granted, with the provision that service transformers and meters now owned by consumers shall be paid for by the utility at the depreciated value.

Some consumers find it convenient to use current during only a short period of the year, or economical to make their own current while retaining the utility's connection for emergency service. Under these conditions, a rate schedule consisting entirely of a meter charge fails to return to the utility the fixed costs incident to providing such emergency or occasional service. Analysis of the expenses reveals that the capacity expenses amount to \$23.43 per year, or \$1.95 per month per active kilowatt. In order that these consumers may share equally with others in those expenses that are only indirectly related to the use of current, a schedule consisting of a fixed monthly charge dependent on the active load, plus a uniform meter rate for current used should be provided for service of this kind.

Various consumers do not use their installations for a month or two of each year and are accustomed to request temporary disconnection to avoid the fixed or minimum charge. This results in additional expense to the utility for disconnecting and reconnecting services. A rule providing a nominal charge for reconnection on the same premises appears reasonable.

Commercial Power Service.

The amount of power business conducted by this utility, is so limited that a separate classification of expenses under this head would throw little additional light upon what would be an equitable rate for power service. The commercial output costs are 4.4 cts. per kilowatt-hour. The rate for power could hardly go below this point. For the purpose of properly distributing the costs, it appears that the rate for power should consist of a fixed as well as a variable charge.

Examination of the relation of the power to the total business indicates that the power rate should be about 50 cts. per month per horse power connected plus 5 cts. per kilowatt-hour for the first hour's daily use of the connected load plus 4 cts. per kilowatt-hour for all use in excess of this amount.

Street Lighting.

During the year ending June 30, 1912, considerable change was made in the method of lighting the streets. Numerous tungsten lamps were substituted for arc lamps. The investment has not been affected much thereby nor does it appear that the operating costs will be greatly changed. The chief advantage to the city has been a wider and more uniform distribution of the light.

The electric department has been credited with \$2,500 annually for street lighting service. From analysis of the expenses, it is found that the cost of this service is only \$1,500, which is the share of the operating cost that the city should now bear for street lighting. In order that the total amount may be adjusted from time to time in accord with changes in the number of lamps, it appears advisable to apportion the present total cost among the several existing units.

The street lighting system consists of ten 6.6 ampere a. c. enclosed arc lamps and seventy-five 80 watt series tungsten lamps. A fair division of the cost would be \$50 per arc lamp and \$13.50 per 80 watt tungsten lamp per year.

All Day Service.

The city has under consideration a proposal of all day operation and question has been raised as to what the rates should be

in case continuous service is undertaken. With respect to the commercial rates, it appears that although the changes suggested above are substantial reductions from present rates, they nevertheless will furnish sufficient margin above existing operating costs to enable the utility to furnish twenty-four hours service without loss.

Longer street lighting service is also proposed in case operation is continued after midnight. Such additional service can be rendered without increase in the fixed costs, permitting the city to obtain more service at a lower rate per hour. Computations based on the output operating costs indicate that the rate for the arc lamps should be increased \$1.25 per lamp and for the tungsten lamps 25 cts. per lamp per each additional 100 hours of burning.

WATER DEPARTMENT.

Apportionment of Expenses.

The direct expenses of the water department are divided among demand, output, and consumer costs, and these groups between fire and general service as follows:

TABLE VII.
DIRECT EXPENSES OF WATER DEPARTMENT.

	Per cent.	Total amount.	Fire protection.	General service.
Demand.....	50.9	\$1,253.41	\$940.06	\$313.35
Output.....	46.2	1,133.72	.....	1,133.72
Consumer.....	2.9	72.68	.....	72.68
Total.....	100.0	\$2,464.81	\$940.06	\$1,524.75

The fixed expenses are divided between fire and general service in proportion to the division of the investment, and the share allotted to general service is divided between demand and output in accord with the division of the direct expense. No material part of this fixed expense is a consumer cost, as the consumers have, up to this time, paid for the services and meters.

TABLE VIII.
FIXED EXPENSES OF WATER DEPARTMENT.

Fire protection	\$1,506.00
General service	
Demand	440.37
Output	401.63
	<hr/>
Total	\$2,348.00

Fire Protection Service.

The city fire protection system is equipped with fifty-four fire hydrants. For this service the plant is credited with \$2,000 annually. The actual cost of the service, according to the foregoing analysis of operating expenses, is \$2,446 per annum. The rate should therefore be about \$2,500 per year.

Commercial or General Service.

The expenses of the general service amounted to \$2,467 for the year ending June 30, 1912. The revenues from this source, including commercial, industrial and street sprinkling service, were \$2,078.34. While the revenues were somewhat less than the expenses for this part of the business, this situation does not of necessity demand an increase in the meter rate, provided that the usual waste of water is eliminated by abandoning the flat rate schedule. The city's board of water and light commissioners request that authority be granted to relinquish flat rate charges and no objection has been raised to this proposal.

Out of a total of 285 consumers, 173 have metered and 112 unmetered service. The installation of a considerable additional number of service meters will be required under a general meter schedule. It has been the practice of the water department to sell the meters to consumers at a uniform rate of \$12. The consumers also paid for installing the meters so that at this time the utility has no investment in service meters. On account of various operating features it is advisable that meters be owned by the utility and there can be little objection thereto when interest and depreciation charges are provided in the rate. The owners of service meters should therefore be reimbursed in amounts equal to the depreciated value of their meters and all meters hereafter installed by the water department should be placed at its own expense.

A somewhat similar question has been raised with reference to the installation of service. Prior to 1908 it was the practice for consumers to have their services from main to house installed at their own expense. Following that time, services from main to curb were put in by the city and the consumers were charged a uniform amount of \$12 which, it is claimed, about covered the average cost. The management of the plant has recently decided to install lead services, the cost of which is said to average \$18. This amount is not entirely provided for by the existing uniform charge and a ruling is requested as to the method of distributing the cost.

Under ordinary conditions, the water utility should own the services to the curb and retain the responsibility for all equipment located in the public street. As this policy should be followed wherever possible, the establishment of equitable relations among the several consumers may sometimes be best attained by reimbursing those consumers who have borne the cost. But the extent of early practices may have created a condition under which little is to be gained by changing the existing method. Such seems to be the case in this instance. It appears that little injustice will be done by continuing the present practice of charging a uniform amount for installing services. The water department should be responsible for the maintenance and renewal and bear the additional cost above the present charge to consumers.

The consumer class of expenses has been placed at \$72.68 for the year ending June 30, 1912. This expense will be increased somewhat by the metering of all services and will probably be not far from 35 cts. per meter. Consumer expenses will be increased also by fixed charges on meters and this portion of the cost should be distributed among the consumers according to the size of the meter and the investment.

TABLE IX.
CONSUMER CHARGES PER METER.

Size of meter.	Fixed charges.	Direct charges.	Total charges.	Suggested quarterly charge.
3/4"	\$1 10	\$0 35	\$1 45	30 75
1"	1 62	"	1 97	1 00
1 1/2"	2 42	"	2 77	1 50
2"	4 14	"	4 49	2 50
2 1/2"	6 20	"	6 55	4 00
3"	10 30	"	10 65	6 00
4"	22 95	"	23 30	10 00

The quarterly charge suggested in the table above is designed to meet a portion of the demand as well as the consumer charges. The revenue resulting from these charges may be readily estimated from the number of meters installed. All except one of the 173 meters now installed are of the 5/8 inch size and, as the classification of unmetered users is about the same as that of metered customers, it is not unlikely that practically all of the 285 customers will be provided with 5/8 inch meters. The annual revenue will consequently be very nearly \$855, of which \$413.25 will be for consumer and \$441.75 for demand expenses. The remaining demand expenses plus the output expenses are equal to \$1,852.32 and should be apportioned over the commercial service on a basis of water used.

Just what the normal use of water amounts to in this case is uncertain in view of the unusual amount supplied during the year last reported. The pumpage for the year was shown to be 20,410,000 gallons. Reference to pumpage records for the period shows that during several of the summer months the amount of water pumped was unusually large. This was because a sewerage system was in process of construction and considerable water was used for puddling ditches. Later in the year the plant was subjected to a test of several days' duration resulting in a large excess of water pumped. Comparisons based on pumpage records for other months indicate quite conclusively that the amount pumped under usual conditions would have been about 17,000,000 gallons for the year. This amount would have been still further reduced had all consumers been metered.

Water used by metered consumers during the year ending June 30, 1912, was 4,811,375 gallons, or 27,800 gallons per meter. It is estimated that water used through meters when all services are metered will be 8,000,000 gallons. We have no means of determining what the unmeasured use by the city will amount to on account of the incompleteness of data concerning the extent to which water has been and will be used for street sprinkling and other purposes. It is quite certain, however, that the total amount delivered for all general purposes should not be placed at less than 9,000,000 gallons. On this basis, the average meter rate should be 20.6 cts. per 1000 gallons, or 15.4 cts. per 100 cu. ft.

Analysis of the water used by metered consumers shows that the consumption is distributed as follows:

First 500 cu. ft. quarterly	.....	54	per cent of total annual use.
Next 1,500 " " "	.....	23	" " "
Next 5,000 " " "	.....	20	" " "
All over 7,000 " " "	.....	3	" " "

The following meter rate is adjusted in accord with the variation in the use of water. When the revenue therefrom is added to the revenue from the quarterly service charge the total is sufficient to meet the total costs of general service.

No attempt is made to establish a fixed charge for street sprinkling service. We are informed that recent oiling of the streets of Evansville will greatly reduce the quantity of water usually used on the streets. If reasonably accurate records are kept of the number of trips made by the sprinkling wagons a satisfactory basis will be had for estimating the quantity of water used for this purpose. The charge can then be made on a quantity basis.

Water is also used for flushing sewers, but to what extent is not known. The rate provided for fire protection is believed to be adequate to cover the cost of water used for sewer flushing if extravagance is not indulged in.

IT IS ORDERED, That the Evansville Municipal Water and Light Plant abandon the rates now in force for electric and water service and charge in lieu thereof the following schedules:

ELECTRIC SERVICE.

Commercial Lighting:

Minimum Bill: 75 cts. per month.

Meter rate:

12 cts. gross or 11 cts. net for the first 90 hours' use of the active load per quarter.

8 cts. gross or 7 cts. net for the next 180 hours' use of the active load per quarter.

6 cts. gross or 5 cts. net for all use of the active load in excess of 270 hours per quarter.

The consumers shall be classified as follows:

Class A shall consist of residences and dwellings. Sixty per cent of the first 500 watts and $33\frac{1}{3}$ per cent of all over 500 watts connected for consumers of this class shall be considered active.

Class B shall consist of stores, offices, barber shops, restaurants, meat markets, halls, bowling alleys, millineries, billiard and pool halls, drug stores, photo galleries, banks, electric theaters, and other business and professional places of a similar nature. In this class, 70 per cent of the first 2.5 kw. and 55 per cent of all additional connected load shall be considered active.

Class C shall consist of hotels, churches, club rooms, barns, garages, livery stables, post offices, laundries, factories, blacksmith shops, warehouses, dormitories, creameries, and business and industrial establishments of a similar nature. In this class, 55 per cent of the active load shall be considered active.

Class D shall consist of public schools, libraries, city hall and other city buildings. In this class, 55 per cent of the connected load shall be considered active.

Emergency and Occasional Service. Consumers having connection for emergency service or using current for a short period per year shall be charged as follows:

\$7.50 gross, or \$6.00 net per quarter per active kw. connected, plus 5 cts. gross or 4.5 cts. net for current used.

Power.

Service charge: \$2.00 gross or \$1.50 net per quarter for the first horse power or fraction thereof connected, and \$2.00 gross and \$1.50 net per horse power for all additional power load connected.

Meter charge: 6 cts. gross or 5 cts. net for the first 90 hours' use of the connected load per quarter, and 5 cts. gross or 4 cts. net for all use of the connected load in excess of 90 hours quarterly.

Combination Power and Light Service.

Where the current for power and light is measured by the same meter, the following rates shall be charged:

Service charge: For lights connected, \$0.75 gross or \$0.60 net per 100 active watts per quarter.

Power connected, \$2.00 gross or \$1.50 net per connected horse power per quarter.

Meter charge: 6 cts. gross or 5 cts. net for the first 90 hours' use per quarter of the combined active lighting load and the con-

nected power load, plus 5 cts. gross or 4 cts. net for all use in excess of 90 hours quarterly.

Street Lighting.

The electric department shall be credited for street lighting as follows:

\$50.00 per arc lamp per year.

\$13.50 per 80 watt tungsten lamp per year.

Carbon and other incandescent lamps connected to the commercial lines and used for outside municipal purposes shall be paid for at commercial rates on the basis of estimated kw-hr. consumed.

Discount.

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

Reconnection Charge.

The charge for the reconnection of service for the same consumer on the same premises shall be \$1.00.

WATER SERVICE.

General Service.

SERVICE CHARGE:

Size of meter.	Quarterly charge.	
	Gross.	Net.
$\frac{1}{2}$ and $\frac{3}{4}$ inch.....	\$1 00	\$0 75
$\frac{3}{4}$ inch.....	1 25	1 00
1 inch.....	1 75	1 50
1 $\frac{1}{2}$ inch.....	3 00	2 50
2 inch.....	5 00	4 00
3 inch.....	7 50	6 00
4 inch.....	12 00	10 00

For each additional consumer on the same meter, the gross and net quarterly service charges shall be increased 50 cts. per consumer.

METER RATE:

	Per 100 cu. ft.	
	Gross.	Net.
First 500 cu. ft. per quarter.....	20 cts.	18 cts.
Next 1500 " " "	17 " "	15 " "
Next 5000 " " "	14 " "	12 " "
All over 7000 " " "	10 " "	8 " "

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

Reconnection Charge. The charge for the reconnection of service for the same consumer on the same premises shall be \$1.00.

Fire Protection Service.

The water department shall be credited for fire protection service at the rate of \$2,500 per year.

Street Sprinkling.

Water used for municipal street sprinkling shall be charged for at the rate of 6 cts. per 100 cu. ft. The quantity used may be estimated.

Public Fountains.

Water used by public fountains shall be charged for at commercial rates. The amount of water used by fountains not metered shall be estimated from the amount used by similar fountains that are metered.

IT IS FURTHER ORDERED, That this utility purchase all water meters, transformers and electric meters owned by its consumers and properly a part of its distributing systems at the depreciated value, including cost of installation where the installation cost has been paid for by the customer.

The present practice of charging \$12 per service for the installation of water services shall be continued. The utility shall bear all additional cost of the service and its maintenance and renewal.

IN RE APPLICATION OF THE ARCADIA ELECTRIC LIGHT AND
WATER PLANT FOR AUTHORITY TO INCREASE ITS ELECTRIC
RATES.

Decided Dec. 27, 1912.

Application was made by the village of Arcadia for authority to increase the electric meter rates. The revenues and expenses were investigated and an apportionment was made between the different departments of the service.

The items of taxes and interest are included in the operating expenses of a municipal plant as in the case of a privately owned plant. In the present case, since the municipality desires to charge as low a rate as will meet the cost of operation and since there are no outstanding liabilities against the utility, it appears that these items need not be provided for in the rate.

Held: The rates applied for will not produce sufficient revenues to operate the plant efficiently and provide for depreciation. The village is authorized to discontinue the present rates and to substitute the rates approved by the Commission.

The application in this matter was filed with the Commission June 25, 1912, by the Arcadia Municipal Electric Light Plant, requesting authority to substitute a higher electric meter rate for the one now in existence, leaving the flat rates as they now exist. Hearing was set for September 18, 1912, at the office of the Commission, at which time and place no appearances were made for or against the application.

The rates on file with the Commission are as follows:

Meter Rates.

Current 5 cts. per kw-hr., no discounts or reductions allowed.

Flat Rates.

Flat rates are allowed where the installation does not exceed three 16 c-p. lamps at the following rates:

One 16 c-p. lamp 50 cts. per month.

Two 16 c-p. lamps 90 cts. per month.

Three 16 c-p. lamps \$1.25 per month.

Street Lighting.

Rate 6 cts. per kw-hr.

An analysis of the consumer data compiled from the records of the plant shows that the meter rate charged for the fiscal year

ending June 30, 1912, was 5 cts. per kw-hr. per month for the first four months, 6 cts. for the next six months, and 7 cts. for the last two months, aggregating an average charge of practically 6 cts. per kw-hr. A statement submitted by the company for street lighting shows that the rate charged for this service for the same period was the same as the monthly charge for commercial lighting as stated above. The minimum monthly charge, for which there is no record in the office of the Commission, appears to be 50 cts.

It is set forth in the application that the rates in existence are insufficient to meet the operating expenses of the company, due to the fact that the rehabilitation of the plant, together with an increase in the salaries and wages of employes, has added considerably to the ordinary operating expenses of the plant.

The utility further contends that the change from carbon to tungsten lamps has reduced the commercial current consumption nearly one-half, and the change of the street lighting system from arc and carbon incandescent lamps to a tungsten series lamps has reduced the income from that source to one-third of what it was under the old system. Therefore, it is prayed that authority be granted to fix the rate at 7 cts. per kw-hr., leaving the flat rate as it is now established and in effect.

Upon the investigation it was found that the number of kw-hr. generated has decreased from 92,344 for the fiscal year ending June 30, 1911, to 61,160 for the year ending June 30, 1912. The decrease in the actual consumption for the same period has been from 49,650 to practically 37,500 kw-hr. for the commercial service, and from 17,894 to 7,912 kw-hr. for the street lighting service. The street lighting revenues have correspondingly decreased from \$908.46 to \$453.08, and the commercial revenues have increased merely from \$2,471.87 to \$2,512.97, although the rate has been raised from 5 cts. to an average of practically 6 cts. per kw-hr. for the year. It is to be noted in this connection, however, that although the generation of the plant decreased 33.77 per cent, the operating expenses have increased \$222.62, or 7.6 per cent. The cost of labor during this period remained practically the same, being \$1,030.75 for 1911 and \$1,000.85 for 1912. From the above facts it appears that the decrease in the actual generation of

the plant should have brought about a corresponding decrease in the total operating expenses.

The utility was organized and began the sale of electricity in 1903. The book value of the electrical property for the year ending June 30, 1912, is \$25,810.93. Of this amount, additions aggregating \$6,576.81 were made during the fiscal year ending June 30, 1912. It appears that the book value is high when compared with plants of cities of the same size and operating under similar conditions, and that \$20,000 would more nearly represent the actual investment. It is also to be noted that no provision has even been made for the depreciation of the property. There are no capital or mortgage liabilities outstanding against the plant, and it appears that the purpose of the plant is to serve the people of Arcadia as cheaply as possible.

OPERATING EXPENSES.

The total operating expenses, as shown in the utility's report to the Commission for the fiscal year ending June 30, 1912, were \$3,141.85. This amount does not include any allowance for taxes, interest and depreciation. It seems that, as a general rule, these items of expense should be included in the total operating expenses although the plant be municipally owned and operated.

The Commission has expressed itself in regard to interest, taxes and depreciation as follows:

“In estimating the costs for municipal as well as for privately owned plants, it would seem to be necessary to take into consideration the operating expenses, depreciation, taxes, and interest on the investment. Operating expenses, including depreciation, are always present and must be actually met, no matter by whom the plants are operated. Taxes and interest charges may, in a sense, be dispensed with for municipal plants. That is, neither taxes nor interest may be actually assessed against such plants. On the other hand, taxes and interest charges are present in some form in all industrial activities. Water works represent property that is of value and in which money has been invested. They constitute a part of the capital of the city. If such items as fixed charges are not considered by municipal plants in fixing rates for private consumers, it would seem that these consumers would be favored as against the taxpayers. There does not, on the whole, appear to be any equitable ground upon which such charges can be entirely eliminated

in any industry or in connection with the services of any public utility." *In re Appl. Madison City Water Works*, 1909, 3 W. R. C. R., 299, 320.

It seems that the minimum allowance for these three items of expense would be about \$1,800. An allowance of \$1,800 for interest, taxes and depreciation is an estimate and aims to give a conservative statement of the proper charges against the earnings of the plant, and the amount which should be taken into consideration in attempting to arrive at an equitable rate.

Furthermore, the recorded expenses make no provision for renewals of street lamps. The installation consists of seventy-two 4 ampere series 60 c-p. tungsten lamps. It is estimated that the cost of renewals, including the labor of making such renewals, would amount to about \$1.25 per lamp per year, giving us \$90 per year for the seventy-two lamp installation. Adding \$1,800 for taxes, interest and depreciation, and \$90 for renewals to \$3,141.85, the expenses as reported by the company, brings the total operating expenses up to \$5,031.85, the amount which should be provided for through the revenues received from the operation of the plant. Excluding interest and taxes brings the total down to \$4,081.85.

OPERATING REVENUES.

The total operating revenues derived from the sale of current for the year ending June 30, 1912, are \$2,966.05. The following table has been compiled from consumer records submitted by the utility showing the source of these revenues:

TABLE I.

	Number of consumers.	Connected load. kw.	Kw-hr. consumed.	Revenues.
Metered residences.....	134	61.332	14,144	\$33 85
Minimum charge, residences, 50c per month.....			3,522	325 00
Metered business.....	64	36.015	19,874	1,217 08
Flat rate residences.....	8			24 31
Flat rate business.....	14			106 73
Total commercial.....	220	97.347	37,540	\$2,512 97
Street lighting.....		5.760	7,912	453 08
Total.....	220	103.107	45,452	\$2,966 05

It is to be noted that the charge for current in the above table is practically 6 cts. per kw-hr. for both commercial and street lighting. The discrepancy in each case is due to the fact that the charge per kw-hr. was 5 cts. for the first four months and 7 cts. for the last two months, bringing the average somewhat near 6 cts., the charge for the remaining six months.

The village, in its application, requests that it be allowed to supersede the rate of practically 6 cts. per kw-hr., as shown in the preceding table, by a 7 ct. rate. It seems that this change would not materially affect the output of the plant, and, using the same consumption data as in Table I, we get:

TABLE II.

	Number of consumers.	Connected load, kw.	Kw-hr. consumed.	Revenues.
Metered residences.....	134	61.232	14,144	\$990 08
Minimum charge, residences 50 cts. per month.....			3,522	325 00
Metered business.....	64	36.015	19,874	1,391 18
Flat rate residences.....	8			24 31
Flat rate business.....	14			106 73
Total commercial.....	220	97.347	37,540	\$2,837 30
Street lighting.....		5.760	7,912	553 84
Total.....	220	103.107	45,452	\$3,391 14

It will be noted that the revenue derived from the 7 ct. rate falls \$1,640.71 short of the total operating expense when interest, taxes, and depreciation are considered, and fails to meet the operating expenses by \$640.71 when only depreciation is included. From these facts it is evident that the rate applied for will not produce revenues sufficient to operate the plant effectively and keep it in a reasonable state of efficiency.

APPORTIONMENT OF OPERATING EXPENSES.

It will be assumed that \$5,031.85 are the total yearly operating expenses of the plant. These were separated over capacity and output in the usual manner, and according to which \$2,519.25 are considered as capacity expenses and \$2,512.60 as output expenses. The capacity expenses were then apportioned between commercial and street lighting on the basis of the station demand of each respective service, and the output expenses

were apportioned on the basis of the amount of current consumed by each service. Based upon these facts we have the following distribution of expenses:

STATEMENT I.

	Total.	Commercial.	Street lighting.
Capacity expenses	\$2,519 25	\$3,147 99	\$371 26
Output expenses.....	2,512 60	2,079 71	432 89
Total.....	\$5,031 85	\$4,227 70	\$804 15

The connected load for the total commercial consumers is approximately 97,500 kw. This gives practically 62,800 kw. as the total active load for the different classes of consumers. The total consumption for all classes of commercial consumers is approximately 37,500 kw-hr., derived from service furnished from 5 p. m. to 11:30 p. m. and from 5 a. m. to 8 a. m. in winter.

The minimum bill is 50 cts. per month, as determined from the consumer records. It appears from a study of other plants that only a minority of utilities charge less than 75 cts. Based upon the operating conditions of this plant, together with the relatively high capacity expenses in proportion to the total output, 75 cts. per month as the minimum bill is deemed reasonable.

The street lighting service is on a separate meter, and according to the records submitted by the city 7,913 kw-hr. was the total consumption for the last fiscal year. This small amount of consumption is due primarily to the change from arc and carbon incandescent lamps to tungsten series lamps. Another contributing factor is the fact that this service is furnished only from 5 p. m. to 11:30 p. m., on a moonlight schedule, according to a statement submitted to the Commission. An equitable distribution of the street lighting expenses, it seems, would be an apportionment of the capacity expenses over the number of lamps in use, and the output expenses according to the total consumption.

Based upon the foregoing distribution of expenses and operating data for both commercial and street lighting departments,

the following schedule of rates would be required to meet the cost of operation for each respective service:

COMMERCIAL LIGHTING.

Meter Rates.

15 cts. per kw-hr. for the first 30 hours' use per month of the active connected load.

9½ cts. per kw-hr. for the next 60 hours' use per month of the active connected load.

7½ cts. per kw-hr. for all over 90 hours per month of the active connected load.

Minimum Bill 75 cts. per month, irrespective of whether the meter is owned by the plant or by the consumer.

Flat Rates.

One 16 c-p. lamp \$0.50 per month.

Two " " " .90 " "

Three " " " 1.25 " "

STREET LIGHTING.

\$5.25 per lamp per year, plus 5½ cts. per kw-hr. consumed.

The above rates, although high, would be the proper ones to charge if interest, taxes, and depreciation should be included in this case in the operating expenses. The object of the village, however, seems to be to charge as small a rate as is possible and still meet the necessary operating expenses. This attitude is expressed in a statement in the annual report to the Commission as of June 30, 1911:

"The plant is owned and operated by the village of Arcadia and was paid for by taxation and money out of the general fund. It has no indebtedness of any kind and is operated at cost of production for the benefit of the people of Arcadia."

Following out this attitude on the part of the city, taxes and interest may perhaps be dispensed with in this case. Omitting these two items from the operating expenses, the final apportionment between commercial and street lighting would be:

STATEMENT II.

	Total.	Commercial.	Street lighting.
Capacity expenses.....	\$2,009 25	\$1,704 29	\$304 96
Output expenses.....	2,022 60	1,658 31	364 29
Total.....	\$4,031 85	\$3,362 60	\$669 25

The above \$3,362.60 for commercial lighting and \$669.25 for street lighting are the minimum which can reasonably be accepted as the total operating expenses. Applying a uniform meter rate of 8½ cts. per. kw-hr. to the same consumption statistics as used in Tables I and II and replacing the minimum monthly charge of 50 cts. by a 75 ct. charge, we get:

TABLE III.

	Number of consumers.	Connected load. kw.	Kw-hr. consumed.	Revenues.
Metered residences.....	134	61.332	14.144	\$1,202 24
Metered business.....	64	36.015	19.874	1,689 29
Minimum charge, residences 75 cts. per month.....			3,522	487 50
Flat rate residences.....	8			24 31
Flat rate business.....	14			106 73
Total commercial.....	220	97.347	37.540	\$3,510 07
Street lighting.....		5.760	7.912	672 52
Total.....	220	103.107	45,452	\$4,182 59

The uniform meter rate of 8½ cts. per unit, although high enough to produce revenues sufficient to meet the ordinary cost of operation, is objectionable because it is as a rule unjust to certain classes of consumers. The only condition under which a rate of this kind can be just for all users is where all the customers have about the same installation and use the current about the same length of time each day. That such conditions of operation can ever be found, is difficult to assume. The reason for the injustice of the uniform meter rate is that the so-called capacity expenses depend very largely upon the installation or demand and not so much upon the amount of current consumed. These expenses remain the same per lamp, no matter whether it is used one hour per day or whether it is used four or ten hours per day. Assuming two consumers each having an installation of ten 16 c-p. lamps, the first using them one hour per day and the other four hours per day, the consumption in kilowatt-hours for the four hour user would be four times as great as for the one hour user, and consequently the cost per unit for capacity expenses would be only one-fourth as large for the four hour user as for the one hour user. For the purpose of simplicity it may be assumed that one 16 c-p. lamp burning one hour each day will consume 1.5 kw-hr. The total

consumption for the one hour user per month, as cited above, would be 15 kw-hr. and for the four hour user 60 kw-hr. for the same period. With a capacity expense of \$1.00 per month for an installation of ten 16 c-p. lamps, the capacity expense per kw-hr. for the one hour user would be 6.66 cts. and for the four hour user 1.66 cts. These facts prove that it would be inequitable to charge these two consumers a uniform meter rate, and furthermore show why the rates should not be the same for all classes of consumers.

The distribution of operating expenses in Statement II indicates that the capacity expense for the commercial consumers are somewhat over 50 per cent of the total, and hence are a determining factor in computing a schedule which is based upon the cost of service to the plant.

Taking into consideration all the facts as set forth in the foregoing discussion, it appears that the following schedule of rates is best suited to the needs of the plant:

COMMERCIAL LIGHTING.

Meter Rates.

- 11 cts. per kw-hr. for the first 30 hours' use per month for the active connected load.
- 8 cts. per kw-hr. for the next 60 hours' use per month for the active connected load.
- 6 cts. per kw-hr. for all over 90 hours per month of the active connected load.

Minimum Bill. 75 cts. per month, irrespective of whether the meter is owned by the plant or by the consumer.

Flat Rates.

Flat rates to be allowed where the installation does not exceed three 16 c-p. lamps at following rates:

One	16 c-p. lamp	\$0.50	per month.
Two	" " "	.90	" "
Three	" " "	1.25	" "

STREET LIGHTING.

\$4.25 per 60 c-p. tungsten lamp per year plus 5 cts. per kw-hr.

ESTIMATE OF REVENUE UNDER PROPOSED RATE.

An analysis of the consumer data shows that 46 per cent of the commercial sales will be represented by the first 30 hours' use per month, 29 per cent by the next 60 hours' use per month,

and 15 per cent by all use of current in excess of the first 90 hours' use per month. The estimated revenue under the proposed schedule of rates will therefore be as follows:

ESTIMATED REVENUE.

	Consumption.		Rate.	Estimated revenue.
	Per cent.	Kw-hr.		
COMMERCIAL LIGHTING				
Group				
Primary.....	46	17,237	11 cts. per kw-hr.	\$1,896.07
Secondary.....	39	14,646	8 " " " "	1,171.68
Excess.....	15	5,657	6 " " " "	339.42
Total of above.....	100	37,540		\$3,407.17
Flat rate.....				131.04
Total comm'l.....	100	37,540		\$3,538.21
STREET LIGHTING				
72 lamps.....			\$4.25 per lamp.	306.00
Consumption.....		7,912	5 cts. per kw-hr.	395.60
Total street lighting.....				\$701.60
Total com'l. & street lighting.....				\$4,239.81

Although the data are incomplete, due primarily to the changes made in the kind of lamps used, and although the actual consumption will no doubt vary from the figures taken as the basis for the above estimates, it is believed that the revenues derived from the rates suggested will be sufficient to meet the operating expenses of the plant and such ordinary increases as may occur from time to time.

THE ARCADIA LIGHT AND WATER PLANT IS HEREBY AUTHORIZED to discontinue its present rates for electric current and to substitute therefor the following rates:

COMMERCIAL LIGHTING.

For all metered lighting service the charge shall be:

Primary rate

11 cts. per kw-hr. for current equivalent to or less than 30 hours' use per month of the active connected load.

Secondary rate

8 cts. per kw-hr. for additional current equivalent to or less than the next 60 hours' use per month of the active connected load.

Excess rate

6 cts. per kw-hr. for all current used above 90 hours per month of the active connected load.

The active connected load shall in each case be a fixed percentage of the total connected load installed upon the consumer's premises.

In *Class A* shall be included residences, flats, and private rooming houses. Where the 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, 33 $\frac{1}{3}$ per cent of such a part of the total connected load over and above 500 watts shall be deemed active.

In *Class B* shall be included stores, banks, offices both business and professional, and all other business and professional places not hereafter included under "Class C." In this class, where the total connected load is equal to or less than 2.5 kw. nominal rated capacity, 70 per cent of such total connected load shall be deemed active; where the installation exceeds 2.5 kw. nominal rated capacity, 55 per cent of such a part of the total connected load over and above 2.5 kw. shall be deemed active.

In *Class C* shall be included county and city buildings, schools, churches, hotels, clubs, stables, garages, factories (including small industrial establishments such as machine shops, carpenter shops, blacksmith shops and tin shops). 55 per cent of the total connected load shall be deemed active in this class.

Minimum Bill. The minimum monthly charge for commercial lighting shall be 75 cts., irrespective of whether the meter is owned by the plant or by the consumer.

Flat Rates.

The flat rate schedule shall be continued as it is now established and in effect, which states:

Flat rates are allowed where the installation does not exceed three 16 c-p. lamps at the following rates:

One	16 c-p. lamp	\$0.50	per month
Two	16 c-p. "	.90	" "
Three	16 c-p. "	1.25	" "

STREET LIGHTING.

The street lighting rate shall be \$4.25 per 60 c-p. tungsten lamp per year plus 5 cts. per kw-hr.

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

Decided Dec. 31, 1912.

Application was made by the Chetek Lt. & P. Co. for authority to increase rates. A schedule of rates was submitted for approval. A valuation was made and the revenues and expenses investigated. An apportionment was made between the different departments of the service.

A valuation of the physical property, as of date October 1, 1912, showed a cost new of \$8,221 and a present value of \$6,420.

Held: The schedule applied for does not materially increase the revenues. The present revenues are inadequate and a schedule is provided to furnish the necessary increase. The applicant is ordered to discontinue its present schedule of rates and to put into effect the schedule approved by the Commission.

All consumers who have had special rates are to be charged the proper schedule rate.

Meter rentals are to be discontinued and meters are to be installed as rapidly as possible where there are more than three lights.

The application of the Chetek Light and Power Company for authority to increase rates was filed September 11, 1912. It shows that the applicant is a corporation organized and doing business under the laws of the state of Wisconsin and that it is a public utility engaged in the management and operation of an electric light and power plant in Chetek, Wis.

PRESENT RATES.

As set forth in the application, the lawful rates, as determined by the Commission on July 24, 1908, and now in force, are as follows:

Meter Rates.

10	cts.	per	kw-hr.	for	the	first	60	kw-hr.	per	month.
6.5	"	"	"	"	"	"	next	30	"	"
4.5	"	"	"	"	"	"	"	30	"	"
3	"	"	"	"	"	"	"	all	additional	consumpt. per mo.

From these rates a 10 per cent discount is made when bills are paid within ten days. The minimum charge is 50 cts. per month.

Flat Rates for Business Places.—(Stores, Saloons, Offices, Shops, etc.)

	1 light	50 cts.	per month	less	10 per cent	discount.
2 to 11	lights	40 cts.	each per mo.	“	10	“
12 to 15	“	40	“	“	15	“
16 to 20	“	40	“	“	20	“
21 to 30	“	40	“	“	25	“
31 to 40	“	40	“	“	30	“
41 and over	“	40	“	“	35	“

Discounts apply if bills are paid on or before the 10th of each month.

Hotels.—25 cts. per light with 10 per cent discount if paid on or before the 10th of each month.

Lodge Halls.—25 cts. per light with 20 per cent discount if paid on or before the 10th of each month.

Churches.—15 cts. per light with 20 per cent discount if paid on or before the 10th of each month.

An extra charge of 50 cts. per month each will be made to flat rate consumers for lights kept burning all night.

Flat Rates for Residences.

	1 light	50 cts.	per month	less	10 per cent	discount.
2 to 3	“	40	“	mo. each	“	“
	4	35	“	“	10	“
5 to 7	“	30	“	“	10	“
	8	27	“	“	10	“
9 to 10	“	25	“	“	12	“
11 to 13	“	23	“	“	12	“
14 to 17	“	23	“	“	15	“
18 to 21	“	23	“	“	20	“
22 to 24	“	23	“	“	22	“
25 and over	“	23	“	“	25	“

Discounts apply if bills are paid on or before the 10th of each month.

By rules and regulations on file with the Commission there is in effect a meter rental of 15 cts. per month.

RATES APPLIED FOR.

It is stated by the applicant that the present revenues are insufficient and are not adequate to meet the annual depreciation accruing upon the plant and allow a fair return upon the investment. Authority is therefore asked to increase its rates and to put into effect the following schedule:

Meter Rates.

10 cts. per kw-hr. for the first 60 kw-hr. per month.

8 cts. per kw-hr. for the next 60 kw-hr. per month.

6 cts. per kw-hr. for all additional consumpt. per mo.

To these rates should be added the provision of a 5 per cent discount in aid of collection where bills are paid within 10 days after they are due, and a minimum charge of 85 cts. per month to guarantee the company payment of a portion of its constant expense.

Flat Rates for Business Places. (Stores, Saloons, Offices, Shops, etc.)

2 lights, 45 cts. each per month, less 5 per cent discount.

Over 2 lights, 40 cts. each per month, less 5 per cent discount.

Discounts apply if bills are paid on or before the 10th of each month.

Lodge Halls and Hotels. 25 cts. per light with 5 per cent discount, if bills are paid on or before the 10th of each month.

Churches. 15 cts. per light per month with 20 per cent discount if paid on or before the 10th of each month.

Flat Rates For Residences.

2 lights 45 cts. each per month, less 5 per cent discount

3 " 40 " " " " 5 " "

4 " 35 " " " " 5 " "

5-7 " 30 " " " " 5 " "

8 " 27 " " " " 5 " "

9-10 " 25 " " " " 5 " "

11-15 " 23 " " " " 5 " "

Discounts apply if bills are paid on or before the 10th of each month.

Summer Cottages.—One and one-half times the regular residence rate.

An extra charge of 50 cts. per month will be made for each light kept burning all night.

The company will install meters as rapidly as possible where there are more than three lights installed.

Hearing was set for October 22, 1912, at the office of the Commission. As there were no appearances, the case was submitted upon facts already in the possession of the Commission.

This utility appears to be unincorporated and the sole property of W. J. Gavin. It was organized and began to sell current September 6, 1906.

The plant is a small one, having an electric equipment of one 50 kw. generator, operated by hydraulic power leased from the Northwestern Flour Mills. An annual rental of \$500 was paid for second right to power until November 15, 1911, at which

date a contract for first right to 75 h. p. was contracted for at \$900 per annum. Electric service is furnished from dusk to dawn, to about 125 consumers. Municipal lighting appears to have been one of the important sources of revenue, but since July 1, 1912, street lights have been turned off, due to some misunderstanding between the parties concerned. As such a condition is deemed to be only temporary, the following cost estimates have been based upon the assumption that the city will resume the lighting of its streets.

On July 24, 1908, a decision was made by this Commission granting this utility the schedule of rates now in force. At that time the expenses of the plant were about \$2,900 per year, allowing for the cost of administrative service, depreciation, and a reasonable return on a valuation of approximately \$6,500. The annual revenue of the company at that time was about \$2,400. The rate applied for was granted with some minor changes including the substitution of a decreasing meter schedule instead of a uniform 10 ct. rate. The first step, however, in the rate put into effect, was 10 cts. for the first 60 kw-hr., which brought only two consumers within the second step during the year ending June 30, 1912.

A valuation of the property of this utility, prepared by the engineering staff of the Commission, shows a cost new of \$8,221 and a present value of \$6,420, as of date October 1, 1912.

OPERATING EXPENSES.

The following estimate of expenses has been made from the applicant's statement for the year ending June 30, 1912. The cost of hydraulic power has been placed at \$900 and allowance has been made for interest, taxes, and depreciation.

EXPENSES FOR YEAR ENDING JUNE 30, 1912.

Hydraulic power generation.....	\$1,585.86
Distribution	118.76
Consumption	28.68
General	992.40
	<hr/>
Total direct expenses.....	\$2,725.70
Interest and taxes.....	577.80
Depreciation	493.26
	<hr/>
Total above	\$3,796.76
Direct to municipal lighting	
Maint. and trimming of lamps.....	36.40
	<hr/>
Total	\$3,833.16

The following table shows the division of the above expenses between output and demand costs:

APPORTIONMENT OF EXPENSES.

	Total.	Output.	Demand.
Total direct expenses	\$2,725 70	\$785 23	\$1,940 47
Interest and taxes.....	577 80	144 45	433 35
Depreciation.....	493 26	147 98	345 28
Total.....	\$3,796 76	\$1,077 66	\$2,719 10

DEMAND.

In considering the demand made upon the plant by the various classes of consumers, consumer data for the year ending June 30, 1912, were used, showing the installation of every consumer. The peak load as estimated by the company was 52 kw. The following demands are believed to be about correct, assuming the estimated 52 kw. peak and the reported installations. The resulting demands are a very high portion of the installation which, however, might be expected in a small utility having many small installations and one-half of its consumers on a flat rate. The probable demands are as follows:

DEMANDS.

	Installation.	Per cent active at peak.	Kw. active at peak.	Per cent of peak demand
MUNICIPAL LIGHTING.				
7 arcs @ 486 watts 3.40 kw.....	3.40	100	3.40	6.46
26-16 cp. carbon equiv. 1.56 kw.....	1.56	100	1.56	2.97
Total.....				9.43
METER CONSUMERS.				
Residence 256 lamps 12.8 kw.....	12.80	70	8.96	17.04
Business 304 lamps 15.2 kw.....	15.20	95	14.44	27.45
Assembly auditor. 25 lamps 1.25 kw...	1.25	100	1.25	2.38
Total.....				46.87
FLAT RATE CONSUMERS.				
Residence 346 lamps 12.3 kw.....	12.30	95	11.68	22.21
Business 195 lamps 9.75 kw.....	9.75	100	9.75	18.54
Special rates 13 lamps 0.63 kw.....	0.65	100	0.65	1.24
3 h. p. motor 2.25 kw.....	2.25	40	0.90	1.71
Total.....				43.70
Grand total.....	59.16	88.9	52.59	100.00

OUTPUT.

In estimating the probable output of each class of consumers, the consumer data were used to determine the metered consumption. Municipal arc lights and incandescent lights were figured at 3,000 and 4,000 hours per annum, respectively, as reported. Residence flat rate users were assumed to use the first four connected lamps $3\frac{1}{2}$ hours per day, the next five lamps 2 hours per day, and all over the ninth lamp one hour per day. Business flat rate users were considered to use their connected installations about $2\frac{1}{2}$ hours per day. An addition of one-eleventh was made to the metered consumption since the plant appears to have been shut down for about a month during the year in question on account of fire damage. The estimated consumption by classes follows:

CONSUMPTION.		Per cent of total
MUNICIPAL LIGHTING		
7 arcs—3.40 kw. for 3,000 hrs.....	10,200	
26 incand.—1.56 kw. for 4,000 hrs.....	6,240	
Total	16,440	34.24
METER USERS		
Residences	3,366	
Business	3,745	
Assembly auditorium	117	
	7,228	
(Add 1/11 as increase for 12 mo. operation)....	657	
Total	7,885	16.42
FLAT RATE USERS		
Bus. 12.5 kw. connected at $2\frac{1}{2}$ hrs. per day	10,800	
Res. 1st 4 lps.—7.85 kw. at $3\frac{1}{2}$ " "	9,888	
Next 5 " 3.90 " 2 " "	2,808	
Over 9 " 0.55 " 1 " "	198	
Total	23,694	49.34
Grand total	48,019	100.00

The estimated generation reported by the company was 61,270 kw-hr. Adding one-eleventh for full year operation gives 66,840 kw-hr. generation and 50,130 kw-hr. as consumption, allowing a 25 per cent distribution loss.

COST OF SERVICE.

The operating expenses were apportioned on the basis of the foregoing demands and consumption. Interest, taxes and de-

preciation were assigned to municipal lighting directly on its portion of the distribution system. The following costs of service were obtained:

	Demand.	Output.	Total.
Municipal lighting.....			\$648 33
Metered sales.....	\$186 95	\$1,260 82	1,447 77
Flat rate sales.....	561 69	1,175 37	1,737 06
Total.....			\$3,833 16

The revenues for the year ending June 30, 1912, were as follows:

Municipal lighting	\$495.17
Metered sales	728.60
Flat rate sales.....	1,318.72
Total	\$2,542.49

The company's municipal lighting rates on file with the Commission are as follows:

6.6 amp. arcs, 72 v. moonlight schedule, 3000 hrs., \$60 each per annum.

32 c-p. carbon incandescent, all night every night, 4000 hrs., \$15 each per annum.

This would give a revenue of \$615 which very nearly meets the cost of the service.

In considering probable revenue from metered sales, the following table of distribution of monthly bills will be found convenient:

DISTRIBUTION OF MONTHLY BILLS.
Eleven Months' Operation

	No. of monthly bills affected.	Kw-hr. consumption.
RESIDENCE:		
Minimum bills.....	72	241.
1st 30 kw-hr. per month.....	34	3,065.
2nd 30 " " ".....	3	60.
Over 60 " " ".....	00	0.
Total.....	106	3,366.
BUSINESS:		
Minimum bills.....	57	99.
1st 30 kw-hr. per month.....	17	2,317.
2nd 30 " " ".....	9	646.
3rd 30 " " ".....	2	240.
4th 30 " " ".....	2	170.
Over 120 " " ".....	2	273.
Total.....	89	3,745.

The meter rate applied for would result in an increased annual revenue of \$32 due to change in discount, \$50 due to minimum bill, and only \$16 due to change in rate on second 60 kw-hr. By doing away with a meter rental of 15 cts. per month a loss of \$70 is sustained, bringing the net increase under the schedule applied for down to about \$30. It is quite apparent, therefore, that the changes suggested by the applicant in its meter schedule are not such as to materially affect the revenue. It appears equitable in this case to somewhat increase the maximum rate, but to apply this maximum to a smaller consumption than heretofore. In this way the fixed costs are more fairly distributed and what is otherwise surplus power may be more readily disposed of to the advantage of consumers and the utility. The following meter rate, it is believed, would accomplish these ends:

- 12 cts. per kw-hr. for first 30 kw-hr. per month.
- 8 cts. per kw-hr. for next 90 kw-hr. per month.
- 6 cts. per kw-hr. for over 120 kw-hr. per month.

Minimum bill 85 cts. per month.

A discount of 5 per cent if paid on or before the 10th of month.

No meter rental.

This rate would result in a net increase in revenue of \$110 per annum from metered sales and it would give the long hour user a better opportunity to obtain part of his current at an 8 ct. rate.

The increase in revenue from flat rate sales under the schedule applied for would be about \$60 per annum. Although the relation of revenues to cost of service does not seem to be accurately adjusted between different classes of flat rate service, the only changes suggested in the rate applied for are as follows:

Hotels should be placed upon the same basis as residences. While this will result in a slight decrease in the bills of the two present hotels, the charge will more nearly correspond to the cost of service for additional small hotel installations.

The *extra* cost of burning a 50 watt light all night appears to be about 35 cts. per month. In view of the fact that the all night user is a very desirable one, it is suggested that an extra charge of 35 cts. per month for lights kept burning all night might encourage the use of current at off-peak hours.

Those consumers who have had special rates should be placed upon their proper schedule.

IT IS THEREFORE ORDERED, That the applicant, the Chetek Light and Power Company, discontinue its present schedule of rates for electric service and charge in lieu thereof the following schedule:

COMMERCIAL LIGHTING.

Meter Rates.

12 cts. per kw-hr. for first 30 kw-hr. per month.
 8 " " " " next 90 " " "
 6 " " " " all over 120 kw-hr. per month.

Minimum charge: 85 cts. per month.

Flat Rates.—Business places (stores, saloons, offices, shops, etc.)

2 lights—45 cts. each per month.

Over 2 lights—40 cts. each per month.

Lodge Halls.—25 cts. per light per month.

Churches.—15 cts. per light per month.

Residences and Hotels.

2 lights 45 cts. each per month.

3 lights 40 " " " "

4 lights 35 " " " "

5-7 lights 30 " " " "

8 lights 27 " " " "

9-10 lights 25 " " " "

Over 10 lights 23 cts. each per month.

Summer Cottages.—One and one-half times the regular residence rates.

All night lights.—An extra charge of 35 cts. per month will be made for each light kept burning all night.

Discount.—A discount of 5 per cent from the foregoing rates shall be made for payment of bills on or before the 10th of the month following the month for which bill is incurred.

Meter Rental.—Meter rentals shall be discontinued and meters installed as rapidly as possible where there are more than three lights installed.

Special Rates.—All special rates whatsoever shall be discontinued.

MUNICIPAL LIGHTING.

\$60 per lamp per annum for 6.6 ampere, 72 volt, a. c. series enclosed lamps burning 3,000 hours on a moonlight schedule.

\$75 per lamp per annum for 32 c-p. 110 volt, a. c. multiple carbon incandescent lamps burning 4,000 hours on an all night every night schedule.

COMMON COUNCIL OF THE CITY OF GREEN BAY
vs.
GREEN BAY WATER COMPANY.

Submitted June 12, 1912. Decided Jan. 6, 1913.

Petitioner asks for a reduction of the water rates of the Green Bay W. Co., Green Bay, Wis. A valuation was made and the revenues and expenses investigated. An apportionment was made as between output and capacity expenses and a further apportionment as between fire and general service.

A tentative valuation of the physical property, as of date Jan. 1, 1912, showed a cost of reproduction new of \$681,770 and a present value of \$627,499. A later revision reduced the estimates to \$671,518 and \$618,229 respectively.

Certain additions to the valuation for rate-making purposes in the present case are made for going value, supplies and materials on hand, working capital and discounts on bonds.

In making an allowance for going value, the Commission aims to determine the actual cost of developing the business of the plant in question, rather than the estimated cost of reproduction of the business. It is necessary to determine the extent to which losses have actually been incurred and to what extent, if at all, such losses have been offset by subsequent earnings. In the present case, lack of sufficient data leaves the computation of going value largely a matter of estimate.

It is contended, in the present case, that the cost of reproduction of the business, estimated by the comparative plant method, is a measure of going value in the same way as the cost of reproduction of the physical plant is often used as an index of plant value. The cost of reproduction of the business is based upon certain assumptions as to the rate of construction of the physical plant, the rate of recovery of the earnings, and the rate of increase of operating expenses. The computation submitted by the respondent estimates the difference between the net earnings of the comparative plant and the net earnings of the existing plant during the entire period from the date of the first preliminary work until the earnings of both plants are equal. This estimate includes elements which clearly do not enter into going value. The loss to capital during the construction period is not measured by the extent to which earnings fall short of the earnings of the existing plant, but rather by the amount by which they are less than the returns that have been foregone in order to enter the new field of investment. This loss to capital is a construction cost included in the physical valuation as an overhead charge. The losses which constitute the cost of developing the business, as a cost distinct from that of the physical plant, begin when operation starts. If the cost of reproduction is to be considered it should comprise only the cost of developing the business to the point where a reasonable return upon the useful investment is secured. Under a condition of regulation which limits the rate

of return to a reasonable amount the earning or market value, caused by the existence of an excessive rate of return would not exist. When a reasonable return is secured the losses incident to the development of the business cease without regard to whether or not the return is equal to present earnings of the plant. A somewhat different sequence of construction work than that assumed would enable the plant to offer service before the expiration of the period used in the company's estimate. It is not probable that the entire plant would be complete before any service could be offered. Until rates are made for the two main classes of service, fire and general, it is practically impossible to make even a set of reasonable estimates. Although theoretically going value is the cost of developing the business to the point of a reasonable return, the determination of this cost by the comparative plant method is so much a matter of various estimates, which in turn must be based upon assumed rates for the different classes of service, that, under the circumstances of this case, it has not appeared practical to compute this cost in detail.

In the present case, the utility supplies water free of charge to public buildings, schools, and fountains, troughs and parks. These services are to be charged the regular rates.

Meters are to be placed upon all services, including those now supplied free of charge, with the exception of service for fire protection only. Meters are to be owned and maintained by the water company. One year is considered sufficient time to comply with this order.

The respondent is ordered to put in effect the schedule of rates approved by the Commission.

Petition in this matter was filed with the Commission on November 3, 1911. It is alleged in the petition that the rates charged by respondent for fire protection and for general service are excessive, exorbitant and unreasonable. Petitioner asks that an order be issued reducing the rates and charges made by respondent for water furnished in the city of Green Bay and for hydrant rentals, and that such further order be made as the Commission may deem necessary and just.

Following is the schedule of rates of the Green Bay Water Company, with such rules and regulations as affect the charges made by the utility:

PUBLIC SERVICE.

Street sprinkling: By contract, water furnished at 12½ cts. per 1,000 gal.	
Hydrant rentals: First 210 hydrants.....	\$9,000.00 per year
Additional hydrants each.....	37.50 "
6 standpipes	174.48 "

COMMERCIAL SERVICE.

<i>Meter Rates:</i>	
Minimum annual charge.....	\$8.00 per year
Less than 500 gallons daily use 4 cts. per 100 gallons	
500 to 1,000	3¼ " "
1,000 to 1,500	3½ " "

1,500 to 2,000 gallons daily use	3¼ cts. per 100 gallons
2,000 to 2,500	3 " "
2,500 to 3,000	2¾ " "
3,000 to 3,500	2½ " "
3,500 to 4,000	2¼ " "
4,000 and over	2 " "

Flat Rates:

Dwelling Houses.

Dwelling houses of five rooms, occupied by one family, for the first faucet.....	\$5.00
For each additional room.....	1.00
For each additional faucet to be used by the same family	2.00
Where the house is occupied by more than one family, and less than four, one faucet only being used by all, for each family.....	5.00
Where a house is occupied by four or more families, and but one faucet is used by all, for each family.....	4.00
Where a house is occupied by more than one family, the highest rates will be charged for each family having water carried into their part of the house....	5.00
For the first bath tub with faucet.....	4.00
When used by more than one family, for each family....	3.00
For each additional bath tub with faucet.....	3.00
For each first pan or hopper water closet with self-regulating faucet	4.00
When used by more than one family, for each family....	3.00
Each additional pan or hopper water closet, with self-regulating closet	3.00
For each slop closet.....	3.00
Where two faucets are used, one for hot and one for cold water, both emptying into one vessel, but one charge will be made for both.	
Provided that in no case shall the charge for the use of water by a private family, exclusive of hose and stable, be more than.....	30.00

Boarding Houses.

Per room for first faucet.....	1.00
No annual rental less than.....	10.00
Each additional faucet.....	3.00
For pan or hopper water closet, with self-regulating faucets	10.00
For each additional pan or hopper water closet, with self-regulating faucet	3.00
Each slop closet.....	5.00
Bath tub when used by boarders.....	10.00
For each tub in public bath house or hotel.....	10.00
For each water closet in public bath house.....	8.00

Stores, Offices, Etc.

For each tenement occupied as a store, warehouse or office	6.00
When two or more such tenements are supplied from the same faucet, each.....	5.00
Barber shop, first chair.....	6.00
Each additional chair.....	2.00
For markets, saloons, workshops, or for purposes not included in any other classification, and not requiring more than an ordinary supply of water taken from one faucet, not more than.....	25.00
For pan or hopper water closet, with self-regulating faucet, or urinal, used by the occupants of one tenement only	5.00

When used by occupants of more than one tenement, for each	\$3.00
For each additional faucet one-half the above charges may be added.	
Private Stables With One Faucet Therein.	
For first horse.....	4.00
Each additional horse.....	2.50
Each cow	1.50
Livery, Club and Boarding Stables with one Faucet Therein.	
For six horses or less.....	12.00
For each additional horse.....	1.50
Truck and Cart Stables.	
For each horse, if more than three.....	2.50
No stables less than.....	6.00
Rates for all stables include water for washing carriages, omnibuses and cars without hose; where hose are used in any stable an additional charge may be made of \$5 for the first carriage or vehicle and \$2 for each additional one.	
Hose.	
For the right to attach $\frac{3}{4}$ in. hose with nozzle of not more than $\frac{1}{4}$ inch orifice, for washing windows, sprinkling streets, or watering gardens (the use of the same to be limited to one and one-half hours per day) for one lot or store.....	6.00
Steam Engines.	
Stationary steam engines, working not over twelve hours per day, may be charged by the horse power, as follows:	
For each horse power up to and not exceeding ten, the sum of	4.00
For each horse power exceeding ten and not over fifteen, the sum of.....	3.50
For each horse power over fifteen, the sum of.....	3.00
No steam engine less than.....	10.00
Eating Houses.	
Refectories, confectioneries, eating houses, fish stalls, provision shops, refreshment and oyster houses, not more than.....	50.00
Building Purposes.	
For each barrel of lime or cement used.....	.05
Bakeries.	
Bakers may be charged according to the average daily use of flour, namely: for each barrel per day, the sum per annum.....	4.00
Provided that in no case of a bakery is the company re- quired to charge less than \$8 per annum.	
Bills due and payable semiannually in advance on the first of June and December each year. Water turned off when bills are ten days overdue.	
A charge of \$1 made for turning off and on water occasioned by non- payment of bills or for violation of any of the rules or regula- tions of the company.	
A deposit in advance required where there is furnished a temporary supply for special purposes.	
Service pipe laid to line of streets and through cellar wall, provided same is on the line of the street, by company without charge; in such cases applicant is charged for one faucet whether water is used or not.	
Sprinkler with a proper nozzle permitted for $1\frac{1}{2}$ hours each day. No reductions or rebates allowed for temporary absence from premises or discontinuance of use of water.	

It appears that the utility at the present time charges 20 cts. per thousand gallons for water used for street sprinkling, instead of 12½, as the rate is filed in this office.

In addition to the rates enumerated above, the utility, on October 31 and November 11, 1912, filed with the Commission the following rates:

For private fire protection only:

2 inch connection	.....	\$30.00	per year
3 " "	.....	40.00	" "
4 " "	.....	50.00	" "
6 " "	.....	75.00	" "

For emergency service where consumers have private water supply systems:

1 inch connection	.....	\$12.00	per year
1¼ " "	.....	16.00	" "
1½ " "	.....	20.00	" "
1¾ " "	.....	25.00	" "
2 " "	.....	30.00	" "
2½ " "	.....	35.00	" "
3 " "	.....	40.00	" "
3½ " "	.....	45.00	" "
4 " "	.....	50.00	" "

These rates were accepted, pending the decision in this case, and are, consequently, subject to review at this time.

Testimony, Exhibits, and Briefs.

Hearing was held at Green Bay, May 13, 1912, and at Madison, June 12, 1912. Appearances at both hearings were: For petitioner, *Minahan & Minahan*, by *V. I. Minahan* and *William Cook*. For respondent, *Greene, Fairchild, North & Parker*, by *George G. Greene* and *Jerome R. North*.

Matters taken up at the hearings related largely to the question of valuation, although some testimony relative to other matters was introduced. It does not seem necessary to make an extended analysis of the testimony at this point. All matters considered at the hearing have been fully considered in connection with the various phases of the case. A number of exhibits were put in evidence, dealing with matters relating to the value of the property and the operation of the plant, all

of which have been considered in connection with the questions to which they relate.

Petitioner's brief develops three main lines of argument:

1. That no allowance should be made in this case for paving, except where respondent has actually cut through pavement in installing parts of its system.

2. That no allowance should be made, for rate-making purposes, for going value.

3. That no allowance should be made, for rate-making purposes, for materials and supplies on hand, unused, nor for discarded machinery, undisposed of.

Petitioner's brief also takes up the question of the investment in the property and the tests by which the value, for purposes of this case, should be determined. Matters relating to operating expenses, rates of return and of depreciation, were also touched upon, and all of these have been considered in connection with the findings of this case.

Respondent's brief dealt at some length with the questions of value of property, going value, working capital, and discount on bonds. Questions of normal operating expenses and of rate of return were also discussed in the brief, and reference has been made to these portions of the brief in arriving at our conclusions.

VALUATION.*

There are four principal items to be considered under this head: (1) Physical value, (2) going value, (3) discount on bonds, (4) working capital.

Physical Value. The determination of the actual investment in the property has not been possible. Testimony was introduced to show that the plant cost originally about \$117,000, but no record of the additions from the beginning of operations to the time when the property came into the hands of the present company has been available. Since the acquisition of the property by the respondent extensive additions and replacements have been made. For such years as are covered by the utility's reports to the Commission it appears to have been the practice of the utility to handle both replacements and new construction as additions to the property. Whether this policy was followed in previous years, the records do not show, but if it was followed, the records of additions to property are unreliable for purposes of this case.

The tentative valuation prepared by the Commission showed a cost of reproduction as of January 1, 1912, of \$681,770, and a value in existing condition, of \$627,499. This included some paving which was not actually cut through by the utility. With the inclusion of only such paving as was actually disturbed, the tentative figures were \$669,320 cost new, and \$616,973 in present condition.

A number of changes were made in the tentative valuation after further investigation. The final valuation, as compiled after the hearings and after some further information was obtained concerning disputed items, with the exclusion of non-operating property and of that portion of the paving which was not actually disturbed in the construction of the existing plant, is shown in the following table:

Classification,	Cost new.	Present value.
Land	\$12,825	\$12,825
Transmission and distribution.....	403,008	373,772
Buildings, etc.....	86,831	82,314
Plant equipment.....	73,452	61,956
General equipment.....	8,596	6,891
Paving (actually disturbed).....	6,052	5,987
Total	\$591,364	\$543,785
Add 12%.....	70,964	65,254
Total	\$662,328	\$609,039
Material and supplies.....	9,190	9,190
Total	\$671,518	\$618,229

In arriving at the final valuation all phases of the situation, as far as it concerns the valuation, were taken under advisement, and the results shown in the foregoing table embody all changes which seemed to be proper. The only matter pertaining to the value of the physical property which need be mentioned here relates to petitioner's contention that no allowance should be made for materials and supplies on hand. This has been considered fully in connection with previous decisions and the conclusion has been that the utility is entitled to a reasonable amount for materials and supplies. There seems to be no reason to question the reasonableness of that item in this valuation. Non-operating property has been excluded from the valuation. The present value of the non-operating property is only \$276, which

is so small as to have practically no effect on rates, but there seems to be no reason why it should be included.

Going Value. The argument of petitioner is that no allowance should be made for going value. Some confusion seems to exist in petitioner's brief between going value and good will, or, in other words, between the cost of building up a business and the value which accrues to a business because of the patronage given to it by customers who are free to patronize a competing business. It has been repeatedly held that the cost of building up the business of a public utility is an element to be considered in connection with the adjustment of rates. The methods to be followed in fixing the allowance which should be made for this element have not been very definitely fixed. In general, however, it may be said that there are two methods which have been used to a considerable extent, which methods are:

1. The determination of the extent to which losses have actually been incurred in building up the business in question.
2. The cost of reproduction of the business.

On behalf of the respondent there was introduced a computation of going value by John W. Alvord. After the hearing a revised computation was presented, which showed a total going value of \$94,082. Methods followed by Mr. Alvord in determining the going value differ so materially from those which have been frequently used by the Commission that it may be well to call attention to some of the points of difference.

The method which has generally been followed by the Commission aims to determine, as far as possible, what the actual cost of developing the business in question has been, and to what extent, if at all, such losses have been recovered in later years of operation. There are a number of difficulties in determining, by this method, what the cost of building up a business has been, among which may be mentioned:

1. Entire or partial lack of records covering the developmental period.
2. Difficulty of finding original cost of physical plant.
3. Difficulty of eliminating from reported operating expenses amounts which are the results of extravagance, inefficiency, or other causes which tended to keep the costs above a normal figure.

Where it is possible to secure needed information concerning the growth of the plant and business, however, the method upon which the Commission has at various times computed going value

gives the extent of developmental costs which were occasioned in building up the business and the extent to which, at any time subsequent to what may be termed the developmental period, such developmental costs have been returned to investors. In other words, this method, where it can be applied to its full extent, enables the investigator to determine what it has actually cost the utility in question to build up its business. This sum, added to the actual investment in the physical plant, gives the total amount which the plant and business of the utility have actually cost. In applying this method of arriving at the cost of plant and business the difficulties which interfere with the accurate determination of the cost of the business, or of that portion of the cost which has not been returned to investors, also interfere very seriously with the determination of the actual investment in the physical plant, and not infrequently render it altogether impossible to ascertain the amount of such investment. Where it is impracticable to determine what the actual cost of the physical property has been, the only method of arriving at the value of that property is to ascertain the cost of reproduction.

The method of determining going value as followed by Mr. Alvord, and which, for the sake of convenience we will refer to as Alvord's method, is an attempt to fix the amount which it would cost to reconstruct the business of the utility, somewhat as a physical valuation reveals the cost of reconstructing the physical plant. There are two assumptions vital to this method:

1. A city similar in all respects to the one under consideration, except that there is no public water supply system, but in which the people are, in a general way, cognizant of the advantages of such a water supply.

2. Capital seeking investment which may either be used to construct a plant and business in the city with no water supply or to purchase the existing plant and business.

In a computation of going value according to Alvord's method the going value is the present worth of the amounts by which the net earnings of the comparative plant are less than the net earnings of the existing plant during the entire period from the date of the first preliminary work until the earnings of both plants are equal. It is submitted on behalf of the utility that, inasmuch as the cost of reproduction of the physical plant has often been used as an index of plant value, the measure of the value of

a created earning power should be the cost of reproducing that earning power.

In this connection it should be remembered that the general use of the cost of reproduction as an indication of investment in a physical plant has been largely necessitated by the lack of accurate and reliable information as to actual, legitimate investment. The same difficulty, although usually to a lesser extent, interferes with the determination of actual costs of building up a business. Because of this condition, the cost of reconstructing or duplicating the established business may be to some extent valuable in fixing upon the going value.

From a somewhat careful study of Alvord's method it has seemed that some weaknesses exist in this method which tend to lessen the conclusiveness of its results. We have attempted in the following paragraphs to delineate some of these weaknesses.

The results of this method rest upon certain basic assumptions as to the rate of construction of the physical plant, the rate of recovery of the earnings, and the rate of increase of operating expenses. A concrete instance taken from the facts which are on record in this case may serve to show the difficulty of drawing conclusions as to these conditions. Predicating his conclusions upon the reported earnings for earlier years, ending in most cases upon August 31, Mr. Alvord estimates the operating revenues of the Green Bay Water Company for the calendar year 1912 at \$83,700. As a matter of fact the operating revenues for the year ending June 30, 1912, were only \$71,665.58, or \$4,381.32 less than for the previous year instead of about \$7,000 more, as estimated by Mr. Alvord. Mr. Alvord also estimated the operating expenses of the existing plant for 1912, including taxes and depreciation, at \$38,700, when the actual operating expenses reported by the utility for the year ending June 30, 1912, were \$39,445.37, without any allowance whatever for depreciation. The effect of such differences as these must be to very materially alter the resulting conclusions as to going value or cost of reproducing the business.

In this instance a construction period of two years has been assumed at the end of which time the comparative plant would be ready to offer service, and it has been assumed that an additional period of three years would be required for that plant to develop a business equivalent to that which the Green Bay plant would be assumed to have at the end of that period. It

is evident that changes in the estimated rate of construction of the plant and of development of the business would materially affect the going value as determined by this method. Such assumptions as these are necessarily the result of expert opinion based upon all facts available concerning the existing plant and its business. A study of the conditions indicates that in some respects the assumptions upon which Mr. Alvord has based his conclusions are in need of modification, and we have pointed out below some of the changes which seem to be essential.

1. It is hardly to be expected that all of the capital necessary for the construction of the comparative plant would be diverted from its existing place of investment at the beginning of the two year construction period, and about six months before the beginning of actual construction work. This would have a considerable effect upon the cost of reproducing the business as estimated by Mr. Alvord, although because of an erroneous method of dealing with losses during the construction period, which will be explained later, the actual effect of an incorrect assumption at this point will be reflected in the amount to be allowed for loss of interest during construction, and not in the going value.

2. It is not probable that the entire plant would be complete before any service could be offered. A somewhat different sequence of construction work than that assumed would enable the plant to offer service to a part of the hydrants and a part of the general consumers before the expiration of the two year period.

3. A three year period for building up the business, after the completion of the physical plant, appears to be a maximum. It is hard to conceive of a city similar in all respects to Green Bay, or of the city of Green Bay itself without a public water supply, in which the need for such a supply would not be so pressing as to make the rate of development of the business very rapid. Of course, very much depends upon the character of the city, but one of the basic assumptions of this method is that the comparative plant should be installed in a city similar in every respect to Green Bay, except that it has no public water supply, in short, that Green Bay itself has been without such a supply and that the plant is to be installed there. Any assumption as to the rate of recovery of the business must be a matter

of estimate, but it seems that three years is a very liberal estimate of the time required.

If the cost of reproducing the business is to be the test of going value it seems that the cost to be determined should be the cost of developing a business equal to the present business, provided the earnings from that business are not excessive, rather than the present worth of the differences between the earnings of the two plants during the five year period which it has been assumed would be necessary to bring the two plants to an equal basis, without regard to whether the earnings at the end of that time are excessive or are unreasonably low.

Any estimate of the cost of reproducing the business, under the conditions prevailing in Green Bay, must take cognizance of the existence of regulation by which the net earnings of the utility are limited to a reasonable amount. That is, the rates to be charged by the Green Bay Water Company must not be so high as to yield the company an excessive return upon its property. Then, if revenues are to increase according to the assumptions upon which the going value has been computed, it must be because the investment of the company has been so greatly increased as to make such revenues necessary in order to provide a return. If useful investment has not so increased, revenues must be limited to an amount which will be sufficient to yield a reasonable return upon the actual useful investment. Although it may require a developmental period of three years after the plant is put in service to overtake the business of the existing plant, this does not appear to be the period which should be taken into consideration. A computation of cost of reproducing the business should rather determine the cost of reproducing so much of the business as is required to yield a reasonable return upon the investment. When such a reasonable return upon the investment is secured, the losses incident to the development of the business cease. If the existing plant is earning a greater net amount under a condition of regulation, it must be because a greater useful investment makes this larger revenue reasonable. If the return on useful property is greater than the amount required to yield a reasonable return on such investment, whether from the absence of regulation or from the failure of regulation to effectively limit the rate of return, the net revenues would, of course, make the existing plant more attractive to investors than the comparative plant would be at

the point where its net revenues were yielding only a reasonable return upon the investment. At that point, therefore, the existing plant would have a greater value in the market than the comparative plant, which greater value would be determined by the amount by which the net earnings of the existing plant exceed what would be considered a reasonable return. The going value as computed by Mr. Alvord includes both the cost to the comparative plant of building up a business which will yield a reasonable return, and the added earning or market value which the excessive earnings, if any, of the existing plant would produce.

Under a condition of regulation which limits the rate of return to a reasonable amount, this earning or market value, caused by the existence of an excessive rate of return, would not exist, and the going value, if computed upon the basis of the cost of reproducing the business, must be the cost of developing the business to the point where a reasonable return would be earned upon the useful investment, without regard to whether or not this point coincides with the point where both plants are in every respect equivalent.

As stated above, it is hardly to be expected that all of the capital necessary for the construction of the comparative plant would be diverted from its existing place of investment at the beginning of the construction period. In order to show as clearly as possible the effect of this assumption we are including here the table showing the computation of going value as included in the revised copy of respondent's Exhibit 3:

PERIOD.	YEAR.	EXISTING PLANT.			COMPARATIVE PLANT.					GOING CONCERN VALUE.		
		Estimated future gross earnings including public service. ¹	Est. future opr. exp. including taxes and depreciation. ²	Est. future net income. (Column 3-4.)	Est. gross income from operation incl. pub. service.	Est. opr. exp. incl. taxes, depr.	Est. net income from oper. (Column 6-7).	Est. return upon un-employed capital. (Int. rate 2% and 4%).	Total net income or return. (Column 8+9.)	Total net credits in return to existing plant. (Column 5-10.)	Factor for present worth at 6%.	Present worth net credits to existing plant.
1	2	3	4	5	6	7	8	9	10	11	12	13
Construction:	1912	\$33,700	\$38,700	\$45,000	0	0	0	\$26,460	\$26,460	\$18,540	0.943	\$17,483
	1913	90,200	40,150	50,050	0	0	0	8,489	8,489	41,561	.890	36,989
Acquisition of revenue:	1914	\$36,700	\$11,600	\$55,100	\$56,200	\$34,570	\$21,630	\$1,954	\$23,584	\$31,516	0.840	\$26,473
	1915	103,200	43,050	60,150	85,200	40,850	44,350	791	45,141	15,009	.792	11,886
	1916	109,700	44,500	65,200	107,900	44,550	63,350	169	63,519	1,681	.747	1,251
	1917	116,200	45,950	70,250	116,200	45,950	70,250	0	70,250	0	.705	0
Total going concern value....												\$94,082

¹Increase estimated from past growth to be \$6,500 per annum.

²Increase estimated from past growth to be \$1,450 per annum.

According to this table \$54,472 of the estimated cost of reproduction of the business consists of the present worth of the amounts by which the earnings of the comparative plant during the construction period fall short of the estimated earnings of the existing plant. This does not include the amount which has already been estimated which should be added to the physical value of the plant as loss of interest during construction. That is, column 9 of the foregoing table, showing the estimated return upon unemployed capital, includes the return upon that portion of the capital required to construct the plant which has been held in the form of convertible securities and bank balance during the construction period. The amount which Mr. Alvord has added to the physical value of the plant is the amount of interest lost on that portion of the capital which has actually gone into the plant. Assuming that all the capital required to construct the plant is withdrawn from existing investments at the beginning of the two year period, there is a further loss, which is the difference between the estimated return on unemployed capital, as shown in the table, and the amount which that capital would have been earning had it remained invested as it was prior to its withdrawal for the construction of the comparative plant. This loss, of course, would not exist if capital could be withdrawn from previous investments exactly as needed for construction purposes. Although it might not be possible to withdraw the capital in just the amounts needed at various times during the construction period, it does not seem probable that it would be necessary to withdraw the entire amount before any work was actually begun. To some extent the rate of withdrawal of capital from existing investments would probably be governed by the rate at which construction work is carried on. That is, the amount of capital on hand at any time during the construction, in excess of the amounts immediately necessary for the work, would probably be relatively small. As a result the earnings from unemployed capital during the construction period would be relatively small and the loss caused by capital being withdrawn from other investments before actually needed for construction work would also be a comparatively small total. The amount included in the Commission's valuation of the physical property, to cover loss of interest during construction, includes the full extent of such loss, assuming that capital is withdrawn from previous in-

vestments in accordance with the needs of the situation. That is, the amount included in the physical valuation as an overhead charge covers all losses to capital during the construction period which arise from the change from a previous investment. Therefore, the cost of the business, as distinguished from the cost of the physical property, should not include the losses during the construction period, such losses being understood to be the difference between what the capital would have earned in its previous investment and what it did actually earn during the construction period.

The loss, as computed by Mr. Alvord, is not only the amount by which returns during the construction period fall short of former earnings but is the total amount by which they are less than the net earnings of the existing plant during this period. This does not seem to be the logical method of computing these losses. If, during the construction period, investors are secured against the actual loss which is occasioned by transferring their capital from one investment to another, this seems to be all that should be done. Until the plant is actually in operation its reasonable and proper earnings should not be judged by what are reasonable returns in similar enterprises which are in full operation. The loss to capital invested in the comparative plant is not to be measured by the extent to which its earnings during the construction period fall short of the net revenues of the existing plant, but rather by the amount by which they are less than the returns which have been foregone in order to enter the new field of investment.

With capital withdrawn from other investments somewhat in accordance with the needs of the plant under construction, the losses due to idle capital during construction would be relatively small and all of these losses are properly treated as a part of the cost of the physical property. The losses which constitute a cost of developing the business, as a cost distinct from that of the physical plant, begin when operation starts. If it is to be assumed, as has been done in this case, that the plant would not be put into service until the completion of all construction at the end of the two year period, the cost of reproducing the business, which is to be an indication of the going value, does not commence until that time. All the present worth of net credits to the existing plant for the two year construction period should be excluded from the going value. With this

exclusion the going value, as indicated by the foregoing table, would be \$39,610 instead of \$94,082. Since the physical valuation covers all losses of interest during construction, the effect of the estimated returns upon unemployed capital for the three years following the main construction period is reflected in the valuation of the physical property. Hence these amounts should be excluded at this point, with the result that the going value would be \$42,010 instead of \$39,610. This amount is the estimated cost of the business up to the point where both plants are assumed to be equal in all respects. It is not the cost of developing so much of the business as would be required to give the comparative plant a reasonable return.

The detailed computation of the cost of developing the amount of business necessary to yield a reasonable return upon the property involves a number of further assumptions which make the accuracy of the result very questionable. Estimates made for this purpose are necessarily liable to errors of a nature similar to those to which attention has been called in the foregoing discussion. For the purposes of such an estimate it must be assumed that with a normal investment, rates, both for fire protection and for general service, are to be so fixed that with a reasonable development of the business a normal return will be possible. The estimates made by Mr. Alvord in connection with the present case are of little assistance for a computation of the costs of bringing the business up to a point where it will yield a reasonable return, because these estimates of revenues, expenses, number of consumers, etc., were made with the idea in mind of a development up to a point where both plants would be equal. We have already referred to the difficulty of securing reliable estimates, and any attempt to estimate expenses, revenues, and the rate of acquisition of business up to the point of a reasonable return, must involve these same difficulties, with the added one that until rates are made for the two main classes of service, fire and general, which provide that each class of service shall bear its proper share of the expenses, it is a practical impossibility to make even a set of reasonable estimates. Although theoretically the cost to be determined is the cost of developing the business to the point of a reasonable return, the determination of this cost is so much a matter of various estimates which in turn must be based upon assumed rates for the different classes of service, that, under

the circumstances of this case, it has not appeared practical to compute this cost in detail.

If, however, the reasonableness of Mr. Alvord's assumptions, with the exceptions noted previously, is to be granted, it appears only reasonable to expect the cost of developing the business up to a reasonable return to be somewhat less than the cost of developing it to a point of equality with the estimated business of the existing plant, as of January 1, 1917. That is, so far as this method is useful for purposes of the case, \$42,010 is probably the maximum which should be considered in estimating the going value. A number of computations have been made to ascertain, as closely as possible, what the cost of establishing the business has been. No records prior to 1894 have been available, and in some respects the information obtained for more recent years is unreliable, especially because of the apparent failure of the utility to distinguished between replacements and new construction. With allowance made for these conditions, however, the computations of losses indicate that the allowance for going value should not be far from \$40,000.

Discount on Bonds. The respondent asks for an allowance of \$25,000 for the discount on a bond issue of \$400,000, made in the latter part of 1910. These are 6 per cent bonds which appear to have been sold at 93 $\frac{3}{4}$. The policy of the Commission with regard to bond discounts has been fully explained in earlier decisions. The report of respondent for the year ended August 31, 1910, shows that there were outstanding on that date, 6 per cent bonds to the amount of \$133,000. At that time there were notes and bills payable amounting to \$238,440.74. The balance sheet of June 30, 1911, show bonds outstanding of \$400,000 and notes and bills payable of \$23,500. From this it appears that \$133,000 of this bond issue amounted to a refunding issue, and that a considerable part of the remaining \$267,000 took the place of current liabilities. Under these conditions it does not seem proper to include the total amount of the discount on bonds in the valuation of the plant for rate-making purposes, although some additions to the amount of the physical value should be made because of discounts.

Working Capital. Respondent's brief places the amount of working capital at \$20,000, exclusive of materials and supplies. Where collections are made quarterly, as in the case of the respondent, a rather large amount of working capital is usually

necessary, but an allowance of \$20,000 in addition to materials and supplies seems to be more than should be added to the valuation of the property to cover this item. Quarterly revenues amount to from \$18,000 to \$20,000 and expenses are about \$9,000. It appears to be the practice of respondent to collect a portion of its revenues in advance, which would tend to lessen the amount required for working capital.

In view of all the facts available in this case, it appears that the value upon which rates should be based is about \$65,000 in excess of the present value of the physical property, or \$683,229.

Apportionment of Property. The apportionment of the physical property, as shown by the final valuation, between the branches of service, is as shown in the following table:

APPORTIONMENT OF PROPERTY.
GREEN BAY WATER COMPANY.

Classification.	Total.		Fire.		General.	
	* Cost new.	Present value.	Cost new.	Present value.	Cost new.	Present value.
Land.....	\$12,825	\$12,825	\$4,138	\$4,138	\$8,687	\$8,687
Transmission and distribution.....	403,008	373,772	213,231	198,479	189,777	175,293
Buildings etc.....	86,831	82,314	37,319	35,239	49,512	47,075
Plant equipment.....	73,452	61,996	26,419	22,639	47,033	39,357
General equipment.....	8,596	6,891	3,511	2,776	5,085	4,115
Paving.....	6,652	5,987	2,594	2,365	4,058	3,622
Total.....	\$591,364	\$543,785	\$287,212	\$265,636	\$304,152	\$278,149
Add 12 per cent.....	70,964	65,254	34,466	31,876	36,498	33,378
Total.....	\$662,328	\$609,039	\$321,678	\$297,512	\$340,650	\$311,527
Materials and supplies....	9,190	9,190	3,406	3,406	5,784	5,784
Total.....	\$671,518	\$618,229	\$325,084 48.4%	\$300,918 48.7%	\$346,434 51.6%	\$317,311 51.3%

Depreciation. This has been computed on a 2 per cent sinking fund basis on the depreciable property. The total annual allowance for depreciation, computed on this basis, should be \$6,550, which is very nearly 1 per cent of the cost of reproduction of the total property. Depreciation has been apportioned between fire and general service on the basis of the apportionment of depreciable property. As a result of this apportionment it is found that \$2,924 of the annual allowance for depreciation should be charged to fire protection and \$3,626 to general service.

Petitioner asks, in its brief, that the allowance for depreciation be fixed at three-fourths of one per cent. Respondent asks for an allowance of one per cent. The allowance made in this case, as stated, is nearly one per cent of the cost of reproduction of the property, which seems to be a reasonable allowance for purposes of this case.

Rate of Return. Petitioner asks that the rate of return be fixed at 6 per cent upon the present value of the property. Respondent asks for an 8 per cent rate of return upon a valuation considerably higher than that which we have arrived at for this case. The rate of return for this case should be reasonable to all parties, and the Commission has concluded, after an investigation of the conditions, that an allowance of 7 per cent upon a valuation of \$683,229 will not be unreasonable when the business is fully developed. The allowance for interest and profits on this basis would be \$47,826.03.

OPERATING EXPENSES.

Following is a summary of operating revenues and operating expenses, including taxes, for the years ending as indicated:

Year ended	Operating revenues	Operating expenses
Aug. 31, 1909.....	\$68,573.99	\$22,795.47
" 1910.....	73,491.35	26,147.34
June 30, 1911.....	76,046.90	30,535.24
" 1912.....	71,665.58	39,445.37

1 Includes non-operating revenues, amounting to \$784.86.

Petitioner objected to certain items in the operating expenses as reported for the year ended June 30, 1911. These objections are given below:

1. *Executive Salaries.*

Petitioner calls attention to the fact that for a number of years the salaries of executive officers were very low, and that it is only recently that the company has paid very much in the way of salaries of general officers. It is stated by petitioner that the business of the utility is mostly handled by the super-

intendent and that no large allowance need be made for the salaries of other officers. The amounts reported under the head of salaries of general officers for 1911 and 1912, were \$3,141.66 and \$3,658.33, respectively. The testimony shows that a total of \$2,500 is paid in salaries to the president, treasurer, secretary, and directors. It is a difficult matter to determine what are reasonable payments for such services as those rendered by the general officers and directors. It appears that a considerable part of the work done by such officials has to do with the management of the investment in the property and with such matters as improvements, extensions and replacements. It is undisputed that for a number of years the officers received very little in the way of direct payment for their services, but petitioner contends that this was offset by stock bonuses given to the officers. Respondent's stand upon this matter is that the services rendered by the officers are worth more to the utility than the amount of their salaries. It may be that a distinction should be made between what the services are worth to investors, who are thereby assured of an efficient management of their investment, and what they are worth to the utility, considered as an operating entity. That the services rendered by the officers have a value to the operating utility can hardly be questioned, and it does not appear that for a utility, such as respondent in this case, a payment of \$2,500 per year for salaries of general officers is very far, if at all, above a proper amount.

2. Uncollectible Accounts.

For the year ended June 30, 1911, commercial expenses were charged with \$289.01 for uncollectible accounts. For the following year the amount was \$145.29. It is contended that the utility has adequate means of protecting itself against losses due to non-payment of bills and that the reported uncollectible accounts expense should be stricken out.

3. Fuel for Steam.

This item for the years 1910, 1911 and 1912 amounted to \$5,704.61, \$7,872.26, and \$6,942.12. Petitioner's argument is that the increase from the expenses of 1910 is abnormal and that a portion of the reported expense should be eliminated. The 1912 expenses do not appear abnormal.

4. Maintenance of Services.

This amounted to \$654.64 in 1911 and \$1,678.12 in 1912. Petitioner contends that a large part of the maintenance expenses for 1911 were occasioned by repairing leaks caused by electrolysis. Petitioner's brief calls attention to the contention of the utility that the value of the property should not be reduced by reason of the frequency of electrolytic action, and concludes that, therefore, the expense incurred in repairing services which are presumed to have been damaged by electrolytic action should not be included in operating expenses.

A number of surveys have been made at various times to determine whether the distribution system of the utility has been damaged by electrolysis and recommendations were made with a view to remedying conditions where electrolytic action was found to exist. From these reports it appears that conditions have been considerably improved, but no conclusions appear to have been reached as to the exact extent of the damage caused by electrolysis. If the utility has taken reasonable precautions to prevent electrolytic damage, as it appears to have done, there seems to be no adequate reason for excluding from operating expenses the cost of maintaining services if the expenses of such maintenance are not otherwise abnormal.

5. Injuries and Damages.

Petitioner contends that this item of expense should be excluded because this is due to the negligence of the utility.

6. Insurance.

Petitioner contends that the reported insurance expense for recent years is abnormal, and that an average amount, including earlier years, should be used.

7. Stationery and Printing.

This item was rather large for 1911, but in 1912 appears to have been reduced to a normal amount.

Petitioner's brief, then, places the proper allowance for operating expenses at \$5,947.52 less than the expenses for 1911, or at \$24,371.50.

Respondent's brief also deals with the matter of the normal allowance for operating expenses, and states that the increase of expenses for 1912 was partly due to extraordinary expenses in that year. Increases were caused by:

1. The repair of a river crossing broken by a vessel.
2. The unusual freezing of service pipes.
3. The purchase on an advantageous market of coal to last beyond the end of the year.
4. The cost of operating the west side pumping station, which was recently installed, amounting to \$4,000.
5. The increase, amounting to \$1,700, in the salaries of the superintendent and other officers.
6. The increase of taxes, amounting to about \$600.

The brief states that only the cost of operating the west side pumping station, the increase of salaries of general officers, and the increase of taxes should be added to the expenses of 1911 to arrive at normal operating expenses, amounting to \$36,798. Without attempting, at this point, to pass upon the reasonableness of this estimate, there is one change which evidently should be made. This is a reduction amounting to the difference between the cost of fuel in 1911 and in 1912, which should be made if the expenses of the west side station are to be included and which would reduce the utility's estimate to about \$35,868.

Between this amount and the estimate made on behalf of petitioner there is so great a difference that it is evident that a careful analysis will have to be made of operating expenses in order to determine as accurately as possible what are reasonable and normal operating expenses. Such an analysis has been made with particular reference to the maintenance expenses. Although these expenses are in general rather high, the extent of reductions which should be made is not great if we use 1911 distribution maintenance expenses as outlined in respondent's brief. Certain items of expense show what appear to be abnormal increases for 1912 and adjustments of these items have been made, based partly on the reported expenses of earlier years. The items so adjusted are "Maintenance of steam pumping station auxiliary equipment," "Maintenance of steam pumping station buildings, etc.," "Maintenance of electric pumping station buildings, etc.," "Maintenance of reservoirs," "Miscellaneous general expenses," and "Undistributed expenses."

With these adjustments, the total operating expenses, including taxes, are \$35,626.68.

The utility concedes that business is developing and that the growth of the business will add to the earning capacity of the plant. This will be true of the commercial and industrial business of the utility rather than of the fire service. As the utility states that it does not expect any more revenue at the present than it is receiving, the adjustment of rates in this case may be made with reference, first, to the apportionment of the expenses between the two classes of service, and, second, to the schedule to be applied for general service.

The division of expenses between fire service and the general service indicates that the least amount which the city should pay for fire protection is \$24,000 per year. If rates for general service are fixed so that the total revenues of the utility will remain about the same as during the year ending June 30, 1912, the total revenues to be derived from sources other than fire protection amount to \$47,665.58, as compared with \$55,136.94 obtained from such sources during the past year. The installation of meters on all services will add to certain of the expenses of the utility, although the effect of metering the system may be to decrease other items of expense. It appears that the utility has been supplying water free of charge to public buildings, school houses, and fountains, troughs, and parks. These services should be charged for at the regular rates. Respondent's "Exhibit 20" shows the number of each class of users now supplied free of charge. Meters have been placed upon these services but no charge appears to have been made. The free list, according to the testimony and exhibits, is as follows:

Schools	13
Engine houses	3
Parks	1
Other public buildings	3
Fountains	9
Churches	14

This does not include the sewer flushing for which water is also furnished free. In some instances schools have more than one service but the number listed is the number of school buildings, regardless of the number of services. A very large amount of water is used by these consumers at present but when charges are made at regular meter rates the quantity of water used by

certain classes of users on the free list will undoubtedly be very much diminished. According to respondent's "Exhibit 20" the average daily use of water by the different classes of consumers on the free list is as follows:

Schools—for school year only	50,646 gals.
Engine house	1,931 "
Parks	178 "
Other public buildings.....	4,260 "
Fountains	18,286 "
Churches	not stated

The use of meters and the application of meter rates would undoubtedly decrease the use of water by schools and fountains, but even with allowance made for this it does not seem probable that the use of water by consumers now on the free list will fall much below 16,000,000 gallons per year, exclusive of sewer flushing.

The use of water by other consumers is hard to estimate. During the calendar year 1911 the utility had meters on the services of 96 of the larger consumers and the total amount of water used by these consumers was 36,687,170 gallons. Records of 965 other metered users during a six months period were also offered in evidence. Most of these were smaller users whose rate was 40 cts. per thousand gallons. On the basis of the six months reported the annual use of water by these 965 consumers would be about 36,737,000 gallons. This accounts for a use of about 79,424,170 gallons of water per year. For the 965 consumers referred to above the average annual use of water appears to be approximately 38,000 gallons. Industrial users are, in general, metered, and the 965 of whom we have a record for the half year appear to include all classes of commercial users. The greater part of them were users who paid rather large amounts under the flat rates. It is not likely that the present unmetered users will use as much water when placed on a meter basis as is used by those who were metered during 1911, as many of the larger users are already metered. There are, apparently, about 3,400 services which were in use on June 30, 1912, which are not included in the metered consumer records submitted by the utility. If the use of water by these consumers, when placed on a meter basis, is estimated at 80 gallons per day per consumer, the amount used by them would be 99,280,000 gallons per year, making the total amount of water used, ex-

cepting that for sprinkling streets, flushing sewers, building purposes, etc., about 178,704,170 gallons per year. This estimate is based upon all available facts relating to the situation, and until further facts are obtainable must serve as a basis upon which to fix rates.

If meter rates are to be so fixed as to yield the utility the same rate of return as that obtained during the past year, certain additional expenses, such as the cost of reading and maintaining meters, and of interest, taxes, and depreciation on meters must be provided for. These added expenses will probably aggregate about \$7,000, so that the total revenue to be obtained from sources other than the city's payments for fire protection will be very nearly \$54,665.

The form of rate schedule which seems to be best suited to the needs of the situation is one which embodies a service charge varying according to the size of meter and a step-rate for water used. Service charges may be fixed about as follows:

Size of meter.	Quarterly service charge.
5/8"	\$1.00
3/4"	1.50
1"	2.00
1 1/4"	2.50
1 1/2"	3.50
2"	7.00
4"	12.50

In order to measure the revenue which will be obtained from such service charges it is necessary to know something as to the number of meters of each class to be installed. This has to be estimated also, but the estimate shown in the following table seems accurate enough for our purposes, although it may not represent conditions accurately:

Size.	Estimated No. of meters.	Annual service charge.	Annual revenue.
1/2"	4,000	\$4 00	\$16,000
3/4"	433	6 00	2,598
1"	38	8 00	304
1 1/4"	6	10 00	60
1 1/2"	17	14 00	238
2"	14	28 00	392
4"	1	50 00	50
Total.....			\$19,642

If the number of meters of smaller sizes should be relatively larger the revenues would be reduced, but the total effect of

any such differences would not be great. According to the foregoing table service charges as outlined would leave \$35,023 to be met by the charge for water.

There seems to be no necessity, at least at the present time, for changing the rates for water used for building purposes, for private fire sprinkler systems, and for various miscellaneous uses which it is hard to classify in a rate schedule. Estimated revenues from these sources are:

Building purposes	\$685.02
Standpipes and sprinklers.....	355.00
Miscellaneous	672.36
Total	<u>\$1,712.38</u>

This leaves about \$33,311 to be provided by the charge for water, including street sprinkling. According to the last report of the utility the amount of water used for street sprinkling was 6,157,000 gallons. As this is a service which can be discontinued in the case of a large fire it may be fair to make a rather low rate for it.

Expressed in terms of cubic feet the estimated uses of water are as follows:

General service	23,890,900 cu. ft.
Street sprinkling	823,130 "

The amount of water which will be used under each step of the schedule has been estimated from such facts as are available, as follows:

In first 1,000 cu. ft. per meter per quarter	50 per cent
In next 4,000 " " "	30 "
Excess	20 "

This estimate does not include the street sprinkling. Because of the nature of this service it appears fair to establish the rate for street sprinkling at the lowest rate offered to general users. With the inclusion of sprinkling the amount of water estimated to come under each of the steps outlined is as follows:

First 1,000 cu. ft.	11,945,450 cu. ft.
Next 4,000 "	7,167,270 "
Excess	5,601,310 "

If rates for these three steps are fixed at 16, 13, and 10 cts. per 100 cu. ft., respectively, the probable revenue from the charge for water will be:

11,945,450 cu. ft. at 16 cts.	\$19,112.72
7,167,270 " " 13 "	9,317.45
5,601,310 " " 10 "	5,601.31
Total	<u>\$34,031.48</u>

This is very nearly the amount of the expenses which should be met by the charge for water. As the estimates of water to be used have apparently been conservative, the rates as outlined appear fair. By charging users now supplied free of charge and extending the meter system to include the greater part of the consumers, the rates for meter service as outlined will probably be adequate. It is realized that, because of the necessity of making a number of estimates in this case, the results may not be just as outlined. We have tried to make the estimates sufficiently conservative to avoid injury to either the consumers or the utility, but if experience shows that results are not as anticipated, such adjustments will be made as experience indicates are necessary.

If it shall appear that there are certain classes of consumers to whom the order relative to metering should not be applied, a motion for such modification as may appear reasonable will be entertained.

IT IS THEREFORE ORDERED:

1. That the Green Bay Water Company place meters upon all services, including those to consumers now supplied free of charge, with the exception of services for fire protection only. Meters shall be owned and maintained by the water company. One year from the date of this order is considered sufficient time to comply with this section of the order.

2. The meter rates of the utility shall be:

Size of meter.	Quarterly service charge.
$\frac{5}{8}$ "	\$1.00
$\frac{3}{4}$ "	1.50
1 "	2.00
$1\frac{1}{4}$ "	2.50
$1\frac{1}{2}$ "	3.50
2 "	7.00
4 "	12.50

For each additional consumer on a meter—50 cts. per quarter.

Charges for water, payable at end of quarter:

For the first 1,000 cubic feet per quarter used through a meter.....	16	cts.	per	100	cu. ft.
For the next 4,000 cu. ft.....	13	"	"	"	"
For all over 5,000 cu. ft.....	10	"	"	"	"

3. Water for street sprinkling shall be charged for at 10 cts per 100 cubic feet.

4. Rates for emergency domestic service shall be the same as the service charges outlined above.

5. The charge to the city for fire protection shall be \$24,000 per year.

6. Other rates shall remain as at present.

IN RE APPLICATION OF THE MONTICELLO ELECTRIC LIGHT COMPANY FOR AUTHORITY TO INCREASE ITS RATES.

Decided Jan. 6, 1913.

Application was made by the Monticello El. Lt. Co., Monticello, Wis., for authority to put in effect a minimum bill. The report of the utility is inadequate and the reasonableness of the rate is estimated from comparisons with similar plants.

Held: The minimum bill is to cover the cost of readiness to serve, including taxes, interest and depreciation on meters, now provided for by a monthly meter rental. It is ordered that the present meter rental be discontinued. The applicant is authorized to amend its schedule by adding the minimum bill approved by the Commission.

The applicant, the Monticello Electric Light Company, filed an application with the Commission on October 8, 1912, asking for authority to put into effect a minimum rate of 50 cts. per month, applicable to all consumers. Hearing in this matter was scheduled for October 31, 1912, but no appearances were entered.

The petition as filed shows that the utility has in effect the following schedule of meter rates:

10 cts. per kw-hr. for current used.

10 cts. per month meter rent.

Applicant wishes to amend this schedule by putting into effect a minimum charge of 50 cts. per month. In previous decisions of the Commission there have been outlined in detail the reasons why a minimum bill is a desirable part of a utility rate schedule. Attention is called particularly to the decisions of the Commission *In re Appl. Lancaster El. Lt. Co.* 1910, 6 W. R. C. R. 53, and *In re Appl. Greenwood Mun. Lt. Plant*, 1910, 6 W. R. C. R. 60. In those decisions an analysis was made from such data as were available of the expenses which small electric lighting plants must meet in order to be prepared to furnish service to metered consumers.

The report of the utility making application in this case is very incomplete in some respects and no analysis of its operating expenses can be made which will be adequate for the purposes of this

case. So far as we are able to determine, however, there seems to be no reason why the readiness-to-serve costs of the applicant will be less than those computed in the second decision cited above. These amounted to \$3.53 per meter per year, or very nearly 30 cts. per meter per month. The minimum bill should make provision not only for the cost to the utility of being in a position to serve, but for current used by such small consumers as pay the minimum bill. With fixed charges amounting to 30 cts. per month, a 50 ct. minimum bill in the present case will result in the utility securing payment for only 2 kw-hr. of current. It does not seem that a minimum charge of 50 cts. per month is at all excessive. In fact, if the use by these small consumers exceeds 2 kw-hr. per month, as it undoubtedly will in a great many instances, a 50 ct. minimum charge will not result in the utility securing payment for all current actually used. We have no means of knowing in this case what the average use of current by such consumers as will pay the minimum charge will amount to, but it does not seem that it will fall much, if any, below 2 kw-hr. per month. Consequently, a minimum charge of 50 cts., made up of 30 cts. to cover what may be termed consumer expenses, and 20 cts. to cover the use of current, does not seem to be at all excessive. This minimum bill of 50 cts. per month would, of course, supersede the present monthly meter rental of 10 cts., which has evidently been charged by the utility to cover taxes, interest and depreciation on meters owned by it. The minimum bill is designed to cover these costs as well as the commercial expenses which are properly chargeable to each consumer and, consequently, the meter rental must be dropped. No further discussion of the situation appears to be necessary in this case. Although the information available is very unsatisfactory with reference to this particular plant, the facts which we have been able to gather relating to other small utilities in the state all point to the conclusion that the application in this case should be granted.

THE APPLICANT, the Monticello Electric Light Company, Is THEREFORE AUTHORIZED, To amend its schedule by adding a minimum bill of 50 cts. per month and

IT IS ORDERED, That the present meter rental of 10 cts. per month shall be discontinued,

BLACKWELL & KAISER

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY,
CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COM-
PANY.

Submitted June 11, 1912. Decided Jan. 8, 1913.

Petitioner alleged that an excessive rate was exacted on a shipment of lumber over the respondent's lines from Kaiser to Stoughton, Wis. The rate exacted was the lowest combination of the locals.

Held: Shipments of lumber over the route in question are infrequent and a special rate is not justifiable. The petition is dismissed.

The petitioners are engaged in operating a sawmill at Kaiser, Wis. They allege that the respondent railway companies charged an excessive rate of 16 cts. per cwt. on a shipment of lumber weighing 63,500 lb. which moved over respondents' lines from Kaiser to Stoughton, Wis.

The Chicago, Milwaukee & St. Paul Railway Company filed an answer in which it admits all the formal allegations of the petition and says that if the shipment moved as alleged, within the effective period of the existing tariffs, the proper and lawful rates and charges were assessed and collected thereon by the respondents and that petitioners are not entitled to any reparation.

The hearing was held June 11, 1912. No appearance was made on behalf of the petitioners. The Chicago, St. Paul, Minneapolis & Omaha Railway Company was represented by *W. D. Burr*, and the Chicago, Milwaukee & St. Paul Railway Company by *J. N. Davis*, its attorney.

From the testimony it appears that the petitioners shipped a carload of lumber weighing 63,500 lb., as alleged in the petition, and were charged therefor at the rate of 16 cts. per cwt. They claim a refund of 4 cts. per cwt. upon the ground that if the same shipment had been consigned to Chicago, Ill., which is situated a greater distance from Kaiser than is Stoughton, the rate per cwt. would have been but 12 cts. The shipment in question moved over three different lines and respondents charged a rate based upon the lowest combination of locals, to-wit: 12 cts. Kaiser

to Madison and 4 cts. Madison to Stoughton. There was no through rate in effect between such points.

Kaiser is located upon a branch line of the Chicago, St. Paul, Minneapolis & Omaha Railway Company, which runs northeast from Tuscobia to within a few miles of Park Falls, which is situated on the "Soo" line. The distance from Kaiser to Rice Lake is 75 miles. The through rate from the former point over the Chicago, St. Paul, Minneapolis & Omaha Railway Company to Chicago is 12 cts., which through rate applies likewise from Kaiser to Madison, although Madison is an intermediate point. The shipment moved over the line of the Chicago, St. Paul, Minneapolis & Omaha Railway Company from point of origin to Elroy, Wis., where it was transferred to the line of the Chicago & North Western Railway Company and transported by the latter company to Madison, where it was delivered to the Chicago, Milwaukee & St. Paul Railway Company which transported it to destination. There were, therefore, two intermediate terminal charges occasioned in the course of the transportation which would not have occurred had the shipment been destined to Chicago.

The difficulty found with the petitioners' claim is that if any change were made in the rate from Kaiser to Stoughton it would affect unjustly the rates for a large number of points on the Omaha line that are now in the Kaiser group. Furthermore, business conditions are not such as to require any special rate between the points here involved, for the reason that shipments of lumber over the route in question are infrequent. Under the circumstances we would not be justified in disturbing the rates of an entire group to accommodate an occasional shipment over an unusual route. It is improbable that any shipment of the character here in question will again take place, and even if the volume of such traffic should increase to such an extent as to require special consideration, it would be necessary before changing the rate in question to give to all persons interested in the territory in question an opportunity to be heard. For the reason stated the petition will be dismissed.

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

MAXSON LUMBER COMPANY

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted May 14, 1912. Decided Jan. 8, 1913.

Complaint was made that excessive charges were exacted on five shipments of kiln wood from Fenwood to Frances Creek, Wis. Petitioner alleged that the small cars furnished by respondent could not be loaded to the minimum weight. The minimum weight for kiln wood and the rate charged were fixed, after careful investigation, in *Standard Lime & Stone Co. v. C. M. & St. P. R. Co.* 1912, 9 W. R. C. R. 228.

Held: The rate exacted is reasonable and no change in the minimum weight appears warranted. The petition is dismissed.

The petition sets forth that the petitioner is a corporation and is engaged in buying and selling lumber, wood, forest products, and hardware at Stratford and Milwaukee, Wis.; that during the month of November, 1911, it loaded and shipped from Fenwood, Wis., five cars of kiln wood consigned to Rockwell Lumber Company, Frances Creek, Wis.; that large cars were ordered for such shipments and respondent, at its own convenience, furnished small cars; that the cars furnished were loaded to full visible capacity which loading, however, was not sufficient to make up the minimum weight applicable to these cars as established by respondent and that petitioner was therefore compelled to pay excessive freight charges, amounting to \$5.04, on weight not contained in the cars or hauled by respondent. Wherefore, petitioner asks that such excessive charge be refunded.

The answer of the respondent railway company denies that the cars, as ordered, were not furnished, or that the cars furnished were loaded to full capacity, and denies that the minimum weights complained of were unreasonable or unjust, and in this regard it alleges that the minimum weight on wood, for burning brick or lime, in cars 34 feet 6 inches and under in length is 4,000 lb. less than the minimum weight on cordwood shipments in the same cars; that the 36,000 lb. minimum on cars 34 feet 6 inches and under in length was established after repeated conferences with

lime men and an informal hearing before the Commission; that with careful loading 36,000 lb. of kiln wood can easily be loaded in cars of that length and that the rate as established was predicated upon such minimum; that the haul for the distance involved in the complaint is 144 miles, for which the charge on a minimum shipment is \$14.40, which charge is not unreasonable; that the minimum weight is made in connection with the rate to be applied, and that the minimum weight and the rate together in the case of wood of this character does not yield a fair return to the railroad company.

The hearing in the case was held on May 14, 1912. The petitioner was not represented. The respondent railway company was represented by *C. C. Wright*, its general counsel.

In *Standard Dime & Stone Co. v. C. M. & St. P. R. Co. et al.* 1912, 9 W. R. C. R. 228, the matter of minimum weights and general loading of kiln wood was gone into quite fully. A minimum weight of 36,000 lb. was ordered for cars not exceeding 34 feet in length where other dimensions do not exceed 8 feet in width and 7 feet, 2½ inches in height, thus giving a maximum loading space, for use in connection with this minimum weight of 1,960 cubic feet. The respondent in that case, however, owned but 707 cars 34 feet and under in length that had space capacity of over 1,700 and less than 1,960 cubic feet, while it had over 7,500 cars 34 feet and under in length that had space capacity of less than 1,700 cubic feet, all of which would, under the order, take the 36,000 lb. minimum. The respondent in the present case, the Chicago & North Western Railway, has over 8,500 cars 34 feet and under in length with space capacity of 1,700 to 1,900 cubic feet, and but 344 cars of this length with less space capacity than 1,700 cubic feet. The car initials and numbers, dimensions and space capacity of each, as listed in the Official Equipment Register, and the actual track scale weight of shipments involved in this complaint are as follows:

Initials.	Number.	Dimensions.				Track weight.	Weight per cu. ft. of space.
		Length.	Width.	Height.	Cu. ft space.		
N. Y. C. & H. R.	63787	34'-3½"	8'-3½"	7'-1½"	2,019	34,800	17.2 lb.
D. S. S. & A.....	8208	33'-4"	7'-11½"	6'-4½"	1,691	30,600	18.0 lb.
P. S. & W.....	9502	33'-5"	8'	6'	1,604	31,700	19.8 lb.
C. & N. W.....	35094	33'-6"	8'-3½"	7'-1½"	1,974	35,500	17.9 lb.
F. & N.	11634	... (1)...	.... (1)....	..... (1)....	..... (1)....	34,700	.....

¹ This car not listed in Official Equipment Register.

It will be seen that the car space furnished for two of the shipments complained of, and probably three of them, is in excess of the car space limit fixed by the Commission in the case referred to at a 36,000 lb. minimum, and that of the two shipments in cars with space capacity of less than 1,700 cubic feet each, the shipment in the smaller car, with 87 cubic feet less space than the other, weighed 1,200 lb. more.

As a matter of fact, the investigation made by the Commission in *Standard Lime & Stone Co. v. C. M. & St. P. R. supra*, indicated quite clearly that difficulty in loading kiln wood to the minimum weights fixed by the carriers is found only in case of wood that is unusually light and bulky, and it was noted that the respondent in that case, as well as the respondent in the present case, have lower minimum weights at higher rates which may be used in connection with shipments of fuel wood when lower charges result. These lower minima at higher rates were put in force, no doubt, in order to provide minima that could be loaded with the lighter wood without reducing the minimum freight charges per shipment. For instance, respondent's tariff G. F. D. No. 5950—C names a rate of 5½ cts. per 100 lb. with a minimum weight of 24,000 lb. which may be applied to the shipments complained of and listed above. The use of this rate and minimum weight, however, would result in higher charges on each shipment than the charges complained of viz., 36,000 lb. minimum at 4 cts. per 100 lb. It seems, therefore, that this case as presented before the Commission, and considered from the standpoint of a former case heard by the Commission, fails to establish any ground on which the Commission can be expected to authorize refund or order changes in the minimum weight on kiln wood prescribed by the respondent.

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

NEW RICHMOND ROLLER MILLS COMPANY

vs.

FAIRCHILD AND NORTHEASTERN RAILWAY COMPANY,
CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COM-
PANY,

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Decided Jan. 8, 1913.

The petitioner alleged that excessive charges were exacted on shipments of rye and barley from Owen to Milwaukee, Wis. A lower rate in effect over a competing line at the time the shipments moved was later made effective over respondents' lines. One shipment in the present case reached its destination over a year before notice of claim was received. The Commission is without authority to award reparation on such shipment (sec. 1797—37m).

Held: The rate exacted is exorbitant and the reasonable rate would have been 10 cts. per cwt., subsequently made effective. Refund is ordered on this basis.

The petitioner is a corporation engaged in the milling business in New Richmond, Wis. It alleges that the rates charged on shipments of rye and barley made by it over respondents' lines from Owen, Wis., to Milwaukee, Wis., are excessive, unjust and unreasonable and prays for a refund upon such shipments. The respondent railway companies in effect admitted the allegations of the complaint and stated that a reduction, requested by the petitioner, of the rates here involved has been made, and that they are willing to make reparation upon the shipments in question if authorized so to do by the Commission.

The claim was submitted upon the pleading, papers, and documents on file.

It appears that on October 2 and 9, 1911, the petitioner shipped over respondents' lines one car of rye and one car of barley, respectively, from Owen, Wis., to Milwaukee, Wis., which shipments reached their destination on October 7 and 12, respectively. In case of one of the shipments a small car was ordered, but at the convenience of the railway companies M. C. car 8890 was furnished. In the case of the other shipment petitioner ordered a car with a capacity of 40,000 lb., but the railway companies

supplied a car with a capacity of 60,000 lb. The minimum loading requirement on the 40,000 lb. car is 34,000 lb.

At the time of making the shipments in question the petitioner was under the impression that the respondents' rates in effect were the same as those in effect on competing lines. The fact, however, was that the rate applicable to the shipments in question and carried in C. St. P. M. & O. G. F. D. 1310—B was 12½ cts. per cwt. At the same time the rate in effect over the "Soo" line was 10 cts. per cwt. When the respondents' attention was called to this fact, they established a rate of 10 cts. per cwt. which became effective July 13, 1912.

Unfortunately in this case one of the shipments in question reached its destination more than one year before any notice of claim was given to the Commission, and hence under the statute we are without authority to award reparation thereon. Sec. 1797—37m. Car No. 8890 shipped October 2, 1911, reached its destination October 7, 1911. The first notice given to the Commission was October 12, 1912, more than one year after such car reached its destination.

As to refund upon car No. 1586, the rule laid down in the case of *Menasha Paper Co. v. C. M. & St. P. R. Co. et al.* 1909, 3 W. R. C. R. 620, governs the instant case.

Under the circumstances we find and determine that the rate of 12½ cts. per cwt. for the transportation of the above shipment made on the 9th day of October, 1911, is excessive and unjust, and that the reasonable rate for the service rendered would have been the rate of 10 cts. per cwt. which is now in effect. The amount of the overcharge on such shipment is \$10.32.

Now, THEREFORE, IT IS ORDERED, That the Fairchild & Northeastern Railway Company, 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 the sum of \$10.32.

A. H. STANGE COMPANY

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Decided Jan. 9, 1913.

Petitioner alleges that overcharges were exacted on shipments of logs from Valesco Junction to Merrill, Wis.

Held: The rate exacted was unusual and exorbitant and the reasonable rate would have been a rate of \$1.25 per thousand feet, previously in effect and subsequently reestablished. Refund is ordered.

The petitioner is a corporation engaged in the log and lumber business at Merrill, Wis. It alleges that the respondent railway company exacted overcharges on certain shipments of logs from Valesco Junction to Merrill and asks that the respondent be required to make reparation in the amount of such overcharge.

The respondent railway company, answering the petition, admits all the formal allegations thereof and alleges that the rates which the petitioner asked to have applied to the shipments in question are now in force, but the same were not in effect at the time the shipments were made.

The claim was submitted upon the pleadings, papers, vouchers, and documents on file.

Between April 15 and 18, 1912, the petitioner shipped forty-one carloads of logs from Valesco Junction to Merrill. The railway company exacted for such shipments a charge of \$1.50 per thousand feet in accordance with its tariff G. F. D. No. 1897—S, issued January 8, 1912, and effective January 9, 1912. Previous to January 8, 1912, the railway company had in effect tariff G. F. D. No. 1897—E, naming a rate of \$1.25 per thousand feet, which tariff was canceled by tariff G. F. D. No. 1897—S, naming a rate of \$1.50 per thousand feet. A rate of \$1.25 per thousand feet is now maintained by the railway company in its tariff G. F. D. No. 1897—G, which was issued August 9, 1912, and became effective September 12, 1912.

The petitioner paid the sum of \$249.24, computed upon the rate of \$1.50 per thousand feet. If, however, the rate of \$1.25

per thousand feet had been applied, the charge would have amounted to \$207.70, or \$41.54 less than the charge that was exacted.

From investigation of all the facts and circumstances we are of the opinion that the charge of \$1.50 per thousand feet was not justified under the circumstances. With this conclusion the railway company apparently agrees.

Under the circumstances we find and determine that the rate of \$1.50 per thousand feet exacted of the petitioner for the shipments of logs from Valesco Junction to Merrill is unusual and exorbitant and that the reasonable rate for such shipments would have been \$1.25 per thousand feet.

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 A. H. Stange Company the sum of \$41.54, being the amount of overcharge on the shipments of forty-one cars of logs.

GILLETTE-O'LEARY COMPANY

vs.

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

Decided Jan. 9, 1913.

Petitioner alleges that the distance tariff rate applied to certain shipments of lumber from one industry to another within the city of Ladysmith, Wis., resulted in an overcharge. The respondent subsequently established a switching charge of \$5 per car.

Held: The rate exacted was exorbitant and the reasonable rate would have been the switching rate subsequently established. Refund is ordered.

The petitioner is a corporation and is engaged in the purchase and sale of hardwood lumber at Ladysmith, Wis. It alleges that on July 27, 1912, it shipped six carloads of lumber over respondent's line from the Menasha Wooden Ware Company's plant in Ladysmith to the Jacobs Planing Mill in the same city and was charged for such services the distance tariff rate of 3 cts. per cwt.; that such rate was excessive and unreasonable for the services performed; that shortly after the shipment moved the railway company established a switching charge of \$5 per car applicable to movements within the city of Ladysmith. Wherefore, petitioner prays that the railway company be required to make reparation upon shipments in the sum of \$39.15.

The respondent railway company, answering the petition, expresses its willingness to adjust the claim upon the basis suggested by the petitioner, provided authority to do so is granted by the Commission.

The claim was submitted upon pleadings, papers, and documents on file.

It appears that on July 27, 1912, the petitioner shipped six carloads of lumber as alleged in the petition and that the tariff rate of 3 cts. per cwt. was exacted by the railway company for such shipment. The amount exacted was \$69.15. After the shipment moved the railway company established in its supple-

ment No. 13 to its tariff G. F. D. No. 10950 a switching charge of \$5 per car, applicable to movements of freight within the switching limits of the city of Ladysmith. If such switching rate had been applied to the shipments in question the charges therefor would have been but \$30, or \$39.15 less than was actually paid by the petitioner for the services rendered. The case is similar in principle to that of the *Western Indiana Constr. Co. v. C. M. & St. P. R. Co.* 1911, 8 W. R. C. R. 309. In that case the distance tariff rate was applied to the movement of two cars of steel rails from one point to another within the company's switching limits, and it was held that the charges were excessive and unlawful. It seems that a charge of \$5 per car for the switching services required in transporting property from one industry to another within the city of Ladysmith is reasonable compensation for the services rendered.

Under the circumstances disclosed we find and determine that the charge of 3 cts. per cwt. exacted of the petitioner by the respondent for the transportation services within the switching limits of the respondent railway company in the city of Ladysmith, is unusual and exorbitant, and that a switching charge of \$5 per car would have been a reasonable charge 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 and directed to refund to the petitioner the sum of \$39.15.

W. F. ROLLINS ET AL.

VS.

VILLAGE OF MONTFORT.

Submitted Nov. 26, 1912. Decided Jan. 14, 1913.

The petitioners allege that the water rates of the village of Montfort, Wis., are inadequate and inequitable. All dwellings are charged the same flat rate although very different quantities of water are used. Certain local conditions make it difficult to provide rates adequate to meet the cost of general service. Remedies are suggested and whatever shortage remains is to be met by the taxpayers as the water plant is a village enterprise which has failed to prove profitable. The usual valuation and apportionment was made as a basis for fixing rates for fire and general service.

A valuation as of date Nov. 1, 1912, showed a cost new of \$8,056 and a present value of \$7,616.

Held: The bond payments met by general village taxes may be considered in the present case as paid in lieu of hydrant rental. The inequalities in the charge for general service cannot be eliminated by meter rates as the village is not able to pay for a general installation of meters. A graded system of flat rates is substituted to provide charges somewhat in proportion to use, assuming that the consumption will be to some extent proportionate to the number and character of the fixtures.

Railroads taking water for boilers, public schools and consumers using water for industrial or power purposes are to be charged meter rates. Meters are to be installed and maintained at the expense of the village.

It is ordered that the schedule of rates approved by the Commission be put in effect. The meters are to be installed and meter rates are to be in effect not later than June 20, 1913, and the flat rates as adjusted within thirty days from date of order.

The water works department is to revise its accounting system to meet the requirements of the Commission.

On September 29, 1912, there was filed with this Commission the complaint of *W. F. Rollins et al. v. Village of Montfort*. The complaint, signed by thirty residents of the village, sets forth that the village of Montfort is engaged as a public utility in supplying water at Montfort, Wis.; and that the rates charged for water by the village are inequitable, inasmuch as a flat rate of \$5 is the only charge made for each consumer, and that some consumers use water for household use only while others use it for sprinkling lawns, for bath tubs, and water closets, for watering live stock, and for construction work. The village through its

president replied that it would welcome an investigation and that it was willing to do anything that would benefit the taxpayers.

A hearing was held November 26, 1912, at the office of the Railroad Commission, *W. F. Rollins* appearing for petitioners and *A. R. Manley* for respondent.

The complainant's testimony brought out the following declarations: That the rates are inequitable, in that customers paying the same rates are using very different quantities of water; that the plant is running at a loss; that it has never been able to finance its own extension but the village has always issued its bonds therefor; that the records of the village are not properly itemized so as to enable the full cost of operating the plant to be determined; that no part of the salary of the village marshal had been charged against the water plant, although the care of the water works was his chief business; that there are half a dozen taps in yards that are used jointly by the neighborhood; that the expense of operating the plant is a great deal heavier than the expense would be of maintaining a plant solely for fire protection; and that the rate for lawn sprinkling has not been enforced.

The respondent's representative in answer to these statements stated that he considered that the water works systems in most towns were not paying propositions; that according to his figures the plant was making a little more than its expenses; that the accounts of the water works were kept separate from the general village business; that the marshal's salary had not been apportioned to the water works because he did not devote much of his time to the water works as he also tended to the street lighting and cleaning of crossings; that flat rates had been followed because the village could not afford to install meters; that the business was not extensive enough to warrant putting in meters; and that an adjustment in the flat rates so as to charge more for extra fixtures might be acceptable.

A valuation of the water plant and examination of the village records was made by the Commission. From these investigations, together with the details of the testimony, the following facts appear:

Montfort is a village having a population, according to the 1910 census, of 558. The village has been engaged in the operation of a small water plant since 1894 for the purpose of securing fire protection to the village and of furnishing water for do-

mestic purposes. At the time of this investigation it has only forty consumers.

The water supply is derived from a well 115 feet deep from which the water is pumped into a wooden tank elevated 42 feet by a steel tower. The tank is 16 feet deep and its capacity as estimated by the village officials is about 1,600 barrels, or 50,400 gallons. A 6 h. p. gasoline engine geared to a pump jack furnishes the means of pumping. The distribution system supplied, according to the valuation, consists of 4,804 feet of pipe, 2,518 feet of which are 6 inch cast iron pipe and 2,286 feet 4 inch cast iron pipe. The total investment in the plant amounts to about \$8,000.

The items making up this investment as summarized in the Commission's valuation as of date November 1, 1912, are as follows:

VALUATION.

	Cost new.	Present value.
A. Land.....	\$300	\$300
B. Transmission and distribution.....	4,319	4,245
C. Buildings and miscellaneous structures.....	2,155	2,135
D. Plant equipment.....	550	245
E. General.....		
F. Paving.....		
Total.....	\$7,324	\$6,925
Add 10 per cent (see note below).....	732	692
Total.....	\$8,056	\$7,617
H. Material and supplies.....		
Total.....	\$8,056	\$7,617

NOTE:--Addition of 10 per cent to cover engineering, superintendence, interest during construction, contingencies, etc.

RATES.

The rates put into effect in 1894 were recorded in the minutes of the village board as follows:

“\$5 per year for stores, dwellings, and offices, and \$3 per year for lawns, and \$10 per year for hotels, saloons, and restaurants.”

These flat rates, practically unchanged, have been in effect from 1894 down to the present time. The rates enforced at the time of this investigation differ from those of 1894 only in that the public livery barn is charged \$15 a year and the railroad company \$10 a year. The latter company has two faucets, one

at its station and one at its ice house, so that it has been treated as though it were two customers. The rates for dwellings have remained unchanged.

That the water business has been confined almost entirely to private dwellings may be understood from a summary of consumers as of December 24, 1912.

Classification of Consumers.

Coöperative store	1
Hotel	1
Railroad	1
Public livery	1
Residences	36
Total	40

The effect of the different kinds of fixtures in use will be analyzed at a later point.

ACCOUNTING PROCEDURE.

The accounting procedure of the village follows the single entry plan and does not lend itself very readily to an accurate analysis. A village order book is kept by the village clerk and into this book all the orders are copied in the order of issue. Until May 1, 1912, no segregation of expenses whatsoever had been made. The village orders covering all the different branches of village expenses were entered into this book consecutively, so that the expense of any given department, such as the water works, could only be ascertained by running through all the orders for the year and making note of those relating to that department. Since May, 1912, there has been a new book started with about a dozen separate headings, including one for water works. Since May, therefore, the order book shows a segregation of orders by departments. This is a considerable improvement over the former method, but still is not complete enough because no separation is made as between maintenance and construction expenditures, and it does not permit of the balancing of books.

In making an analysis of the expenses for the past four years it has not always been possible to distinguish water works' expenses from others. This is especially true in instances where

an order is entered as having been issued "for digging," "for labor," "for hauling." In such cases it could not be accurately determined whether this expense related to the water works or to some other branch, and even where it was identified as belonging to the water works department, it was not always clear whether it was a maintenance or a construction item. Through the clerk's familiarity with the plant's operations, however, it was possible to make a representative statement of expenses. These are taken up under the discussion of the income account.

INCOME ACCOUNT.

The operating expenses, as stated at the hearing by the respondent, were for the year ending April 31, in 1909 \$168.76, in 1910 \$175.65, and in 1911 \$152.49. Revenues for the corresponding periods were given in the same testimony as being \$157.50, \$172.50, and \$202.00, respectively. Accordingly to these figures in 1909 there was a deficit of \$11.26, in 1910 a deficit of \$3.15, and in 1911 a surplus of \$49.51. The expenses for 1912 were not given at the hearing, but the revenues were reported at \$410. Assuming expenses at \$175 for this year there would result a surplus of \$235. It should be noted that this last year was abnormal, as it included a revenue of \$205 from the railroad, the water having been supplied to it only because the company's well gave out. The expenses for all of these four years cannot be accepted as normal because they do not include any allowance for village officers' salaries or for depreciation.

The expenses of gasoline, lubricants, and repairs for the last four fiscal years have been determined by the Commission as accurately as possible from the records available. To the expenses entered in the books there have been added the following allowances for village officials: Village marshal \$120 ($\frac{1}{3}$ of salary), village secretary \$12 ($\frac{1}{4}$ of salary), village treasurer \$10 ($\frac{1}{5}$ of salary). The marshal's salary is included as "Operating labor" of the pumping station. The proportion of the clerk's salary is chargeable to "General" and that of the treasurer to "Commercial" expenses.

The operating expenses for the last four fiscal years, including these proportions of village salaries, are as follows:

OPERATING EXPENSES OF MONTFORT WATER PLANT.

	June 30 '08-'09.	June 30 '09-'10.	June 30 '10-'11.	June 30 '11-'12.
Gasoline pumping:				
Operating labor.....	\$120 00	\$120 00	\$120 00	\$120 00
Gasoline	78 14	118 35	79 85	82 18
Pumping station supplies and expenses.....	15 44	4 00	7 08	11 62
Maintenance gasoline pumping.....	16 35	25 05	13 10	4 00
Total pumping.....	\$229 94	\$267 40	\$220 06	\$217 80
Distribution:				
Maintenance of distribution system ¹ ..	1107 75	42 00	7 00	88 25
Commercial.....	10 00	10 00	10 00	10 00
General.....	12 00	12 00	12 00	12 00
Depreciation		20 00		
Total operating expenses.....	\$359 69	\$421 40	\$249 06	\$328 05

¹ Includes \$90 cost of replacing section of standpipe frozen.

² Pump jack replaced.

It should be noted that these expenses do not include a depreciation allowance. The \$90 item included under depreciation in 1910 is the cost of replacing the pump jack which should have been included in a depreciation charge had proper allowance been made for depreciation.

The revenues for these years will be the same as those given in the testimony, i. e. 1909, \$157.50; 1910, \$172.50; 1911, \$202; and 1912, \$410; which upon comparison with expenses result in deficits of \$202.19, \$248.90, and \$47.06 for the first three years, respectively, and in a surplus of \$81.95 for 1912. This latter surplus would be turned into a deficit if the unusual revenue of \$205 from the railroad company were excluded.

No depreciation reserve has ever been maintained by the village water plant. An allowance for depreciation must of course be made. One and a half per cent on the cost new of depreciable property will probably be sufficient. The cost new of depreciable property (i. e. excluding land from the valuation) is \$7,726 and the 1.5 per cent depreciation on this amounts to about \$116. Depreciation is a part of every utility's operating expenses and its importance in the income account cannot be too strongly emphasized.

Taking the average expenses for the four years and the depreciation allowance of \$116 as a basis, we can construct an average income account. The revenues can readily be computed from the classification of consumers.

REVENUES

Operating Revenues \$220.00

EXPENSES

Operating Expenses

1. Gasoline Pumping	
Operating labor	\$120.00
Gasoline	89.64
Pumping sta. sup. and exp.....	9.54
Maint. of pumping.....	14.63
Total	\$233.81
2. Distribution—maintenance	61.25
3. Commercial	10.00
4. General	12.00
5. Depreciation	116.00

433.06

\$213.06

These operating expenses cover two branches of service. One is the furnishing of fire protection to the village at large, and the other is the supplying of water to the forty water consumers. Indeed, the main point involved in this case is the determination of what it costs to supply water for domestic consumption as distinguished from fire protection and whether the water takers are paying enough to cover the additional costs of operation necessitated by general service. It appears that this complaint is in substance a protest from non-water takers (only one of the petitioners being a water taker) who feel that their taxes should include, for the support of the water works, only such an amount as is proper to pay for fire protection and who charge that, under present rates, the consumers do not pay enough to support the service, so that the deficit has to be borne by the village taxpayers.

Before the cost of the two branches of service can be determined, the expenses must be apportioned between output and capacity. The average expenses previously referred to have been used in this apportionment. The apportionment has been made on percentages that seem fairest under the conditions of the plant and, leaving out depreciation, results in a division of \$214.31 to output and \$102.75 to capacity.

The output and capacity expenses must, in turn, be divided as between fire and general service. Interest, depreciation and taxes must be included in the expenses and properly apportioned.

That it is proper to include an allowance for taxes in a municipal plant has been determined in a number of previous decisions (*Dick et al. v. Madison Water Comm.* 1910, 5 W. R. C. R. 731 to 746). Depreciation we have already set at \$116. An allowance of 6 per cent on the total cost new \$8,056 seems sufficient for interest and taxes and gives us an amount of \$483. Thus the total allowance for depreciation, interest, and taxes is very nearly \$600. In making a separation between fire and general service, output expenses have all been charged to general service. The capacity expenses have been divided between fire and general service. Interest, depreciation, and taxes will follow the same apportionment as the physical property, or about 60 per cent to fire and 40 per cent to general service. The final apportionment is given below:

SEPARATION BETWEEN FIRE AND GENERAL SERVICE.

		Fire service		General	
		Per cent	Amount	Per cent	Amount
Output.....	\$214.31			100	\$214.31
Capacity.....	102.75	175	\$77.06	125	25.69
Interest, depreciation and taxes.....	600.00	230	360.00	240	240.00
	\$917.06		\$137.06		\$180.00

¹ Estimated demand.

² On basis of separation of property.

The expense for the general service, then, as nearly as it can be determined from the records at hand, is \$480. The operating revenues from general service of \$220 contracted with the expenses show a deficit of \$260, or a deficit larger than the present revenue. This deficit should properly be made up by the water consumers. Before taking up the question of just how far the consumers are able to make up this deficit, it will be well to consider some of the local problems that have resulted from the flat rate schedule.

LOCAL PROBLEMS.

1. First of all there is considerable unfairness due to the fact that dwellings, all of which pay \$5 a year, use very different quantities of water. Some houses use the water for ordinary

kitchen and cleansing purposes only, while others add to these some or all of the following: lawn sprinkling, water motors, water closets, wash basins, watering stock, and construction work.

2. Then there is a problem which comes from the fact that eleven consumers have a lawn hydrant each, but no fixtures in the house. In a number of instances several of the neighbors near one of these lawn hydrants get their water from one hydrant or faucet, although it is being paid for by only one consumer and is intended for his sole use.

3. Another problem comes from the misuse of the public fountain for stock. This is a drinking basin which is intended primarily as a convenience to transient drivers with their teams and to farmers who come in for business. The actual situation met with is that people who should be water takers and should be paying something to the support of the water service make regular use of the public fountain and pay nothing.

4. The presence of a considerable number of private wells makes it difficult to adjust rates properly. That is to say, the people do not feel dependent on the plant for domestic water consumption so that if rates are too high they will use the private wells.

5. Inequalities in rates in this instance cannot well be eliminated through meters, owing to the lack of funds. An additional investment of, say, \$10 a meter for forty consumers would require a larger expenditure than the village should be expected to meet at the present time.

6. The question of what constitutes a proper hydrant rental for fire protection must also be considered. The village at present pays no rental for hydrants but does pay the interest on water bonds and redeems the bonds themselves. The question then arises whether these bond payments constitute an equivalent to hydrant rental.

REMEDIES.

In view of the fact that a general installation of meters would not be practicable, the most that can be done is to order a system of flat rates that will charge a consumer somewhere nearly in proportion to what he uses. As we have no way of determining the consumption of water by each consumer, we can only assume that the consumption will be to some extent proportionate to the number and character of the fixtures. Conse-

quently a graded system of flat rates will be established, excepting in instances where meters seem imperative. Meters should be installed where water motors are in use and also in public schools, as it is almost a certainty that large quantities of water will be used by such consumers.

The practice of taking water from a neighbor's hydrant, even with his permission, should be discouraged. The only fair way to deal with people who get their water in this way is to charge them for the use of water. It should be made the duty of some village official, probably the marshal, to determine what people are making use of neighbors' faucets.

There seems to be no satisfactory solution to the public fountain question. A charge might be made to those using it regularly, but the practical difficulties of collecting the charge would interfere with its enforcement. It should be borne in mind that the users of water from the fountain are not getting water for nothing. The water plant must be supported one way or another. If some of the residents do not support it through water service, they at least do so through general taxes. The unfairness comes from the fact that those who are already contributing to the support of the water plant through water rentals are paying as much relatively towards the support of the fountain as those who do not subscribe for water.

The question of hydrant rental offers considerable difficulty. There are sixteen hydrants in the village but the village has never been charged a rental for them by the water department. The village has, however been paying the bonds and it may be proper to consider this as an equivalent of a hydrant rental. This leads us to a brief consideration of the bond issues.

BOND ISSUES.

The Montfort water works, as it stands to-day, was built in four principal installments. The original plant, consisting of a wooden tank and tower and about 2,500 feet of 6 inch cast iron main, was built in 1894 at a cost of about \$4,000. An extension costing about \$1,150 was made in 1901, another of about \$800 in 1908, and reconstruction in 1912 amounted to about \$2,000. The 1901 extension was secured by money borrowed on notes, whereas the others were financed by bond issues. The bond issues in each instance called for annual interest payments of

5 per cent and certain specified redemption payments, both of which were to be met by general tax levy. The amounts of the respective issues outstanding as of June 30, 1912, were as follows:

	Total.	Water works proportion.
\$4,000 bonds of 1894.....	\$300 00	\$800 00
2,000 " " 1908.....	800 00	1,320 00
2,000 " " 1912.....	2,000 00	2,000 00
Total.....	\$3,600 00	\$3,120 00

¹ Divided 40% to water works and 60% to sidewalks.

The amounts of bond payments for interest and redemptions that the village has borne through taxes have of course fluctuated from year to year according as new issues were made and parts of former ones retired. During the period from February, 1909, to February, 1914, inclusive, the total interest and redemption payments will have ranged between \$535 and \$703. After 1914, the payments will not be so high, as only the 1912 issue will then be outstanding. Between 1894 and 1909 there was only the interest on the \$4,000 issue to be paid which amounted to \$133.33 in 1895, to \$200 for the next ten succeeding years, \$180 in 1906, \$160 in 1907, and \$140 in 1908. The payments between 1909 and 1914, if considered as hydrant rental, would be equivalent to \$35 or \$40 per hydrant. In view of the fact that these payments have been met by general village taxes rather than from the earnings of the plant, it seems fair in this instance to consider them as paid in lieu of hydrant rental.

PROBABLE REVENUE FROM REVISED FLAT RATES.

We must next consider how the deficit in general water service may be made up.

Estimated increases through extra charges for special fixtures may be considered as follows:

\$5 charge against families who use water from neighbor's hydrant—assuming 6 families so charged.....	\$30.00
\$2 charge for the 21 water closets in use.....	42.00
\$3 charge for lawn sprinkling—assuming that 15 out of the 32 lawn hydrants will be used for sprinkling.....	45.00
From private stables.....	5.00
From construction work.....	10.00
	\$132.00

This estimated increase of \$132, deducted from the deficit in general service, amounting to \$260, still leaves a deficit of \$128. Because of the peculiar local conditions already pointed out, it will not be practicable to raise the rates sufficiently to make this up. It may be that some additional revenue will come through the metering of motor consumers. The contemplated connection with the public school will bring some additional revenue. Whatever shortage remains must be borne by the village taxpayers, as the water plant is a village enterprise which has failed to prove profitable as a business.

METER RATES.

There are six consumers using water motors. These should be metered as also should the public school when it is connected. There are no pumping statistics from which an estimate can be made of the probable consumption of these subscribers. No pumping records of any sort have been kept. This Commission, in prescribing a meter schedule, must therefore be guided by the experience of water plants comparable with Montfort. The meter rates set forth in the order seem to be adaptable to conditions at Montfort and to represent fair and reasonable charges.

The installation of about six meters, $\frac{5}{8}$ " size, would mean an investment of about \$60. Since the additional expense that might come from repairing meters, reading bills, etc., is covered by the service charge included in the order, the only burden to the village, then, would be the initial investment of about \$60.

There are some features of the flat rate schedule which should be adopted which do not apply at the present time, but which will be necessary as additional customers are acquired.

In consideration of the local conditions at the village of Montfort and in settlement of this complaint,

IT IS ORDERED:

1. That the schedule of rates now in effect by the Montfort Municipal Water Works be abandoned and the following system of rates be substituted therefor:

FLAT RATES.

Per year.

Dwelling Houses.

Occupied by one family:

Ordinary domestic consumption, including kitchen faucets, laundry tubs, and wash basins	\$5.00
Water closets, each	2.00
Bath tubs, each	1.50

Occupied by more than one family.

Extra charge per additional family 3.00

Minimum charge—the smallest charge assessed against dwellings shall be 5.00

*Lawn Sprinkling.*Per dwelling per year 3.00
Street sprinkling by water customers per ft. front... .05*Lawn Hydrants.*

Lawn hydrants that are used for ordinary domestic consumption as well as lawn sprinkling 8.00

Where two or more families are making use of the same lawn hydrant for ordinary domestic consumption, each of such families shall pay 5.00

Boarding Houses, Restaurants & Hotels.

Restaurants. a. When proprietor's residence is separate from restaurant 5.00

b. When proprietor's residence is in same building and same faucets serve both purposes 6.00

Boarding houses—not over 6 boarders 5.00

Each additional boarder50

Hotels—When there are in use not to exceed 2 lavatories and one kitchen or general faucet 10.00

Each additional lavatory 2.00

Each additional kitchen faucet 2.00

Building Purposes.

Laying brick per M10

Plastering per 100 yds. square15

For stone work—per cord10

Settling trenches per each 100 ft. or less60

Cement walks per 100 sq. ft. or less08

Concrete work per cu. yd.08

Minimum charge. No water shall be sold for building purposes for less than50

Stores, Shops, and Offices.

Barber shops. 1 chair	\$4.00
Each additional chair	1.00
Other classes.	
a. When separate from dwelling faucets	
For first faucet	3.00
For each additional faucet	1.00
b. When used for both purposes	
For first faucet	6.00
For each additional faucet	2.00
<i>Public Baths, etc.</i> —(in Hotels, Restaurants, Barber Shops, etc.)	
Public bath—per tub	3.00
Public closet or urinal	5.00

Stables.

Public Livery	
Not to exceed 6 horses	15.00
Each additional horse .....	.50
Private Stable—when owner is also a “dwelling” consumer and is paying for house consumption in accordance with rates for dwellings hereinbefore prescribed	
Minimum	1.00
Each horse or cow above two50

Railroads.

Per faucet	5.00
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(Note: not to include filling of boilers)

METER RATES.

Service Charge.

Size of meter	Semi-annual charge
5/8"	\$1.50
3/4"	2.00
1"	3.00
1 1/2"	4.00
Over 1 1/2"	5.00

Output Charge.

30 cts. net or 35 cts. gross per M gal. for the first 15,000 gal. used during a half year.

25 cts. net or 30 cts. gross per M gal. for the next 15,000 gal. used during a half year.

20 cts. net or 25 cts. gross per M gal. for all in excess of 30,000 gal. used during a half year.

Bills due and payable semi-annually.

Consumers to be billed at gross rate and to be allowed difference between gross and net as discount for prompt payment.

2. Meter rates shall be assessed against consumers using water motors, railroads taking water for boilers, public schools, and consumers of water for industrial or power purposes. Meters shall be installed and maintained at the expense of the village.

3. The prescribed meter installation and meter rates shall be put into effect not later than June 30, 1913. Thirty days from the date of this order shall be deemed sufficient within which to put the revised flat rates into effect.

4. From the date of issuing this order until meters are installed as specified above, consumers using water motors shall be assessed according to the same rates hereinbefore prescribed for other dwellings.

5. The water works department shall conform its accounting procedure to meet the requirements of this Commission. For this purpose assistance will be furnished by the Commission in preparing the fiscal report and in revising the accounting system.

IN RE APPLICATION OF THE MADISON GAS AND ELECTRIC COMPANY TO REVIEW AN ORDINANCE OF THE CITY OF MADISON REQUIRING THE REMOVAL OF POLES AND WIRES ON CERTAIN PARTS OF CARROLL AND LANGDON STREETS IN THE CITY.

MADISON GAS AND ELECTRIC COMPANY

vs.

CITY OF MADISON.

Submitted Sept. 23, 1912. Decided Jan. 25, 1913.

The Madison G. & El. Co. alleges that the city ordinance requiring the removal of poles and wires on Carroll st. between the Capitol Park and Langdon st., and on Langdon st. from Wisconsin ave. to Park st. is unreasonable. In order to comply with the ordinance an underground system is required. The cost of such a system was carefully investigated. The initial cost of installation is high when the number of consumers on these streets and the number of poles involved is considered. The cost after installation, including interest and depreciation, is much higher than for the overhead system. These streets do not differ materially from other residence sections of the city. No element of public convenience or safety requires the change, and it appears that the removal of the poles was designed as a part of the general improvement in the appearance of these streets. Purely aesthetic considerations may be given weight, and even much weight, but in themselves are not sufficient. If the city should grant pole removal in other sections of the city equally entitled to such consideration, a heavy burden would be imposed upon the company to be borne by the consumers. The company submitted plans for reducing the number of poles and the elimination of unnecessary wires in the present overhead system. No change in the system of street lighting is suggested and nearly one-half the number of poles used in the company's plan would be required for street lighting, even if the underground system were provided. The number of poles actually removed by the underground system would be about twenty-four at a cost of practically \$1,000 per pole. It is urged that the underground system should be installed before the permanent paving is laid. At some future time an underground system may be advisable. Investigation shows that a system can be installed in the parking and only those sections of the conduit system under the paving need be installed in advance of the permanent pavement.

It is contended that the ordinance is a proper exercise of the police power of the city and the jurisdiction of the Commission is questioned.

Held: The Commission is given the power (sec. 1797m-87) to pass upon the reasonableness of any ordinance of a municipal council affecting the rates or service of any public utility, or indirectly tending to place an unnecessary burden upon the utility, which might result in embarrassing it in the performance of its public function in the manner required by the Public Util-

ities Law. Any ordinance found by the Commission to be unreasonable is void. The ordinance in question in the present case requires a great expenditure with little benefit accruing and it would impose an unwarranted burden on the utility to be met by an increase in rates to the general public. The ordinance is unreasonable and therefore void.

The application of the Madison Gas and Electric Company prays that the city ordinance requiring the removal of poles and wires on Carroll street between the Capitol Park and Langdon street and on Langdon street from Wisconsin avenue to Park street, be declared unreasonable and therefore void.

The complaint sets forth that it is not practicable to furnish service to residents on these streets from other streets and alleys; that no consideration of fire danger or of public safety or convenience demands an underground system of lighting; that the consumption of current in portions of these streets has practically reached its maximum, and that with the investment necessitated by an underground system complainant's business would not begin to be self-sustaining on the portions of the streets in question, that these streets are in no essential particular different from numerous other residence sections, and that the installing of an underground system here would compel the complainant to meet the charge of favoritism unless it also removed its poles and wires on other streets similarly situated.

The answer of the respondent city alleges, among other things, that North Carroll and Langdon streets run through thickly settled portions of the city and are two of its most important streets; that the travel on these streets has increased year by year and is increasing; that prior to the enactment of the ordinance ordering the removal of the poles, posts and wires, and on or about April 29, 1912, a petition signed by seventy-five or more property owners residing along the portions of the streets in question prayed for removal of all poles from these parts of Carroll and Langdon streets; that the present poles and overhead system here involved are unsightly and dangerous; that the Wisconsin Telephone Company has signified its intention of removing its poles, which leaves only complainant's poles standing, and their removal is necessary in order to render these streets more suitable and convenient for travel, and to improve their appearance; that, if an underground system is to be constructed on these streets, it should be installed prior to the laying of the asphalt pavement upon a concrete foundation, in order

that these may not be later injured by the work of constructing underground conduits.

A hearing was held at the office of the Commission at Madison on September 23, 1912, and the following appearances were entered: *Olin & Butler*, by *H. L. Butler*, for petitioner, and *William Ryan*, city attorney, for respondent.

Apparently the removal of the poles was designed as a part of the general improvement of the streets in question, the city having contracted, prior to the original ordinance, for cement curb and gutter, and asphalt pavement on Carroll street from Miffin to Langdon, and on Langdon street from Wisconsin avenue to Lake street.

There appears to be no question but that to furnish service from intersecting or adjoining streets would be highly impracticable, if not impossible, so that compliance with the ordinance really involves installing an underground system.

The complainant submitted plans and estimates based on the same unit costs used for similar work on Main and State streets. According to these specifications an underground system on the streets involved would cost \$34,416. This cost was divided as follows:

Total cost, conduit subway.....	\$18,588.60
Total cable	10,061.60
Other equipment and installation.....	5,765.80
Total	\$34,416.00

The Commission's engineering department also investigated the cost of installing such a system. With the exception of two or three introductory paragraphs covering facts in the case already set forth, the memorandum follows in full:

"The Madison Gas and Electric Company has prepared a very detailed estimate of the cost of doing this work. They have estimated a good deal more copper in their proposed underground cables than is actually in use at the present time on the aerial circuits. However, a portion of this excess copper will be necessary because of the fact that underground wires heat more rapidly than aerial wires, and it is also necessary to allow more liberally for future growth when wires are placed underground where they are more inaccessible than on poles. This excess allowance for primary wires and cables is very reasonable but the excess allowance for secondary cables seems large. The company has estimated that it will be necessary to install a 4/0 three conductor cable from the intersection of Carroll street and Mif-

flin street via Carroll and Langdon streets as far west as the University Gymnasium. In checking the cost of their estimate, this cable has been reduced from a three conductor 4/0 cable to a three conductor 2/0 cable. This reduces the total cost of cable necessary by \$1,990.

“The company’s estimate for underground conduit proposes installation of conduit 100 per cent in excess of the cable which they have estimated. This seems to be a rather large excess allowance for conduit. In view of the fact that the territory to be supplied is highly saturated, there probably will not be a much greater demand for electric service in the future than there is to-day, unless the growth of apartment buildings in this portion of the city should increase very rapidly. Good practice would require, however, that an allowance of at least 33 $\frac{1}{3}$ per cent above the amount actually in use should be allowed. Reducing the excess conduit from 100 per cent to 33 $\frac{1}{3}$ per cent, reduces the cost of the conduit really necessary by \$6,200.

“After making these deductions, it would seem that the company would be compelled to expend at least \$26,226 in order to comply with the terms of the ordinance.”

The company submitted a report covering the foregoing memorandum in detail. It is conceded by the company that it would be feasible to replace 2,375 feet of 4/0 cable with the same length of 2/0,—a change which would reduce the estimated cost of the cable by \$778. While the wisdom of reducing the excess allowance for conduit is not admitted by the company, it is contended that, even conceding this, the memorandum errs in reducing the cost of the entire conduit system by one-third “as the number and size of manholes, service boxes, and service laterals are not materially affected by the number of ducts nor is the cost of conduit in proportion to the number of ducts.” This objection appears to be well taken. Reducing the number of ducts, so as to conform to an allowance of 33 $\frac{1}{3}$ per cent excess, the company conceded that the cost of the conduit would be reduced by about \$1,358, and, by including the saving in cable of the entire underground system by \$2,136, making the new estimated cost \$32,280. If the entire reduction in the cable recommended in the memorandum be taken as advisable (though that such is the case is not clear) the cost would be further reduced to \$31,168.

It should be noted at this point that the company has included in its estimate two items which, while a part of the cost of the system, would not be borne by complainant. These items are 5,045 feet 2 duct fibre (curb to building) \$3,027, and all the

service cable, \$1,365, or a total of \$4,392. Making this deduction, the cost to the company would be \$26,676. On the basis of the minimum figure suggested in the memorandum, and the elimination, of course, of these two items, the cost to the company would be \$21,809, so that the cost would apparently lie between \$22,000 and \$27,000 or \$28,000, and probably close to the latter figures.

On streets having the character of the ones in question there seems to be no question of the greater expense of the underground system, even after it is installed. While depreciation is naturally much slower with the underground system, this advantage is more than offset by the far greater interest charge on the latter. The overhead system involved in this ordinance was given an approximate value of \$4,200, divided roughly as follows: poles \$1,500, wires \$2,500. The life of the poles used by the company is placed by them at an average of 17 years, making a depreciation charge of 6 per cent. Depreciation on copper wire is very small. Placing this at 3 per cent, the annual depreciation on the present overhead system would be about \$165. As regards the conduit system itself, obsolescence rather than depreciation would have to be considered. The former, of course, would be exceedingly small in a properly installed system. As to the cable system underground, it is claimed that depreciation is about the same as in the overhead system, electrolysis and underground corrosion in the one offsetting the action of the weather in the other. Assuming an interest charge of 6 per cent, it is evident, taking the minimum figure, or \$22,000, to be the amount the company will be obliged to expend to comply with the ordinance, that the company will have to meet an interest charge of \$1,320. On the basis of the same rate on the company's figures there would be a charge in the case of the overhead system of \$252 for interest and \$165 for depreciation, or a total of \$417. Of the \$22,000 minimum cost, roughly \$9,400 would have to be expended for the conduits. Placing the life of the conduit system at fifty years, by the straight line method there would be an annual depreciation charge of \$188. Approximately \$6,700 would be required for the cable system. On the basis of 3 per cent depreciation applied to the overhead system, there would be a charge here of \$201. This sum would not cover, of course, depreciation or obsolescence on the rest of the equipment. This amounts to roughly \$3,150. On the basis of 6 per cent charge for depreciation and obsolescence there would

be an annual charge to cover these items of \$189, so that, on the most conservative basis possible, it appears that the company would be obliged to set aside annually for interest and depreciation, in the event of the proposed underground system, a total of \$1,900 or \$2,000 as against \$400 or \$500 with the overhead system. As regards maintenance service, it appears that trouble on the overhead system through sleet and wind storms is more or less offset through the liability of serious burn-outs in the underground system.

The University buildings, the State Historical Library, Gymnasium, Y. M. C. A., and a few residences, some of which are now used for University purposes, and the lower campus of the University are on the last two blocks in the lower or west end of Langdon street. These, together with the Baptist church and the City Public Library, constitute all the public buildings on the two streets. The rest of the buildings are private houses, boarding houses and the students' Greek letter societies, with the exception of the first block north of Mifflin which is a business block. From Henry street to Wisconsin avenue on Langdon street the residences are distinctly above the average in the city. With one or two possible exceptions there are numerous sections of the city having the same type of homes as on Carroll. It is evident, then, that while North Carroll and Langdon streets may have a slightly heavier traffic than other residence streets, and while they have some fine residences and public buildings, they cannot be said to be so sharply distinguished from any other residence streets in the city as to constitute a class by themselves.

The respondent dwelt at some length upon the danger of an overhead system as compared to the underground. Complainant contends that no consideration of fire danger, or of public safety or convenience demands an underground system on the streets in question, and that such a system would not result in any way in the betterment of the service on these streets. Obviously an underground system is not exposed to storms and wind as in an overhead. It appears, however, that when an overhead system is properly installed with telephone wires or cable below the light and power wires, there is very little danger. Since the telephone wires carry a low voltage and are usually more easily blown down than the others, they should go below. Testimony was given that there had never been an accident to any of the public from any trouble with complainant's overhead system. It was

stated that in the past property owners have had some trouble with their trees on account of complainant's wires, but none in recent years. The houses on the streets in question are set back from the walk, with the poles on the outer edge of the parking, and no element of fire hazard was mentioned. One or two instances were related in which a fuse had started to burn out, but without doing any damage. In general, as regards the element of danger from an overhead system, the situation on the streets in question was not different from any other residence street in the city.

With the exception of the first block in North Carroll street, already noted as a business block, there is a grass strip or parking between the curb and sidewalk on both sides of both streets for the entire distance. This parking is some ten or twelve feet in width. The company has submitted a blue print of a possible underground system to be located in the parking between the curb and the walk, on both sides of the streets. An accompanying estimate and report show that this scheme would be feasible, and that the cost would be about \$1,300 in excess of a conduit system in the middle of the street. There appear to be no valid objections to such a system. After investigating the matter, the Commission's engineering department submitted the following memorandum:

"After going over the proposed route of the underground conduit system on Carroll and Langdon streets as laid out by the Madison Gas and Electric Company, the scheme of placing it back of the street curb, in the parkway, seems altogether feasible. Details of construction at street intersections on account of storm-sewer catchbasins, water hydrants, etc., and gas services and connections to sanitary sewer, throughout the route, will necessarily be taken care of at the time of the installation of the conduit, as it is necessary to dig test pits at various points in order to determine the exact location of manholes, outlet boxes and the conduit itself.

"At the office of the city engineer there are no records of the grade or depth of the sanitary sewer or of the service connections to it on these streets, but it is their opinion that these connections are deep enough so as not to be an obstruction. The large trees along the route are far enough from the curb so that there ought to be no difficulty in avoiding the cutting of the large roots.

"The outlet boxes, indicated between streets, are to have cast iron tops and can be set low enough to be covered with dirt and

sodded, where they are located in the grass plot, thus doing away with the unsightly appearance of the iron covers.

"If the proposed scheme is accepted by the city before the paving of these streets is done, the sections of the conduit system under the proposed paving could be installed in advance of the paving and extended at any future time.

"This scheme of placing the conduit system in the parkway has been successfully carried out in other cities and there seems to be no reason why it can not be done in this instance.

"The unit prices used in the estimated cost of this work by the company are reasonable, but the actual cost will depend upon existing conditions."

It is difficult to see on what grounds other than aesthetic considerations it is desired to remove the poles and wires on the streets in question. There appears to be no doubt that a municipality may not, in the supposed exercise of the police power, pass a valid ordinance resting on purely aesthetic considerations. Such grounds may be given weight, and even much weight, but in themselves they are not sufficient. In the last pole removal case before this Commission, *Wis. Tel. Co. v. City of La Crosse*, 1911, 7 W. R. C. R. 435, 444, it was stated:

"A view of the street convinces us that the demand of the property owners, that the poles be removed from the street, is not unreasonable under the circumstances. As this street overlooks the Mississippi river, it is one of the most beautiful drives in and about the city of La Crosse. The beauty of the street is greatly marred by the unsightly poles that line both sides thereof. It also appears probable that in case of fire in any one of several buildings on this street, and particularly in the plant of the Gund Brewing Company, difficulty and danger might be incurred by the fire department in reaching the fire, because of the numerous wires strung upon the poles in close proximity to the buildings."

It is at once evident that there is no analogy between the present and the *La Crosse* case. There about 1,650 feet of pole line were involved, which could be removed to an adjoining street or alley at an expense of about \$6,000. Here approximately a mile of overhead system is involved, which it is only practical to change through undergrounding at an expense of at least \$22,000 and probably closer to \$30,000, which latter figure is not far from the total cost of the improvement already contracted for of the streets in question,—\$31,230, according to a statement of the city clerk. Moreover, in the *La Crosse* case, a piece of land

adjoining the street there involved was to be converted into a small park. There appears to be no valid reason in the present case for requiring the consumers of current throughout the city to submit to any additional burden, however small, for the benefit of the residents on these streets. And since, in the case of residence districts such as those here considered, the cost of the underground system, even after installation, is much greater than the overhead, should the city be consistent and grant pole removal in other sections of the city where such removal might be ordered with equal propriety, it is clear that a very heavy additional burden would be imposed upon the consumers of electric current in the city. In this connection it may not be inappropriate to quote what was said by the Commission in *Wis. Tel. Co. v. City of Green Bay*, 1908, 3 W. R. C. R. 147, 162:

“Discretion should be exercised by municipalities in imposing burdens upon public service corporations through the exercise of the police power. When the health, morals or safety of the inhabitants are concerned, financial considerations are of less importance than where the object to be attained by police regulations is the mere convenience of a few citizens, or the desire of property holders to improve the appearance of a street upon which their property fronts.”

The need of such discretion is obvious, since the cost of every alteration in the plant of a public service corporation, made in obedience to municipal requirements, and even though such alterations were not otherwise necessary, may ultimately become a charge upon the general public served by the corporation.

However, there is another consideration in the present case. There is no evidence of the city having in contemplation any other system of street lighting for the streets in question than that now used here. At present seventeen poles are necessary to support the arc lamps. Obviously, even should the company underground its circuits, seventeen poles would still be necessary for the same purpose. At the time of the complaint there were sixty poles on the streets in question. By the company's plan submitted to the street committee it was proposed to reduce this number to thirty-nine. It was stated, however, that two more poles would be required for domestic service in the overhead system; so there would eventually be forty-one poles on the street in question under the company's plan. As seventeen poles are necessary for the arc lights, the number of poles involved, unless

the city installs an entirely different system of street lighting, is twenty-four. That number would be removed by undergrounding, as opposed to the plan submitted by the company. Since the district is fairly well saturated, the present removal of the poles cannot be justified on the ground that a large increase in demand for current may be anticipated in a few years.

It appears that out of \$276,000 invested in its distribution system, the company has expended over \$70,000 in installing underground systems. Main street and Webster street, i. e., those parts of the streets where an underground system is installed, are business streets. State street is largely a business street and becoming more so. Furthermore, removal of poles on that street was a condition precedent to state aid in helping to bear the cost of paving (ch. 524, laws of 1909). Park street and University avenue west of Park street, and Park street from Lake Mendota south to University avenue runs almost entirely through the University grounds. That part of the street, therefore, occupies an exceptional position as compared with the other streets in the city, for it also has quite heavy traffic. Most of State, all of Webster and East Main involved, are business streets. The cement walk extends from the buildings to the curb, so that poles would have to be set in the walk and would be an obstruction to traffic. The undergrounding so far carried out by the company has rested on a very different basis from that involved on North Carroll and Langdon streets, and the wisdom of placing an additional burden for underground construction upon the company may well be doubted.

The respondent city insists that it has power to remove the poles, and to sustain its contention cites various statutes and ordinances relating to the right of the city to exercise the police power in respect to poles and wires of electric, telephone, and telegraph companies which are located in the streets. In the course of the discussion the city attorney has raised several questions which are interesting but which we do not believe are within the province of the Commission to determine. The section of the statute under which these proceedings were instituted (sec. 1797m—87) was designed to give the Commission the power to pass upon the reasonableness of any ordinance, contract or resolution of a common council directly affecting the rates or service of any public utility or indirectly tending to place an unnecessary burden upon the utility which might result in em-

barrassing it in the performance of its public function in the manner required by the Public Utilities Law. At least such is the view of the statute taken by the bar generally and the same has never heretofore been questioned. Under the circumstances, until the courts hold to the contrary, we shall continue to consider the statute as suspending previous statutory and ordinance provisions relating to the subject, and as vesting authority in the Commission to declare any contract, ordinance or resolution of the common council void which transgresses the limits of reasonableness within the purview of the Public Utilities Law.

The rule of law applicable in the present case has been stated in *Wis. Tel. Co. v. City of La Crosse*, 1911, 7 W. R. C. R. 435. After a consideration of leading authorities and cases the Commission said, page 448:

“The rule that may be deduced from the best considered authorities on the subject is, that a municipality, in the exercise of its police power, may, in a proper case when public safety, necessity or convenience requires the removal of telephone or electric poles from any thoroughfare and the wires to be placed in conduits or the poles to be moved to another location, by ordinance or resolution duly passed, require such change to be made.”

As regards a reasonable exercise of the police power on the part of the city in cases like the present, it was stated in *North Western Tel. Exchange Co. v. City of Minneapolis*, 1900, 81 Minn. 140, 149, and quoted in the *La Crosse* case:

“A city has the right to enact reasonable ordinances, and to enforce them; but it is the conservator, not the autocrat, of the police power. It may originate the exercise of its useful authority, and apply it by specific and valid regulations; but that exercise is not despotic, nor absolute, but is open to review, and an ordinance that upon its face is unreasonable and arbitrary is subject to judicial examination. When it is not bounded by a fair and wise administration of municipal authority, but is unreasonable and arbitrary, it will be declared void, and the municipality restrained from its enforcement.”

Respondent's counsel has cited a number of cases as authority for the ordinance under consideration here. An inspection of these cases, however, shows that they are not analogous. Thus, *City of Marshfield v. Wis. Telephone Co.* 1899, 102 Wis. 604, was prospective, as the company proposed to construct a line of poles along Central avenue. The case stated (p. 605—6):

“Central avenue is the main business street of the city, and has been paved along the business portion thereof, and upon it the greater portion of the travel and business of the city is done. It has been the policy of the city to keep that portion of this street between D and Sixth streets clear of all obstructions, and for more than five years it has uniformly denied to all persons the privilege of placing telephone, telegraph, electric light or other poles in or along the same.”

The court held that the city might refuse to allow certain of its streets to become encumbered with telephone poles, in the exercise of a reasonable discretion.

In *State ex rel. Wis. Tel. Co. v. Janesville Street R. Co.* 1894, 87 Wis. 72, 73, the court held an ordinance regulating the stringing of wires in a city, and providing that “whenever it shall be necessary to cross the line of any existing electric light, electric power, telegraph or telephone line or lines * * * the person or company making such crossing shall supply all necessary safeguards for the same”, a reasonable and valid exercise of the police power. No element of danger has been shown in the overhead system on the streets in question,—certainly not as distinguished from any other streets of the city having poles and wires, so that it is not clear what application this case has to the present one.

A number of pole removal cases were cited. With one exception, which will be considered shortly, these cases deal with situations in large cities and entirely different circumstances. Thus, the New York Subway Acts and *New York v. Squire*, 1892, 145 U. S. 175, and *People ex rel. N. Y. Elec. Lines Co. v. Squire*, 1888, 107 N. Y. 593, were referred to. The first section of the act of the New York legislature, approved June 13, 1885, laws 1885, ch. 499, authorized (145 U. S. 181) “the mayor, comptroller and commissioner of public works of cities having more than one million population to appoint three disinterested persons, residents of the cities for which they should be appointed, to be a board of commissioners of electrical subways.” By its second section it was made the duty of such board “to cause all electrical wires and other conductors of electricity to be removed from the surface and placed underground wherever practicable, and to require all electrical companies operating or intending to operate electrical conductors in any street, avenue or highway of the city, to transact their

business by means of underground conductors wherever practicable.”

As to the cities affected under this act, New York was confessedly the only one (*ibid*, p. 188). Speaking of the acts of 1884 and 1885, the New York court said, 107 N. Y. 593, 603, 604.

“But we are of the opinion, for other reasons, that this legislation did not, and was not intended to materially impair or restrict the enjoyment of the franchise secured by the relator. The necessity of these acts sprung out of a great evil, which in recent times has grown up and afflicted large cities, by the multiplication of rival and competing companies, organized for the purpose of distributing light, heat, water * * * and which require in their enterprises the occupation not only of the surface and air above the streets, but indefinite space underground. This evil had become so great that every large city was covered with a net-work of cables and wires attached to poles, houses, buildings, and elevated structures, bringing danger, inconvenience and annoyance to the public.”

It is, of course, clear that this case has no bearing on the present situation on Langdon and North Carroll streets. The telephone company is to cable its wires and apparently intends to place them underground, so that it appears that at most there will be on the streets in question nine or ten wires of complainant company, and possibly a cable of the telephone company.

The only case of a small city which was mentioned was that of *City of Geneva v. Geneva Tel. Co.* 1899, 62 N. Y. Suppl. 172. There was involved a law authorizing the board of public works of the city of Geneva to require telephone companies to move their wires from poles to underground conduits whenever it shall, by resolution, determine that public safety requires such removal. It was further provided that if the board of public works shall construct conduits for the reception of wires and electrical conductors, as provided in the act, the board of public works may, by resolution or ordinance, require the companies to remove their wires and electrical conductors and place them within the conduits constructed by the city, and such proportion of the expense of the construction thereof shall be paid by the company, corporation, or individual using the same as the common council, by resolution, shall determine. The city had constructed conduits in certain streets, and the board of public works passed a resolution requiring the telephone company to remove its wires and electrical cables and conductors from over-

head in these streets and place them in the conduits. This the company refused to do. Application was made for a peremptory writ of mandamus, as provided by the act. The application was granted. It will be noted, however, that in the statute in question the removal of the poles was made to hinge on the question of public safety,—also that in this particular case the conduits had been prepared by the city, though what proportion of the expense was to be borne by the company is not stated.

The court said in speaking of this law, p. 178:

“The legislature no doubt assumed that in giving the board of public works a discretionary power in reference to the construction of the conduits it would not do any act that would unnecessarily impair defendant’s franchise, or its telephone facilities with the public. The usefulness of the telephone, which is so generally used, and which adds so much to the convenience of the public, especially in large cities, ought not to be impaired by any unreasonable or arbitrary discretion of the municipal authorities.”

It is, of course, equally true that no discretionary power confided to the municipal authorities may be used in an unreasonable or arbitrary manner. Cases cited by respondent’s counsel simply bear out what has already been stated, that as a general rule of law, when public safety, convenience or necessity requires such a change to be made, the common council may, by ordinance duly enacted, require poles to be removed from a certain street or streets, and the wires to be placed underground.

Counsel for respondent contends that the fact that placing electric wires underground may be expensive does not render an ordinance requiring such undergrounding unreasonable. It is doubtless true that such a fact does not necessarily in all cases render an ordinance unreasonable. It is also true that in many cases it is a factor which must be given weight and often much weight. In the present case it seems undeniably true that the expense is heavy, when the ends to be accomplished and the population to be served is considered. It is of course obvious that where population is dense per mile of street and consumption of current correspondingly high, a different economic situation obtains than when the reverse is true.

The petition presented to the common council did not ask for the removal of poles and wires, but for the reconstruction of “conduits of ample size, to place therein the wires of said com-

panies before the work of permanent improvement is commenced on said streets." It was quite plainly and naturally the desire of the property owners and residents that, after going through the confusion incident to the paving of the streets, they should not be compelled to repeat the experience, should the undergrounding of the overhead pole line system later become necessary.

The company states that, should this time come, a system back of the curb is entirely feasible. Such has been found to be the case by the Commission's engineering department, as shown by the memorandum quoted. The suggestion was then made that "if the proposed scheme is accepted by the city, before the paving of these streets is done, the sections of the conduit system under the proposed paving could be installed in advance of the paving and extended at any future time." Such a suggestion seems reasonable. The contention of complainant's counsel that an underground system will never be justified on the streets in question would appear to take too much for granted. The city has had a substantial growth in the last ten or fifteen years, and is now growing. A similar growth in the next ten years or so might quite possibly make the undergrounding of the wires either necessary or desirable from the standpoint of both the city and the company. There is not a very large amount of conduit system which would pass under the proposed paving, and the suggestion seems entirely reasonable.

The streets in question are residence streets, and while possibly somewhat more important as to traffic and appearance than the average residence streets of the city, are in no important particular different from numerous other sections of the city. As already stated, according to the plan submitted by the company, the poles will be reduced from sixty-two to forty-one, and the number of wires overhead to not over nine or ten. Under the present system of street lighting seventeen poles will be necessary for arc lamps. Thus the total number of poles involved is twenty-four over a mile of territory. No element of public safety, convenience or necessity requires such a change. The poles are by no possibility obstructions. If it were possible to remove all the poles from the streets the position of the city would be more tenable, but when almost half the number of poles must remain for street lighting purposes it seems unreasonable to compel the expenditures of more than \$1,000 each for the

remainder that can be removed. Should the city adopt some other system of lighting the streets, such as an ornamental one for instance, a different question would be presented. In that event the removal of all poles would not only be desirable, but might be necessary. . Furthermore, compliance with the ordinance would not only mean an initial expenditure of many thousands of dollars on the part of the company, but a less economical system for the district involved as well, and a larger investment upon which the company might be entitled to a return from the consumers of current.

For these reasons more particularly, as well as the other considerations hereinbefore discussed, the ordinance in question requiring the Madison Gas and Electric Company to remove its poles and wires from those portions of North Carroll and Langdon streets in the city of Madison, Wis., as specifically described in the ordinances, must be declared unreasonable. In reaching this conclusion the Commission has not been unmindful of the general rule in cases of this character, that any possible doubt should be resolved in favor of the legality of the regulation imposed by the municipality upon the public utility.

Now, THEREFORE, IT IS ORDERED, That the ordinances above set forth, requiring the Madison Gas and Electric Company to remove its poles and wires from those portions of North Carroll street and Langdon streets in the city of Madison, as in the ordinances specifically described, be and the same are hereby declared null and void.

J. C. MEYER ET AL.

vs.

SHEBOYGAN GAS LIGHT COMPANY.

IN RE VALUATION OF THE PROPERTY OF THE SHEBOYGAN
GAS LIGHT COMPANY.

Submitted Sept. 10, 1912. Decided Jan. 15, 1913.

REHEARING.

Application is made by the Sheboygan G. Lt. Co., Sheboygan, Wis., for a reconsideration of the valuation used by the Commission in fixing the schedule of rates ordered in *Meyer et al. v. Sheboygan G. Lt. Co.* 1912, 9 W. R. C. R. 439.

It is alleged that the company is entitled to an added value for mains and services laid in advance of paving. While the cost of reproduction is more when pavement must be cut through and replaced, the presence of pavement does not establish an added value upon which the public must pay returns if the utility has not borne the costs.

The company, in the present case, considers the earnings of the plant an element in the valuation. This assumes that whatever the utility is earning is a proper measure of what it should earn. Were this the case, no basis for rate adjustment would remain.

The going value of the business is not measured by the present earning capacity but by the cost of building up the business. The utility is entitled to a fair return upon the fair investment in the plant and business.

The present investigation does not materially alter the Commission's conclusions in the previous order. The changes suggested by the company would, with the present use of gas, produce a lower revenue than the Commission's schedule.

Held: The Commission's schedule conforms more closely to the cost of service, but under the schedule suggested by the utility the interests of the consumers are not adversely affected. The respondent is ordered to abandon the present rates and to put into effect either schedule as approved, and the one selected is to be used exclusively.

This is an application of the Sheboygan Gas Light Company for a rehearing in the above entitled matters in which decision and order were entered by the Commission July 11, 1912. The particular points upon which rehearing is desired are set forth in a petition filed with the Commission July 20, 1912. They are as follows:

That the value of the respondent's real estate, as found by the Commission, is unreasonably below its value as shown by the evidence;

That the cost of reproduction and the present value of the portions of the plant represented by the items "Transmission and distribution", "Buildings and miscellaneous structures", and "Plant and equipment", as determined by the Commission, are unreasonably low because those portions of the plant are new constructions or have been practically rebuilt since respondent came into ownership in June 1901;

That no allowance was made on account of street mains and service connections laid and placed by the respondent, at the direction of the municipal authorities, precedent to paving or repaving such streets;

That no cash was allowed for working capital in addition to the value of material and supplies;

That the Commission's determination of the original value of the physical property, going to make up the respondent's plant at the end of the year 1901, is much less than the value disclosed by the evidence;

That no going value was allowed for the established business represented by a gross annual earning capacity of \$55,770.48 in 1909 and \$72,170.70 in 1910;

And that no allowance was made for the fact that taxes increased from \$1,213.13 for the fiscal tax year 1910 to \$3,782.92 for 1911.

Hearing was held September 10, 1912, *Edward Voigt* appearing for the complainants, *Simon Gillen* for the respondent.

Some new testimony and evidence were introduced by the respondent, but in general its claims were based upon the testimony formerly presented.

REAL ESTATE.

The respondent submitted in evidence a survey of its real estate, made and certified by the engineer of the city of Sheboygan. The evidence goes to show that the area of the land owned by respondent is 1,990 sq. ft. greater than the engineers' figures. It is claimed that the unit price used by the engineers in their estimate brings the value of real estate to \$20,847 instead of \$16,500 when the full area is considered. Further computations show, however, that the proportionate increase would be only \$485 and that the total value on that basis would be \$16,983 instead of \$20,847. But the value, \$16,500, is a figure arrived at by the engineers from several angles. The unit price

of 24.44 cts. is not a basic figure but a unit deduced from the total value finally selected. The evidence does not change the conclusions with reference to the value of the land as a whole. The only effect in this instance, of the area being slightly different, more or less, is to change the value per unit.

DISTRIBUTION SYSTEM, PLANT EQUIPMENT AND BUILDINGS.

No additional evidence was submitted with respect to the value of the distribution system and plant equipment but the general claim was advanced that, on the basis of the evidence already submitted by the respondent's engineer, the value of these parts of the physical property should be higher than the valuation by the Commission. The data of the respondent's engineer, his claims and conclusions, were all gone into and carefully considered in detail by the Commission's staff; and the facts thus disclosed, together with all information previously in the staff's possession, were made the basis of the revised physical valuation, shown on page 441, 9 W. R. C. R. Further consideration of the evidence and facts in the case does not lead to any material revision of either the cost new or the present value of these items.

The estimate of an architect was submitted in evidence, showing the value of the buildings to be considerably more than that placed upon them by the engineers. Comparison of the details of the estimates could not be made as the details of the estimate for the company were not available. It was learned, however, that the opinion of respondent's witness concerning unit prices to be used checked closely with figures actually used by the staff.

The engineers' estimates of the value of buildings have been revised, resulting in some corrections for omissions and in some slight changes in unit prices.

Concerning the cost of the dock, opinions were submitted tending to establish the fact that the cost of building the structure was from \$18 to \$20 per lineal foot. The length of the dock is said to be 478 feet, so that the total value claimed by respondent on this account is from \$8,604 to \$9,560. The estimates of the engineers have been carefully examined with the result that the cost of reproducing the dock new is now placed at \$6,400 instead of \$4,985. The extra piling, referred to by the company as having been necessary on account of the construction of a coal house, is included with the cost of the building and does not appear in the cost of the dock.

The total value now placed on the gas manufacturing buildings and miscellaneous structures is \$22,310 cost new and \$15,617 present value. In the earlier appraisal these values were placed at \$19,367 and \$12,948, respectively.

MAINS AND SERVICES.

Some part of mains and services in Sheboygan has been laid in advance of paving or repaving streets. The company asserts that this fact enhances the value for rate making above what it would cost to reproduce them in the absence of overlying pavement. While of course the cost of reproduction is more when pavement must be cut through and replaced, the presence of pavement does not establish an added value upon which the public must pay returns if the utility has not borne the costs. The Commission has more fully explained its position on this matter in other proceedings.

To what extent the municipality has unreasonably directed the installation of mains and services in advance of paving or repaving has not been shown. The practice of installing underground work in advance of paving is customary. In fact, the testimony shows that this policy was pursued in laying sewer piping for the city as well as gas mains for the utility.

Several points of interest regarding the development of business, the investment in equipment, and their particular relation to the amount of mains may be seen by reference to the data presented in the earlier opinion. The mileage of mains in Sheboygan is about 25 per cent less per 1,000 population than for other class A gas utilities in Wisconsin and, as might be expected, we find that the number of consumers per 1,000 population is correspondingly several per cent smaller. But further comparison reveals that the number of consumers per mile of main is from 18 to 20 per cent greater than for other class A utilities and that the cost of reproduction per mile is about 23 per cent more than the average or normal amount elsewhere. These factors indicate plainly that the respondent's distribution system is, generally speaking, limited to the districts where the desire for service connection is greatest and that the tributary and less costly portion of the system has not been greatly extended.

WORKING CAPITAL.

The respondent asserts that \$10,000 in cash is necessary for working capital in addition to material and supplies. It supports this contention by showing that the amount of coke and the stock of appliances were greater during the summer months, when the inventory was taken, than they ordinarily are for the remainder of the year; and that accounts receivable were unusually swollen by current consumer accounts, which reach a maximum at the first of the month. These arguments, alone, hardly substantiate the claims that a large working capital is required, for if these items are normally less, the average amount required for working capital may be expected to be correspondingly smaller.

While the utility requires sufficient available cash capital to enable it to meet its current obligations, this need is not uniform but is greatest when many accounts payable are due; it is least when they are entirely paid. The addition of the entire inventory value of material and supplies to the respondent's investment is equivalent to adding cash capital to the extent that the corresponding accounts are unpaid.

Various comparisons of the business of this and other utilities indicated that the investment necessary for material and supplies was considerably less than the inventory revealed. It was concluded, therefore, that very little additional cash should be allowed. But further consideration of respondent's unusual need of increasing its gas sales in every practicable way convinces us that considerable investment in gas appliances is not unwarrantable in this case. For this reason, it is believed that respondent's working capital, including material and supplies, may properly be about \$15,000.

ORIGINAL VALUE OF THE PROPERTY.

The original value of the property acquired by the Sheboygan Gas Light Company from its predecessor is important in ascertaining the value of the plant and business to-day. In the absence of reliable records showing the inventory and value, December 31, 1901, the Commission arrived at an approximate amount by deducting the annual additions from the engineers' appraisal as of June 30, 1911. The value found in this way is \$172,831.

The depreciated value of the physical property in 1901 is even more uncertain than its cost of reproduction, because the former value is affected by the thoroughness of up-keep as well as by the extent and cost of construction. The Commission pointed out that, if the relation between the cost new and present value was about the same in 1901 as when the property was appraised in 1911, the present value was then not far from \$138,000. Objection is raised to this conclusion because the actual ratio of the present value to the cost of reproduction, in 1911, leads to a present value of \$143,687 when applied to the estimated cost of reproduction December 31, 1901. The ratio used by the Commission for the purpose of estimate was 80 per cent; the actual ratio for 1911 was about 83 per cent. We are unable to find which of these ratios more accurately represents the condition existing in 1901, nor is there evidence presented on the subject. For this reason it should be kept in mind that some unavoidable uncertainty does exist in this value and that conclusions based thereon are uncertain to the same degree. However, this is only one of the elements affecting the basis of return. Other factors point with more clearness and certainty to the course to be followed in this case.

The company asserts that the value of its property in 1901 was about \$300,000. But this is much out of line with the amount of business the utility then had and is out of harmony with other testimony and with the plant's value in 1911. The facts in the case show that the bonds issued up to December 31, 1901, for the purpose of purchase and improvement amounted to \$131,000. Although the sum paid by the present owners was not of necessity the value the property had when purchased, it is not probable that the cost fell far short of the true worth, considering the apparent present value of the plant and its volume of business.

Modifications that should be made in the engineers' valuation as of June 30, 1911, affect also the determination of the physical value in 1901. When the changes are made, the cost of reproducing the plant December 31, 1901, appears to have been about \$176,000, and the corresponding present value from \$140,000 to \$145,000.

GOING VALUE.

The respondent complains that, in its earlier opinion, the Commission placed no going value on the business, regardless of its "gross earning capacity of \$55,770.48 in 1909 and \$72,170.70 in 1910." Evidently the respondent believes that whatever it is earning is a proper measure of what it *should* earn. It is perfectly plain that, were this the case, no basis for rate adjustment would remain. The law contemplates that the investor may earn, above normal operating expenses, a fair return upon a fair investment in the plant and business. In concluding what this fair investment and return may be the Commission is guided by the cost of reproducing the plant, its depreciated value, what the owners have put into the business, and many other conditions that surround its operation.

Tables V and VI, 9 W. R. C. R. 445-446, indicate the method followed in this case in finding what has been invested in plant and business. All loans or other advances of money by stockholders and officers, whether repaid or permanently retained, find their way into these tables if the disposition of these sums for operation or construction appears in the accounts of the company.

Following the methods of tables V and VI, the cost of plant and business, including working capital, June 30, 1911, is found to be \$270,000 when interest is computed at 6 per cent, and \$280,000 at 7 per cent. These figures show about what the Sheboygan Gas Light Company has put into its business and about what it would be entitled to earn upon to-day were the operation unaffected by serious and unusual conditions. This investment represents a value upon which the company may properly earn when the business has been sufficiently developed to bear the burden; and present suspension of a portion of the interest and profits customary under normal conditions need not permanently deprive the utility of the earning.

TAXES AND OTHER EXPENSES.

The company's taxes increased from \$1,213.13 for the fiscal tax year 1910, to \$3,782.92 for 1911, thereby raising the operating cost about 6 cts. per 1000 cubic feet of gas sold. Taxes are costs over which the utility has no control and their effect

upon the cost per unit must be given serious weight in the determination of a rate schedule.

The report to the Commission for the year ending June 30, 1912, shows other increases in operating expenses over those for the preceding year. These increases surpass the corresponding growth of business and consequently the cost of gas per 1000 cubic feet sold was even more than we have shown for the earlier period.

SUMMARY.

The additional testimony and facts presented upon rehearing and further investigation enables the Commission to conclude that the respondent's investment in the business is not far from \$275,000. This is about the amount upon which it appears the respondent should be permitted to earn normal interest and profits, were not the operating conditions so very unusual. However, the evidence does not materially alter the Commission's conclusion as to what the rates should be under the circumstances and it is believed that the respondent should put into effect a schedule of rates substantially in accord with the earlier order in these proceedings.

RATES.

The company is willing to try out a schedule of that kind but asks that instead of \$1.20 per M for the first 1,000 cubic feet, \$1.00 per M for the next 4,000 cubic feet and \$0.85 per M for all gas used in excess of 5,000 cubic feet per month, the utility be permitted to charge \$1.15 per M for the first 1,000 cubic feet, \$1.00 per M for the next 9,000 cubic feet and \$0.90 per M for all gas used in excess of 10,000 cubic feet per month. Based on the present use of gas, the revenue would be less under this schedule than under the one suggested by the Commission. The latter schedule conforms more closely to the variations in cost of service and seems more logically the schedule that should be charged under the circumstances prevailing in Sheboygan. But under the schedule suggested by the utility the interests of its consumers are not adversely affected and the company should be permitted to put this rate into effect if it desires to do so.

IT IS THEREFORE ORDERED, That the respondent, the Sheboygan Gas Light Company, shall abandon its present schedule of rates

and substitute therefor either the schedule ordered by the Commission July 11, 1912, or the following schedule. The schedule selected by this utility shall be used exclusively.

	Per 1,000 cubic feet	
	Gross	Net
First 1,000 cu. ft. of gas used per mo.	\$1.25	\$1.15
Next 9,000 " " " "	1.10	1.00
All gas used in excess of 10,000 cu. ft. per month....	1.00	.90

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

Gas used by prepayment meters shall be paid for at \$1.15 per 1,000 cubic feet.

The minimum monthly charge shall be as follows:

Size of meter	Min. amt. to be charged each month	Size of meter	Min. amt. to be charged each month
3 lights	\$0.25	60 lights	\$1.00
5 " .....	.25	80 "	1.50
10 " .....	.35	100 "	2.00
20 " .....	.50	200 "	4.00
45 " .....	.60		

FARMERS' LAND AND CATTLE COMPANY, LTD.,

vs.

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

Submitted Nov. 1, 1912. Decided Jan. 16, 1913.

The petitioner alleged that the train service and station facilities furnished by the respondent at Patzu, Douglas county, Wis., are inadequate. The complaint relative to train service was satisfied before the hearing.

Held: The station facilities are inadequate and the respondent is ordered to provide an adequate station building according to its adopted standards of construction, plans and specifications to be submitted to the Commission for approval. June 1, 1913, is a reasonable date at which the station is to be opened for public use.

The petitioner, a corporation organized for the colonization of lands in Douglas and Burnett counties, Wis., alleges in substance that the station facilities and train service furnished by the respondent at Patzu, in Douglas county, are inadequate and discriminatory as compared with the service accorded other stations on the same line. The Commission is therefore asked to require the respondent to erect a suitable depot and furnish adequate train service at Patzu.

The respondent, in its answer, alleges that it has erected a platform at Patzu and made it a flag station, stopping the mixed day trains and the night passenger trains there on signal; and avers that this service is adequate for the present and will be for some time to come. It therefore asks the dismissal of the petition.

A hearing was held on November 1, 1912, at the office of the petitioner at Patzu, Wis. *J. C. Michael* appeared for the petitioner and *Kenneth Taylor* for the respondent.

At the hearing the petitioner, through its president, stated that its complaint relative to train service had been satisfied by the respondent. The only matter at issue is, therefore, the adequacy of the station facilities now furnished at Patzu.

The testimony shows that no shelter of any kind is provided at Patzu. Passengers desiring to board trains there are obliged

to wait on an open platform exposed to the elements or to seek shelter in the petitioner's office or other private buildings at a considerable distance from the platform. The mixed day trains are rarely on time and are frequently as much as an hour late. The night passenger trains, which now stop at Patzu on signal, were said to run closer to their schedule than the mixed trains, but to be frequently late.

It appears from the testimony that Patzu is located about seven miles northeast of Harliss and about seven miles southwest of Black River, these being the nearest stations. A witness for the petitioner estimated the settlement about Patzu as follows: Within a one-mile radius three or four families comprising about fifteen persons; within a two-mile radius six or seven families comprising about forty persons; within a three-mile radius about fifteen families comprising about one hundred persons; and within a five-mile radius about three hundred persons. Outside of the circle of the five mile radius is the Chaffey settlement in which about twelve or fifteen families reside. Witnesses stated that this settlement is now tributary to Foxboro, but that upon the completion of a road which is now under construction it will find its natural outlet at Patzu. The testimony shows that within a radius of five miles about Patzu are located four schools having a total attendance of about forty-five, two occupied churches and one church under construction. A general merchandise store is being built at Patzu. Witnesses stated that the development of the community had been much accelerated in the eighteen months preceding the hearing, and that the population is steadily increasing. It was estimated by a witness that eight settlers had moved to the vicinity of Patzu within a year. Moreover, it was shown that about eighteen persons have purchased land in this neighborhood, expecting to settle there in the near future.

The respondent's line through Patzu has been in operation only since July, 1912. Data with regard to its freight and passenger business at Patzu were submitted at the hearing covering the months of July, August and September, 1912. The only freight revenue received during those months was \$11.55 for less than carload shipments to Patzu. In the three months 186 persons paid cash fares for passage away from Patzu to the amount of \$69.74. Incoming passenger traffic was said to be as large as the outgoing traffic. It was shown that conductors

have occasionally neglected to collect fares, a condition which may make the data submitted, incomplete.

The testimony shows that the respondent has on its own initiative erected station buildings and maintained agents at points on this division of its line in Minnesota, at which the traffic handled and the tributary population is less than that obtaining at Patzu. Specific examples mentioned by witnesses were Harliss and Belden. Only about sixty people were said to live within five miles of Harliss, while Belden serves only the crew working about a portable saw mill which operates there. Moreover, the only roads leading to these stations are logging or ice roads, and the physical conditions are unfavorable for their improvement. Yet these stations are each accorded a depot and an agent. Similar service was said to be furnished to other Minnesota stations on this division of less importance and having less favorable natural surroundings than those possessed by Patzu.

The respondent in its brief, submitted after the hearing, urges that a part of the population alleged by witnesses to be tributary to Patzu have access to Foxboro or Dedham which have independent railroad facilities on other lines. It further points out that the road which will make the Chaffey settlement tributary to Patzu will not be completed until summer. It asserts that until the summer, at least, too few persons would use station facilities at Patzu to warrant the erection of a building there as prayed for.

An examination of the testimony makes it clear that the station service now rendered by the respondent at Patzu is inadequate. While the tributary population is not large, it is rapidly increasing with the development of the locality, and this development should not be unnecessarily retarded by poor station service. Moreover, it must be recognized that even though relatively few passengers board trains at Patzu, they should be provided with some form of shelter where the irregularity of the train service maintained by the respondent of necessity subjects them to long delays. Such a minimum of service should be accorded this community under any circumstances, but in this case the failure of the respondent to provide a depot there appears to be discriminatory. It is clearly shown that the respondent has voluntarily provided station buildings with regular agents at points in the state of Minnesota on the same division of its line which possess a smaller tributary population and originate

less traffic than Patzu. With these facts in view, we are of the opinion that a station building should be erected at Patzu.

IT IS THEREFORE ORDERED, That the respondent, the Minneapolis, St. Paul and Sault Ste. Marie Railway Company, provide a station building at Patzu, Wis., which shall be reasonably adequate for the passenger and freight traffic obtaining at that station, according to its adopted standards of construction, plans and specifications to be submitted to the Commission for approval.

June 1, 1913, is considered to be a reasonable date at which the station shall be opened for public use.

TOWN OF SALEM

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Nov. 6, 1912. Decided Jan. 16, 1913.

The petitioner alleges that a highway crossing on the C. & N. W. Ry. one hundred feet west of the depot at Salem, Kenosha county, Wis., is dangerous.

Held: The crossing requires protection. If the contemplated changes in switching service are not made within a reasonable time, the respondent will be required to flag each switching movement over the crossing. It is recommended that the respondent station a flagman at the crossing for the day period during the ice shipping season. Respondent is ordered to install and maintain an automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted to the Commission for approval. Three months is deemed sufficient time within which to comply with this order.

The petitioner, a regularly organized town in Kenosha county, Wis., alleges that a highway crossing located on the respondent's line one hundred feet west of the depot at Salem 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 in question is unusually dangerous, but states its willingness to install bell protection subject to the approval of the Commission. It therefore asks for the dismissal of the complaint.

A hearing was held on November 6, 1912, at Salem, Wis. *T. F. Flemming*, town chairman, appeared for the petitioner and *C. A. Vilas* for the respondent.

The testimony shows that at the crossing in question the railroad runs east and west and the highway north and south. From the north approach a traveler cannot see trains approaching from the west until on the respondent's right of way. The view to the east is more open, but it is seriously obstructed by a store and by the Salem depot. Approaching from the south on the highway, a view of the tracks to the west cannot be had until on the tracks, the view being obstructed by buildings, the banks

of a cut, and by freight cars standing on the sidetrack. The view to the east from this approach is also obstructed by standing cars.

It was shown that there are four regular train movements in each direction over the crossing in addition to which extra freights are operated at certain seasons. All passenger trains stop at the depot which is only one hundred feet from the crossing and hence do not cross at high speed; but some freight trains pass through without stopping. A considerable amount of switching is done at Salem during the day and the first half of the night, especially during the summer months when ice is being shipped. A sidetrack and an industry track are crossed by the highway in addition to the main track; and the arrangement is such that in switching there are many movements over the crossing. Witnesses stated that during such movements trainmen often fail to flag cars at the crossing. The respondent's division superintendent, however, testified that they have orders to do so, and are subject to discipline if they do not. He also stated that changes soon to be made would materially lessen the amount of switching done.

A count of the traffic over the highway between the hours of 6 a. m. and 7 p. m. on October 2, 1912, submitted by petitioner at the hearing, shows that during that time 193 teams and 578 pedestrians used the crossing. Respondent objected to the acceptance of the statement as it was not sworn testimony. However, a member of the town board testified that from two hundred to three hundred teams and about five hundred pedestrians crossed at Salem daily. Another member of the town board estimated the daily traffic at from two hundred to two hundred and fifty teams and from two hundred and fifty to three hundred pedestrians. These witnesses also stated that during the summer the highway is heavily traveled by automobiles, as many as three or four hundred passing on Sundays and about fifty on other days. About forty school children were said to use the crossing twice daily. Several narrow escapes from accidents at this crossing were reported at the hearing.

Members of the town board objected to the installation of bell protection on the ground that the bell might not be reliable, and that the traffic over the highway and the irregularity of the train movements are such as to necessitate more than bell protection.

They expressed the opinion that adequate protection could be secured only by stationing a flagman at the crossing.

After a careful examination of the testimony and of our engineer's report, we find that the crossing in question is unusually dangerous and that some form of protection is necessary. In view of the nature of the traffic, both day and night protection appears desirable. The traffic over the highway is heavy, but the regular train movements are relatively few and the speed of trains in most cases low because of the proximity to the Salem depot. Moreover, the switching operations, which appear to be the source of greatest danger at this crossing, are most numerous during the summer months when ice is being shipped. The respondent has agreed to arrange, if possible, to have this switching done at the opposite end of the yards, thus avoiding the use of the crossing for such movements. Under these circumstances we believe that adequate protection will be secured by the installation of an automatic crossing alarm with an illuminated sign for night indication. If the changes in switching service now contemplated are not put into effect within a reasonable time, the respondent will be required to flag each switching movement over the crossing. It is recommended that the respondent station a flagman at the crossing for the day period during the ice shipping season.

NOW, THEREFORE, IT IS ORDERED, That the respondent, the Chicago & North Western Railway Company, install and maintain at the highway crossing on its line, one hundred feet west of the Salem depot, an automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted to the Commission for approval.

Three months is deemed a sufficient time within which to comply with this order.

CITY OF LADYSMITH

vs.

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

Submitted Nov. 4, 1912. Decided Jan. 17, 1913.

Petitioner alleges that four grade crossings at the intersection of the M. St. P. & S. S. M. Ry. with Second street East, Second street West, Miner avenue and Lake avenue in Ladysmith, Wis., are dangerous.

Held: The crossings require protection and respondent is ordered to station a flagman at each of the four crossings from 6:30 a. m. to 6:30 p. m.

The petitioner, a municipal corporation in Rusk county, Wis., alleges that the four grade crossings formed by the intersection of the respondent's tracks with Second street East, Second street West, Miner avenue and Lake avenue in the city of Ladysmith are dangerous to public safety and should be guarded by gates. The Commission is therefore asked to require the respondent to provide adequate protection for the public at these crossings.

The respondent, in its answer, denies that the crossings in question are dangerous and asks the dismissal of the petition.

A hearing was held on November 4, 1912, at Ladysmith, Wis. *Chas. Kirwan* appeared for the petitioner. The respondent was not represented.

Crossing at Second Street East.

The testimony shows that at this crossing the highway runs north and south and the railroad approximately east and west. At the time of the hearing, one main track and two sidetracks were in use and two additional sidetracks were under construction. Approaching from the south on the highway, the view of the tracks is comparatively unobstructed. From the north approach, however, the view is seriously obstructed by a livery barn, a warehouse, and by cars standing on the sidetrack. The report of our engineer shows that from a point one hundred feet north of the main track, a view of the track is afforded for only one hundred and fifty feet east and one hundred feet west. Traffic

over the crossing is heavy. The Commission's engineer reports eight regular train movements and much switching at this point. It was developed at the hearing that during the switching operations freight trains often back over the crossing without first protecting it by a flagman. A count was made under the direction of the city police, and the results submitted at the hearing, which shows that on Saturday, November 2, 1912, between 7 a. m. and 6 p. m., 265 vehicles and 1,010 pedestrians used this crossing. Witnesses testified that a parochial school having an attendance of about 125 pupils is located south of this crossing, and that about half of these pupils cross the tracks several times a day at Second street East. The testimony shows that a number of serious accidents have occurred at this crossing, and since the hearing the chief of police of Ladysmith has informed the Commission of a recent fatal accident there. The engineer of the Commission reports that general operating conditions and the location of the crossing with respect to yard tracks, switches and wye tracks makes bell protection impracticable there.

Crossing at Second Street West.

The testimony shows that Second street West runs north and south and crosses four tracks which run approximately east and west. From the south approach on the highway a fair view of the tracks in both directions may be had, but from the north approach the view in both directions is cut off by warehouses which abut the tracks. Witnesses stated that it is not possible to see the main track in either direction until almost on the side-track within fifteen or twenty feet of the main track. Our engineer reports that from a point in the highway one hundred feet north of the main track, a view of the tracks for one hundred and fifty feet in each direction may be had. The train movements over this crossing are similar to those described with reference to Second street East. It appears from the testimony that during switching movements it is frequently true that trains pass each other moving in opposite directions over the crossing. Moreover, it was pointed out by witnesses that in switching, freight trains often back over the crossing without protecting it by a flagman. A count of the traffic over the highway, taken under the direction of the police authorities and submitted at the hearing, shows that on November 2, 1912, between 7 a. m. and 6 p. m. 208 vehicles and 695 pedestrians used this crossing.

The testimony shows that a number of school children are obliged to cross the tracks at this point on their way to and from school. Several serious accidents at this crossing were reported at the hearing, and since the hearing the chief of police of Ladysmith has directed the attention of the Commission to a more recent accident there. The Commission's engineer reports that the situation at this crossing is very similar to that at Second street East, and for the same reasons as those expressed with regard to that crossing, he states that bell protection is impracticable at Second street West.

Crossing at Miner Avenue.

The testimony shows that Miner avenue is an east and west street which crosses a main track and three sidetracks of the respondent's line running northwest and southeast. From the east approach the view of the tracks to the north is obstructed by a hotel which is located about one hundred feet from the tracks. The view to the south is obstructed by a livery barn. In both directions box cars on the house track frequently obstruct the vision. From the west approach the view of the tracks to the south is obstructed by the freight depot, but the view to the north is unobstructed. The engineer of the Commission reports that traffic over Miner avenue is fairly heavy. There are four regular train movements over this crossing, and numerous switching movements. The testimony shows that freight trains frequently back over the crossing without protecting it by a flagman. It was shown at the hearing that Miner avenue is used regularly by a number of school children attending a public school located near the tracks between Peterson and Lake avenues. About 325 pupils attend this school and about three hundred of these, ranging in age from six to eighteen years, cross the tracks several times a day at either Peterson, Lake, or Miner avenues. The Commission's engineer reports that Miner avenue is so located with reference to the freight yards as to occasion frequent switching movements over it, a condition which makes bell protection impracticable.

Crossing at Lake Avenue.

The testimony shows that Lake avenue runs east and west intersecting two tracks of the respondent's line which run north-

west and southeast. The chief point of danger is the west approach, from which the view of trains approaching from the south is obscured by warehouses, the view of trains from the north by a coal shed, and the view in both directions at times by box cars standing on the sidetrack. Traffic over the crossing was said to be fairly heavy. As pointed out with reference to Miner avenue, a public school is located near Lake avenue and a large number of young children regularly use this crossing on their way to and from school. Witnesses stated that there is considerable switching done over this crossing and that trains frequently back over the crossing without its being protected by a flagman. The Commission's engineer reports four regular train movements in addition to numerous switching movements over this crossing. He states that the situation is similar to that described at Miner avenue and that bell protection is impracticable.

The four crossings considered in this proceeding fall into two groups. The situation at Second street East and Second street West is substantially the same. Both of these crossings are located on the respondent's line between St. Paul and Sault Ste. Marie. In view of the heavy traffic over the crossings, the numerous tracks and the obstructions to the view of travelers on the highways of approaching trains, we find each of these crossings to be unusually dangerous and to require some form of protection. Because of the numerous tracks and the large amount of switching done, it appears necessary to protect these crossings by flagmen. The traffic is such that, at present, day protection appears to be sufficient. The situation at Miner avenue and Lake avenue is somewhat less complicated. These crossings are located on the respondents' line between Superior and Milwaukee. Fewer tracks are crossed and the traffic over both railroad and highways is less than that obtaining at the other crossings considered. However, the location of these crossings with reference to the freight yards is such that a large amount of switching is done over them. This fact, taken with the serious obstructions to the vision noted in the testimony, and the further fact that they are so located as to be regularly crossed by a large number of young school children, makes it clear that these crossings are more than ordinarily dangerous. Because of the numerous switching movements and the frequent use of the crossings by children, we believe that the best protection to the

traveling public will be secured by stationing flagmen there. In view of the nature of the traffic, day protection is regarded as sufficient at the present time. An order will therefore be entered providing protection by flagmen at the four crossings under consideration. It appears that the crossing situation at Ladysmith has been somewhat neglected in the past, and that the city's growth has been much in advance of the crossing protection accorded it. The population of Ladysmith in 1910 as given by the census was 2,253 and an estimate by the mayor of the present population places it at not less than three thousand. With these facts in mind, we believe that the present order, while it may appear somewhat sweeping at first glance, is fully justified.

IT IS THEREFORE ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, station at each of the four grade crossings of its tracks with Second street East, Second street West, Miner avenue and Lake avenue in the city of Ladysmith, a flagman whose duty it shall be to warn travelers on the highway of the approach of trains between the hours of 6:30 a. m. and 6:30 p. m.

IN RE APPLICATION OF THE CITY OF VIROQUA FOR AUTHORITY
TO INCREASE RATES.

Decided Jan. 17, 1913.

Application was made by the city of Viroqua, Wis., for authority to make certain modifications and additions to the schedule for water service.

Held: The rates applied for appear reasonable and the applicant is authorized to put in effect the schedule as submitted.

Petition of the city of Viroqua was dated December 17, 1912, and shows that the city is engaged as a public utility in the business of supplying water to its inhabitants, and that the lawful rates in effect at the time of filing the application were as follows:

FLAT RATES.

Private residences	\$5.00	per year
Each barn, not exceeding 5 head of stock	2.00	" "
For each additional head of stock .....	.50	" "
Each additional orifice	2.00	" "
Flushing closets or urinals, each, private	2.00	" "
Sprinkling lawns with hose	5.00	" "
Stores and business places	5.00	" "
Offices	5.00	" "
Barber shops	5.00	" "

METER RATES.

When the daily consumption is less than 1,000 gallons per day, 25 cts. per thousand gallons.

When the consumption is over 1,000 gallons per day, 15 cts. per thousand gallons.

Although not so stated in the application, there is a minimum charge of \$5 per year in connection with the meter rates.

It appears that some time prior to the date of filing the application the city made certain changes in its schedule of rates by the addition of rates for certain purposes and by adjusting its schedule of meter rates in such a way that the charges to some consumers were thereby increased. The only changes in flat rates

appear to have consisted of the addition of rates for purposes not specified in the original schedule.

Following is the schedule of rates which the utility has been charging for some time past and which it asks to have established as the legal rates:

FLAT RATES.

Private residences, one family	\$5.00
Each barn with not exceeding 5 head of stock	2.00
For each additional head of stock .....	.50
Each additional orifice	2.00
Flushing closets or urinals, each private	2.00
Sprinkling lawns with hose	5.00
Stores and business places	5.00
Offices	5.00
Barber shops	5.00
Building purposes per 1,000 brick, wetting and making mortar .....	.10
Building purposes, stone per cord .....	.10
Building purposes, per 100 square yards of plastering....	.25
Building purposes, including walls, walks and gutters, cement and concrete work, per square yard .....	.02
Filling cisterns and tanks for 25 bbls. or less	1.00
Each additional 25 bbls. ....	.75

METER RATES.

- For the first 1,000 cubic feet or fraction thereof used in six months at 30 cts. per 100 cubic feet.
- For an additional 1,500 cubic feet or fraction thereof used in six months, at 20 cts. per 100 cubic feet.
- For an additional 10,000 cubic feet or fraction thereof used in six months, at 15 cts. per 100 cubic feet.
- For an additional 50,000 cubic feet or fraction thereof used in six months, at 10 cts. per 100 cubic feet.
- For an additional 100,000 cubic feet or fraction thereof used in six months, at 9 cts. per 100 cubic feet.
- For all in excess of 162,500 cubic feet consumed in six months, at 7½ cts. per 100 cubic feet, provided, however, that the minimum meter rates shall be \$3.00 for each six months per residence when such residence contains or is occupied by one family.

As the flat rates which are added to the original schedule by the schedule now actually in effect consist of rates for new classes of service, it does not appear necessary to take any action with reference to them. An analysis of the meter rates shows

that they constitute an increase to some extent, but that such increase is not so great as to be a matter of serious import. In view of the fact that the utility has been actually operating under a schedule which it seeks to have authorized, and that such schedule appears to have given general satisfaction without resulting in injustice to any class of consumers, and without yielding an excessive revenue, it seems that the schedule as stated above should be authorized and,

THE APPLICANT, the city of Viroqua, IS THEREFORE AUTHORIZED to put in effect the schedule asked for in the application and as shown above in this decision.

POST B. WISCONSIN DIVISION, TRAVELERS PROTECTIVE
ASSOCIATION OF AMERICA,

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Sept. 4, 1912. Decided Jan. 24, 1913.

Petitioner alleges that a passenger station located between the main station, Milwaukee, Wis., and the northern city limits is essential to reasonably adequate service for the northern section of the city.

Held: The passenger facilities are required to provide adequate service for the district in question. The respondent is ordered to build a suitable shelter shed and platform or a station, at its option, between North Ave. and Folsom st. It is further ordered that the respondent stop at this station trains Nos. 131 and 133 leaving Milwaukee at 7:00 a. m. and 7:50 a. m., respectively, and trains Nos. 216 and 220 arriving at Milwaukee at 7:10 p. m. and 8:35 p. m., respectively.

The petition alleges in substance that, although the respondent maintains two minor stations within the city limits of Milwaukee south of its main station at the foot of Wisconsin street, it provides no platform or stopping place for passenger trains within the distance of more than three miles between the main station and the northern city limits. It sets forth that about half of the population of Milwaukee resides north of Wisconsin street and its west extension, and that more than half of the regular patrons of trains passing north from the main station are residents of this district. It further alleges that a passenger station located between the main station and the northern limits of the city is essential to reasonably adequate service for the northern section of the city. The Commission is therefore asked to require the respondent to provide the necessary station facilities.

The respondent, in its answer, alleges that there is no necessity whatever for a station within the city limits of Milwaukee north of Wisconsin street and that the installation of such a station is impracticable because its tracks are depressed through the district in question, and for much of the distance are on a curve making the stopping of trains dangerous. It therefore asks the dismissal of the petition.

A hearing was held on September 4, 1912, at the city hall in Milwaukee. *Gill & Barry*, by *T. H. Gill*, appeared for the petitioner, and *W. G. Wheeler* for the respondent.

The testimony shows that thirteen wards of the city of Milwaukee are located north of Wisconsin street and Grand avenue, including a population of 208,766, and that a population of about 1,500 resides adjacent to the northern city limits. The respondent's line northward from the main city depot at the foot of Wisconsin street traverses a distance of about three miles, within the city limits, through the Third, First and Eighteenth wards lying east of the Milwaukee River. No station facilities are provided north of the main depot within the city limits. South of the main depot, however, a station is maintained at National avenue, and in the southwestern part of the city another is located at Layton Park.

Persons traveling on the respondent's line who live in the district north of the main depot are obliged to ride several miles by street car in going to and from the main depot. In most cases it is necessary for such persons to transfer in order to reach the depot, a condition which makes travel slow and inconvenient, especially at those times of the day when the street car traffic is heaviest. Officials of the Travelers Protective Association and the United Commercial Travelers asserted that at such times a large number of their members arrive and leave on trains. They stated that about 850 of the members of these two organizations, as well as a considerable proportion of 1,000 non-affiliated traveling men, live in the district which would be directly benefited by the installation of a station as sought in the petition. The respondent's general manager testified that the arrangement of the street car lines is such as to converge toward the business district, and that for this reason it would take less time to go to the Wisconsin street depot from most points on the north side than it would to go to one of the proposed locations for the new station.

Through the district in question the tracks are in a depression, which varies from twenty to twenty-six feet in depth and which was constructed wide enough for four tracks, although only three are now laid. The roadbed is on a considerable curve for a large part of the distance. A railroad engineer, testifying for the petitioner, asserted that a shelter, such as the petitioners desire, could be located at the Folsom street bridge. The bridge could

be used as a shelter and access to the same could be had by a platform and stairway leading down into the excavation. He also described another location at a foot bridge constructed over the tracks to River Park as practicable. He estimated the cost of the desired improvements at about \$350.

Objection was raised to the proposed stopping of trains at any point in this district by the general manager of the respondent on the ground that the trains would be used instead of the street cars by people moving back and forth. Such use of trains, he said, would inconvenience regular passengers and delay traffic. He further pointed out that it would be difficult to collect fares in view of the short distance traveled and the large number of passengers usually carried on the trains. But if this objection were valid it would also be a ground for discontinuing the stopping of trains at Allis, Layton Park, and West Allis. In fact, in every large city where more than one station is maintained the same contention could be made. But when we stop to consider that the distance between stations in the rural districts is sometimes no greater than that between the proposed station and the main depot and that the territory served in such districts is not to be compared in density of population and traffic with the section of the city here involved, we realize that mere distance is not and should not be the controlling factor in determining the location of stations, but that the convenience of the public must be the important consideration in such determination. From an operating standpoint numerous stops are undesirable and cause delay in the movement of trains. It is impossible to maintain fast schedules if trains are obliged to stop at short intervals. It is, therefore, in the interest of the general traveling public that the stations be limited to such a number as are required to reasonably accommodate the public. In the very nature of things, all who require railway facilities cannot be equally accommodated because all are not similarly situated. Nevertheless, in large cities, such as Milwaukee, it would be unreasonable to require all citizens to go to one station to take trains. The distances many would have to travel to make the station would often be prohibitive of the service. Early and late trains arrive and depart when street cars are not in operation and, hence, such trains would not under ordinary circumstances be available to persons residing several miles from the depot.

The respondent's chief engineer testified that at North avenue, Bradford street and Folsom street the construction of a station would involve the acquiring of additional land by the respondent. He said that the depression had been made wide enough for four tracks and that the room should not be encroached upon. He stated that the placing of a station and platform in the depression, as proposed by the petitioner, would involve the realignment of the tracks at a considerable expense. He also asserted that the stopping of trains at either of the three points mentioned would be dangerous because of the curvature of the tracks and the obstruction to vision offered by the smoke which often hangs low in the depression. This contention, however, is not sustained by the engineers of the Commission who have investigated the matter and report that there are no serious difficulties involved from the standpoint of operation, as the line is protected by block signals. Nor does it appear that it would be necessary to sacrifice the place for four tracks which it is claimed will be required eventually.

It was also suggested that the installation of any kind of a station in this district would probably mean eventually the provision of all the usual station conveniences, since the limited facilities asked for in the present case, while they might be satisfactory to commercial travelers, would fail to satisfy the traveling public to whom the station would have to be open for use. An adequate station at Folsom street, it was said, would cost about \$30,000, including \$5,000 for the necessary realignment of the tracks.

We do not deem it advisable to speculate as to future requirements. If the time should ever come that station facilities were needed at the point in question it would be incumbent upon the railroad company to supply them. At present no station building is asked by the petitioner, nor would the existing conditions warrant the establishment of one. All that the petition seeks is a plain platform with an unheated shelter, and that two trains which leave Milwaukee at 7 a. m. and 7:50 a. m. be stopped there on both their northbound and southbound trips.

A shelter shed with a platform could be placed on both sides of the track at Bradford Street at a cost of approximately \$5,000 according to respondent's estimate. A witness for the petitioner placed the cost as low as \$350. In any event, the

cost is not of sufficient magnitude to be a decisive factor in reaching a determination.

The further objection, that it would be difficult to properly police a structure of this kind in the depression, is hardly a valid excuse for refusing the service and convenience, if otherwise justified. That is a detail of operation devolving upon the management and city officials.

It is the judgment of the Commission that when the accommodation is weighed against the relative small expense of installing the structure and the slight delay occasioned in the stopping of two trains daily each way, the request of the petitioner is not at all unreasonable and should be granted. Reasonably adequate service requires that the company establish a station at some point between North avenue and Folsom street for the convenience of the public.

NOW, THEREFORE, IT IS ORDERED:

1. That the Chicago & North Western Railway Company build a suitable shelter shed and platform, or station, at its option, between North avenue and Folsom street in the city of Milwaukee.

2. That trains designated in the company's passenger schedules as of December 1, 1912, as No. 131 leaving Milwaukee at 7:00 a. m., No. 133 leaving Milwaukee at 7:50 a. m., No. 216 arriving at Milwaukee at 7:10 p. m., and No. 220 arriving at Milwaukee at 8:35 p. m. be stopped at this shelter shed and platform.

Owing to the season of the year, June 1, 1913, will be considered a reasonable time within which to comply with this order.

CITY OF MILWAUKEE

vs.

THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY.

Decided January 24, 1913.

Improvements in the service of the T. M. E. R. & L. Co., Milwaukee, Wis., are under consideration following the decision in regard to rates of fare (10 W. R. C. R. 1). Changes in the route of certain car lines and the construction of new lines on other streets is necessary for permanent good service. It was recommended that the city grant the necessary franchises.

Held: Until the franchises are obtained and the desired tracks constructed, some temporary improvements in service are necessary. Attention is called to inadequate car signs and an order in the matter will be issued unless proper signs are provided showing the route and destination of each car. Recommendations are made in regard to details of operation and it is ordered that a man be stationed at each of the points designated between 5 p. m. and 6:30 p. m., except on Saturday and Sunday, to admit passengers through the front doors of P. A. Y. E. cars and to otherwise assist in loading cars and facilitating car movements. The order and recommendations are made for the purpose of improving the situation so that more cars may be operated during the rush period without unduly increasing the congestion at busy corners. Orders covering requirements for additional cars will be issued as the details are worked out for the various lines.

SUPPLEMENTARY ORDER.

On August 23, 1912, the Commission rendered a decision on the rate of fare in the above entitled case while the order on service was reserved for a later decision.

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. This has not yet been done.

In order to secure some measure of relief from overcrowding

and to facilitate car movement in congested territory until such time as these franchises can be obtained and the tracks constructed, it will be necessary to issue orders from time to time which it is believed will result in temporary improvement to the service.

It is believed that the situation can be improved materially by attention, on the part of the company, to certain details in operation, and it is in connection with these details that this order is issued.

Observations taken of the movement of cars in the down-town district during the period from 5:00 p. m. to 6:30 p. m. show that much of the delay is due to the length of time required to load passengers at points where many desire to board one car. If these points are on streets over which two or more car lines operate any delay on one of the lines often results in impeding the movement of cars on the other lines on that street, even when no passengers are boarding cars on those other lines. Anything that can be done to reduce the time required for loading a car at these points by even a fraction of a minute will result in a total saving of a large amount of time when applied to all the cars that are being delayed by that one car.

Observations show that a car is frequently held for two minutes or two and one-half minutes at a busy corner while passengers are boarding. All other cars immediately behind this one must necessarily wait all this time even though there may be no passengers desiring to board them. The following facts are deduced from these observations:

1. There is no point in the down-town district where there is very heavy discharging of passengers during the period from 5:00 p. m. to 6:30 p. m. This means that the front door is not in use during the greater part of the time that heavy loading is in progress.

2. After the seating capacity of the car has been reached passengers boarding who are required to stand do not readily move towards the forward part of the car. Very often the rear half of the car is so crowded that persons desiring to board find it impossible to do so, even though the forward half of the car could accommodate a number of persons with very little discomfort.

3. When the capacity of the car has been reached, or when such a large portion of the load is concentrated on the rear plat-

form or in the rear part of the car that no more passengers can get aboard at the rear entrance, persons who desire to board very often stand on the rear step making it impossible for the conductor to close the door. This causes the car to be delayed unnecessarily.

4. Often the cars leave the busy corners with the forward half only partly filled with passengers and the rear platform so crowded that it is impossible to take on occasional passengers who desire to board after the congested district has been passed, often making it necessary to pass by these passengers, even though there may be plenty of room in the car to accommodate them.

5. If the load could be more evenly distributed in the front and rear parts of the car there would be considerably less discomfort for a given number of passengers per car. It is believed that the time required in loading of passengers can be reduced materially at certain points in the down-town district during the evening rush hour, by the placing of men at these points whose duties shall be as follows:

a. To admit passengers to the pay-as-you-enter cars through the front doors.

b. To direct such a number of prospective passengers to the front entrance that the time consumed in loading shall be a minimum.

c. To assist in closing the front and rear doors as soon as all passengers are aboard, or to assist in inducing persons to clear the steps in case it is impossible to board the car.

d. In cases where a large number of persons desire to board one car and there is another car waiting which will take them to the same destination, these men should divide the crowd after a reasonable number have boarded the first car, close the doors allowing the car to proceed, and load the passengers on the following car.

e. To perform other duties such as throwing switches etc., which will facilitate the movement of cars.

As a result of a conference between representatives of the Commission and officers of the street car company, men with duties as outlined above were stationed at several of the busy corners for several weeks during the latter part of 1912 and the early part of January, 1913. Observations made by members of the Commission's staff during that period indicated that

where these men were active and energetic excellent results were obtained.

The congestion at some of the down-town street intersections is due to several causes, of which the slow loading of passengers is only one. After a conference between representatives of the Commission and officers of the company at which ways and means for betterment of the service were discussed, supervisors were placed at several of the congested corners in the down-town district to assist in the handling of traffic. Members of the Commission's staff have watched the results of this expedient and the Commission recommends that these supervisors be retained at these busy corners.

Observations indicate the need of a superintendent of transportation in the down-town district between the hours of 5:00 p. m. and 6:30 p. m. It is therefore recommended that the superintendent or an assistant with authority over trainmen, supervisors and car movements should be on the streets in the down-town district during the hours above mentioned. He should keep himself advised of conditions on the entire system in order that such steps as are necessary may be taken to facilitate the movement of traffic through the down-town district.

Observations by members of the Commission's staff show that a great deal of confusion and loss of time result from the practice of loading passengers at points on the down-town streets other than at regular loading points. It is therefore recommended that passengers be permitted to board cars only at the regular loading point or within one car length thereof.

It is very desirable to find some means of relief for the car congestion at Third and State streets until such time as some rerouting can be accomplished. It is the belief of this Commission that as little loading should be done at this corner as possible and it is therefore recommended that passengers desiring to board northbound cars on the lines operating on West Water Street be required to enter while these cars are still on West Water Street and that no boarding of these cars be permitted at State street after they have turned into Third street.

Observations made by members of the Commission's staff as to adequacy of signs displayed on this company's cars in Milwaukee have shown that in many instances the signs are misleading, indefinite, poorly maintained, improperly displayed or entirely lacking. A car southbound on Reed street marked "West Allis"

may be routed either via Burnham or via National avenue. Cars northbound at Third and State street marked "35th st." may be scheduled to go by either one of two or three routes. Cars northbound on Third street marked "Center Only" may be scheduled to go by either one of two or three routes. There are other instances of a similar nature, and in none of these cases can a patron tell while the car is approaching which route it will take.

These are only a few examples of the many defects in the signs carried by this company's cars. It is believed that no car should be operated without having adequate destination signs as well as adequate and conspicuous signs plainly showing the route upon which the car is operating.

It is the purpose of this Commission to issue an order on this subject unless conditions are materially improved within the next few days.

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. Orders covering requirements for additional cars will be issued by the Commission as the details can be worked out for each line.

These matters have been delayed with the expectation that franchises would be granted which would permit of permanent relief, but conditions have become such that action can no longer be delayed.

IT IS THEREFORE ORDERED, That the Milwaukee Electric Railway and Light Company take the following steps to improve the street car service in the city of Milwaukee until such time as this order may be rescinded by the Commission.

Between the hours of 5:00 p. m. and 6:30 p. m. every evening except Saturday and Sunday, an active, energetic man, whose duties it will be to admit passengers through the front doors of pay-as-you-enter cars and otherwise to assist in loading cars and

facilitating car movements, shall be stationed at each of the following points:

At Third and State streets to load northbound cars.

At Third and Grand Avenue to load northbound cars.

At Third street and Grand avenue to load westbound cars.

At West Water street and Grand avenue to load northbound cars.

At Reed street and National avenue to load southbound cars.

This order shall take effect immediately.

CITY OF MILWAUKEE

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY,
CHICAGO AND NORTH WESTERN RAILWAY COMPANY,
THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY.

Decided Jan. 25, 1913.

The city of Milwaukee asks for protection by grade separation for crossings in the southeastern section of the city on the Madison and Wisconsin divisions of the C. & N. W. Ry. and the Chicago division of the C. M. & St. P. Ry. Grade separation ordered in a former decision (9 W. R. C. R. 193) has not been completed.

Held: Certain crossings under consideration require additional temporary protection until grade separation is completed. The required protection is specified in the order for Second and Clybourn streets, National ave., Mineral st., Washington st. and Greenfield ave. on the C. M. & St. P. Ry., and National ave., Mineral st., Washington st., Greenfield ave. (Madison div.), Maple st. and Erie st. on the C. & N. W. Ry.

In a petition dated February 21, 1910, the city of Milwaukee, by its common council, prays this Commission for an order directing the Chicago, Milwaukee & St. Paul Railway Company and the Chicago & North Western Railway Company to separate the grades of their tracks from the grades of the public thoroughfares at Greenfield avenue, Washington street, Mineral street, National avenue, Florida street, Clinton street, Oregon street, Lake street, South Water street, West Water street, Reed street, and Hanover street, all lying within the corporate limits. The petition alleges that public safety requires an alteration in the crossings and the separation of the grades of the several streets from the grades of the tracks.

Grade separation has been provided for in an order made May 20, 1912 (9 W. R. C. R. 193), work to begin not later than July 1, 1912.

Investigation shows that public safety requires additional temporary protection at certain of the crossings under consideration until such time as grade separation has been completed.

An examination of the crossings on the Chicago division of the Chicago, Milwaukee & St. Paul Railway Company in the district where track elevation has been ordered reveals the following conditions:

2nd and Clybourn streets. Second street crosses 7 tracks and Clybourn street crosses 6 tracks of the Chicago, Milwaukee & St. Paul Railway Company. These streets intersect almost on the tracks. Traffic on these crossings is protected by gates and a flagman during the day. During the night, traffic at both crossings is protected by one flagman. Observations of traffic over the crossings were taken on two evenings from 7:00 p. m. to 12:15 and from 8:00 p. m. to 12:30 respectively. Statistics show that traffic is heavy on both of these crossings during the night as well as during the day. It is impossible for one flagman to protect traffic on both of these crossings. There are many train movements over the crossings, and conditions are such that there may be simultaneous train movements over the crossings; and the wide territory one man would have to cover to properly protect traffic makes it perfectly obvious that further protection is necessary.

National avenue. National avenue crosses the double track main line of the Chicago, Milwaukee & St. Paul Railway Company. Traffic is protected by flagman twelve hours daily except Sunday. All traffic to the Chicago, Milwaukee & St. Paul Railway Company's depot at Allis, to the river front and to Jones' Island must pass over this crossing. The Chicago & North Western Railway Company considers it necessary to protect the crossing of their west tracks and main line tracks with National avenue twenty-four hours daily. It is therefore considered necessary to protect night traffic on this crossing.

Mineral street. Mineral street crosses the double track main line and a spur track of the Chicago, Milwaukee & St. Paul Railway Company. Traffic is protected by a flagman from 6 a. m. to 6 p. m. Traffic on the main line of the Chicago & North Western just east is protected night and day by a flagman. Traffic on the Chicago & North Western Railway Company's crossing is no heavier than that on the Chicago, Milwaukee & St. Paul Railway Company's crossing. It is therefore considered necessary to protect night traffic.

Washington street. Washington street crosses three tracks of the Chicago, Milwaukee & St. Paul Railway Company and

seven tracks of the Chicago & North Western Railway Company. The crossing is between the throats of two railroad yards and lies near the intersection of the Chicago, Milwaukee St. Paul, and the Chicago & North Western railway companies' tracks. Traffic over this crossing is very heavy. On account of the number of tracks crossed, the location of the crossing between two railroad yards and the heavy traffic, this is regarded as a particularly dangerous crossing. Traffic is protected by gates operated from 7 a. m. to 6 p. m. The gateman is assisted by a flagman who works from 7 a. m. to 6 p. m. Conditions are such that night traffic should be protected. It is difficult for a flagman to see trains approaching this crossing from the south. Night gate protection is therefore considered superior to night flagman protection.

Greenfield avenue. Greenfield avenue crosses nine tracks of the Chicago, Milwaukee & St. Paul Railway Company. Traffic is protected by flagman from 7 a. m. to 6 p. m. Greenfield avenue crossing with the Madison division tracks of the Chicago & North Western is protected by flagman twenty four hours daily. Traffic on the Chicago & North Western Railway Company's crossing is no heavier than that on the Chicago, Milwaukee & St. Paul Railway Company's crossing. It is therefore considered reasonable that the Chicago, Milwaukee & St. Paul Railway Company protect this crossing by flagman twenty-four hours daily (Sunday included). If this crossing were to remain a grade, gate protection would be preferable to protection by flagman. It is difficult for a flagman to protect traffic crossing nine tracks. It is therefore suggested that the Chicago, Milwaukee & St. Paul Railway Company instruct their switching crews to pay particular attention to flagging switching movements over this crossing, and to instruct their flagman of the great necessity of carefully guarding traffic on the street.

An examination of the crossings on the Madison and Wisconsin divisions of the Chicago & North Western Railway Company in the district where track elevation has been ordered reveals the following conditions:

National avenue. National avenue crosses five yard and industry tracks west of the main line, the double track main line and fifteen tracks east of the main line, a total of twenty-two tracks. The five tracks west of the main line are protected by flagman twenty-four hours daily; but the night flagman is required to throw certain switches in the vicinity of the crossing.

This practice of requiring the night flagman to throw switches should be discontinued. The main line tracks are protected by flagman twenty-four hours daily. The fifteen tracks east of the main line are protected by a flagman, working twelve hours daily. There is considerable night traffic over this crossing. It is absolutely impossible for one flagman to protect traffic crossing fifteen tracks, covering a strip of land three hundred feet in width. Conditions are such that it is possible to have simultaneous train or switching movements over this crossing at points approximately three hundred feet apart. Further, it is impossible for this flagman to get an unobstructed view of trains approaching this crossing on all of the fifteen tracks. All switching movements are not flagged over this crossing. Further, flagmen spend considerable time in their shanties when they should be out on the crossing watching for signs of approaching trains. All of which shows that additional temporary protection is necessary.

Mineral street. Mineral street crosses two main line tracks and six sidetracks of the Chicago & North Western Railway Company. Traffic is protected by a flagman twenty-four hours daily. This flagman, however, does not flag traffic across the six sidetracks. During the period of observation several switching movements were not flagged over the crossings by the switchmen. Judging from conditions as noted on the ground, traffic on the street is not protected against train or switching movements on the six sidetracks crossing the streets. Additional temporary protection is therefore necessary.

Greenfield avenue—Madison division. Greenfield avenue crosses sixteen Madison division tracks of the Chicago & North Western Railway Company. Traffic is protected by a flagman twenty-four hours daily. This flagman, however, only flags traffic across the main line tracks. During the period of observation, it was noted that neither the switchmen nor the flagmen flagged switching movements on the remaining tracks. Additional temporary protection is therefore necessary. It is absolutely impossible for one man to protect traffic on this crossing. If this crossing were to remain at grade, gate protection would be preferable to protection by flagman. It will be difficult for two flagmen to protect traffic crossing sixteen tracks. It is therefore suggested that the Chicago & North Western Railway Company instruct their switching crews to flag switching movements over this crossing.

and to instruct their flagmen of the great necessity of carefully guarding traffic on the street.

Maple street. The tracks of the Madison division of the Chicago & North Western Railway Company are elevated at Maple street and the street has been closed east of the railway company's west right of way line. It is possible to reach the tracks at the foot of Maple street by climbing up the side of the railway embankment. An accident occurred at this point, December 12, 1912, to men trespassing on the right of way, in which one man was killed and two injured. The railway company has failed to provide a fence along its west right of way line and it is suggested that the Chicago & North Western Railway Company fence its right of way at the foot of Maple street.

Eric street. Traffic on the Eric street crossing is protected by flagmen twenty-four hours daily. These flagmen also throw switches in the vicinity of the crossing. The practice of compelling these flagmen to throw switches should be stopped immediately. The flagman's place is on the crossing. It is estimated that teams en route to and from the city garbage disposal plant pass over this crossing 1,700 times per day. It is therefore evident that it is very necessary that the flagmen give their entire time and attention to the protection of the street traffic. If it is inconvenient for switchmen or trainmen to throw the switches in the vicinity of the crossing, the railway company should provide a switch tender for that purpose.

NOW, THEREFORE, IT IS ORDERED: That the Chicago, Milwaukee & St. Paul Railway Company provide the following additional temporary protection:

1. 2nd and Clybourn streets: Night traffic on this crossing is to be protected by gates instead of by flagman as at present.
2. National avenue: This crossing is to be protected twenty-four hours daily by a flagman.
3. Mineral street: Traffic over this crossing is to be protected by a flagman from 6 p. m. to 6 a. m. daily.
4. Washington street: Traffic over this crossing is to be protected by a flagman from 6 p. m. to 7 a. m. daily.
5. Greenfield avenue: This crossing is to be protected by a flagman from 6 p. m. to 7 a. m. daily.

That the Chicago & North Western Railway Company provide the following additional temporary protection:

1. National avenue: One additional day flagman and two night flagmen are to be placed on duty, daily, for the purpose of flagging traffic across the fifteen tracks east of the main line. The night flagman who protects traffic at the crossing of National avenue with the tracks west of the main line is to be relieved of the work of throwing certain switches in the vicinity of the crossing.
2. Mineral street: One additional day and one additional night flagman are to be stationed at this crossing. In other words, this crossing shall be protected twenty-four hours daily, by two day flagmen and two night flagmen.
3. Washington street: The gates at this crossing shall be operated from 6 p. m. to 7 a. m. daily.
4. Greenfield avenue (Madison division): One additional day and one additional night flagman are to be stationed at this crossing. In other words, this crossing shall be protected twenty-four hours daily, by two day flagmen and two night flagmen.
5. Maple street: It is suggested that the Chicago & North Western Railway Company fence its west right of way line at the foot of Maple street.
6. Erie street: The flagmen at this crossing are to be relieved from the work of throwing certain switches in the vicinity of the crossing.

Ninety days is considered to be a reasonable time within which to comply with this order.

CITY OF MILWAUKEE

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY,
THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY.

Decided Jan. 25, 1913.

The city of Milwaukee prays for an order requiring the C. M. & St. P. Ry. Co. to provide grade separation for the crossings on the Northern division of the C. M. & St. P. Ry. between Thirty-fifth st. and Fond du Lac ave. Plans for grade separation are being considered.

Held: Additional temporary protection is required for certain of the crossings until grade separation is provided. The required protection is specified in the order for Center st., Clark st., Brown st., Walnut st., and Cherry st.

In a petition the city of Milwaukee, by its common council, prays this Commission for an order directing the Chicago, Milwaukee & St. Paul Railway Company to separate the grades of their tracks from the grades of the public thoroughfares at Western avenue (Thirty-Fifth street), Vliet and Thirty-Third streets, Cherry street, Galena street, Walnut street, Lisbon avenue, Brown street, North avenue, Wright street, Clark street and Center street.

Hearing was held at the city hall in the city of Milwaukee January 19, 1910. *John T. Kelley* appeared for the city of Milwaukee, *H. J. Killilea* for the Chicago, Milwaukee & St. Paul Railway Company, *McGee & Jeger* for the Northwest Side Manufacturers & Shippers Association, and *C. M. Rosecrantz* for The Milwaukee Electric Railway & Light Company. This hearing was continued on May 16, 1910, and May 19, 1910, and May 31, 1910, at the city hall in the city of Milwaukee.

The industries located along the line complain that track depression, in accordance with plans for grade separation submitted by the city will disable them in the conduct of their business. The railway company maintains that the plans submitted by the city are not feasible. Therefore a survey of this territory has been made by the Commission's engineers and the problems involved are now under consideration.

An examination of conditions surrounding the crossings included in the petition shows that public safety requires additional temporary protection until the work of grade separation has been completed.

These crossings lie in a populous district of the city of Milwaukee and hence traffic on the thoroughfares is heavy. On account of the location of many industries along the tracks, there are many switching movements in addition to the main line train movements over these crossings. The location of industrial plants close to the tracks obscure the view of trains approaching the crossings. All these conditions contribute to make additional protection very necessary.

The crossings involved are on the Northern division of the Chicago, Milwaukee & St. Paul Railway, from Thirty-fifth street to Fond du Lac avenue. Starting from north and working south along the line, the streets will be considered in order:

Center street crosses the double track main line and a storage track and an industry spur. Traffic is protected by gates operated from 6:40 a. m. to 7:40 p. m. daily. Several accidents, none of which were fatal, have been reported to have occurred at this crossing during the hours when no protection was provided. It is considered necessary to protect night traffic over this crossing.

Clarke street: This crossing has been legally opened across the tracks of the Chicago, Milwaukee & St. Paul Railway Company. The railway company has failed to plank the crossings, or to provide walks or proper street approaches across its right of way. Many children were observed to use this crossing. Planking, walks and proper street approaches should be provided to enable a quick, safe passage across the tracks. A flagman should be provided for the protection of the children who use this crossing.

Brown street: This street crosses four tracks. Traffic is protected by gates operated from 6:40 a. m. to 7:40 p. m. daily. Vehicular traffic over this crossing is heavy during the time when the gateman is not on duty. Night flagman protection is considered necessary.

Walnut street: Two main tracks and an industry spur are crossed by Walnut street. Traffic on the crossing is protected by gates operated from 6:40 a. m. to 7:40 p. m. daily. The territory a short distance on either side of the tracks is thickly

settled. It is, therefore, considered necessary to operate the gates at this crossing during the night.

Cherry street: Two main line tracks are crossed by Cherry street. Traffic is protected by flagman from 6:40 a. m. to 7:20 p. m. Many automobiles use this crossing en route to Washington Park. Street traffic is heavy during the night, when the crossing is not protected. Night protection is therefore considered necessary.

NOW, THEREFORE, IT IS ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company provide the following additional temporary protection:

1. Center street: Operate the gates at this crossing from 7:40 p. m. to 6:40 a. m. daily.
2. Clark street: Plank the crossing and provide walks and proper street approaches across its right of way. A flagman is to be placed on duty at this crossing from 6:30 a. m. to 6:30 p. m. daily.
3. Brown street: The gates at this crossing are to be operated from 7:40 p. m. to 6:40 a. m. daily.
4. Walnut street: The gates at this crossing are to be operated from 7:40 p. m. to 6:40 a. m. daily.
5. Cherry street: A flagman is to be placed at this crossing from 7:20 p. m. to 6:40 a. m. daily.

Ninety days is considered to be a reasonable time within which to comply with this order.

CITY OF MILWAUKEE

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY,
THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY.

Decided Jan. 25, 1913.

The city of Milwaukee alleges that grade separation is necessary for the crossings along the "Beer tracks" at Humboldt ave. and north to Keefe ave. Plans for grade separation are being considered.

Held: Certain of the crossings require additional temporary protection until grade separation is provided. The respondent is ordered to furnish protection as specified for Humboldt ave. (south), North ave., Humboldt ave. and Locust st., Chambers st., Burleigh and Bremen sts., Fratney st., Auer ave., Booth st. and Concordia ave., and Keefe ave.

The city of Milwaukee has petitioned the Commission for grade separation along the "Beer tracks" at Humboldt avenue and north thereof to Keefe avenue. The city did not ask for immediate grade separation but did ask for immediate temporary protection.

Hearings were held February 16, 1912, and April 29, 1912, in the city hall at Milwaukee. *D. W. Hoan* appeared for the petitioner and *H. J. Killilea* for the respondents at both hearings. A third hearing was held July 5, 1912, in the city hall at Milwaukee. *Clifton Williams* appeared for the petitioner; *H. J. Killilea* appeared for the Chicago, Milwaukee & St. Paul Railway Company; *F. X. Boden*, *Carl Muscat* and *Edgar L. Wood* appeared for the interveners. (The industries located along the Chicago, Milwaukee & St. Paul Railway Company's tracks.)

The city presented plans for grade separation whereby the Chicago, Milwaukee & St. Paul tracks north of Holton street were to be depressed. The industries located along these tracks complained that track depression would disable them in the conduct of their business. The railroad company objected to the petitioner's plan of grade separation on account of the proposed track elevation south of Holton street, thus introducing a heavy grade south of the first Humboldt avenue crossing, and

on account of the difficulty of serving the industries from depressed tracks.

The problems of grade separation along this line are many and complex. Any general plan of grade separation can be recommended only after a careful study of all of the conditions involved. This study is now in progress but it will take some time to gather all the information that must necessarily be considered to arrive at the best solution of the problem.

An investigation of the conditions surrounding the crossings along the "Beer tracks" shows that additional temporary protection is necessary until grades are separated. Conditions at these crossings as observed on the ground or submitted at the hearings held in the case are as follows:

Humboldt avenue (south crossing): Humboldt avenue crosses the tracks where there are many train and switching movements. Traffic statistics gathered by the police department and submitted at the hearing held in this case are as follows:

Date.	Hours.	Trains.	Vehicles.	Pedestrians.
Dec. 6, 1911.....	8 a. m-8 a. m....	110	301	2,679
Dec. 7, 1911.....	8 a. m-8 a. m....	100	352	2,657
Dec. 8, 1911.....	8 a. m-8 a. m....	111	323	2,878

The above results show that traffic on this crossing is very heavy. Traffic is protected by gates operated from 6 a. m. to 6 p. m. daily. Humboldt avenue runs north from the Milwaukee river to and beyond the north city limits. On the south, Humboldt avenue connects with Racine street at the bridge over the Milwaukee river. These two streets combine to form an important thoroughfare. Night traffic on this crossing should be protected.

North avenue: This crossing is protected by gates operated from 7 a. m. to 6 p. m. Traffic statistics gathered by the police department and submitted at the hearing held in this case are as follows:

Date.	Hours.	Trains.	Vehicles.	Pedestrians.
Dec. 6, 1911.....	8 a. m-8 a. m....	58	889	989
Dec. 7, 1911.....	8 a. m-8 a. m....	56	385	428
Dec. 8, 1911.....	8 a. m-8 a. m....	71	769	786

The above statement shows that traffic on this crossing is heavy. In addition to the traffic as shown above, The Milwaukee Electric Railway & Light Company operates a double track street car line over the crossing. During the period of observation by a member of the Commission's staff several automobiles approached the crossing from the west down grade at high speed. This dangerous practice should be stopped by the city authorities. All vehicular traffic should approach railroad crossings under complete control prepared to stop instantaneously. The gateman complained of the failure of certain crews to stop street cars and flag across the crossing. During the investigation several conductors were observed to flag carelessly over the crossing. Cars should be brought to a dead stop at least twenty-five feet from the nearest track, and the conductor should run out onto the tracks and look in both directions for approaching trains before signaling motorman to start over the crossing. It is a common occurrence for trolley poles to slip from the trolley at railroad crossings, and it is therefore very necessary that street car conductors be absolutely sure that there are no trains approaching before they attempt to run the crossing. Night traffic on this crossing should be protected.

Humboldt avenue and Locust street: These streets intersect a short distance east of the tracks. The result of the intersection is two railroad crossings a short distance apart. Although the crossings are a comparatively short distance apart, it is impossible for one flagman to protect both crossings. A flagman is on duty from 7 a. m. to 6 p. m. daily. Approaching the tracks from the west along Locust street the view is obstructed in both directions by buildings and by high ground to the south. Approaching the Locust street crossing from the east, the view to the south is obstructed by trees and high ground. As the flagman's shanty is located just east of the Locust street crossing, the Humboldt avenue crossing is really unprotected. Approaching this crossing from the north, the view to the southeast is obstructed by trees and high land. Approaching the crossing from the south, the view is partially obstructed by a building and high land. Humboldt avenue crosses the tracks at an acute angle. The Chicago, Milwaukee, & St. Paul Railway Company has failed to erect a highway crossing sign at the Humboldt avenue crossing. Traffic statistics for both crossings gathered

by the police department and submitted at the hearing held in this case are as follows:

Date.	Hours.	Trains.	Vehicles.	Pedestrians.
Dec. 6, 1911.....	8 a. m-8 a. m.....	24	416	599
Dec. 7, 1911.....	1 a. m-7:57 p. m..	26	771	1,745
Dec. 8, 1911.....	3 a. m-8 p. m.....	25	600	1,715

In addition to the traffic as shown above, The Milwaukee Electric Railway and Light Company operates a double track street car line on Humboldt avenue. On account of obstructions to view both of these crossings should be protected twenty-four hours daily.

Chambers street: Traffic on the Chambers street crossing is comparatively light. Traffic statistics gathered by the police department and submitted at the hearing held in this case, are as follows:

Date.	Hours.	Trains.	Vehicles.	Pedestrians.
Dec. 6, 1911.....	8 a. m-8 a. m.....	26	156	264
Dec. 7, 1911.....	1 a. m-8:45 p. m..	30	161	348
Dec. 8, 1911.....	3 a. m-8:23 p. m..	31	122	388

Although traffic at the Chambers street crossing is comparatively light, temporary protection is considered necessary for the reason that the view of approaching trains is obstructed by a building in the northwest corner and high ground in the southwest corner of the crossing. The most dangerous condition prevails when traffic is eastbound along the highway and trains are southbound.

Burleigh and Bremen streets: These streets intersect just southwest of the tracks. Traffic is not protected at these crossings. Traffic statistics gathered by the police department and submitted at the hearing held in this case are as follows:

Date.	Hours.	Trains.	Vehicles.	Pedestrians.
Dec. 6, 1911.....	8:30 a. m.-7:30 a. m	42	170	983
Dec. 7, 1911.....	9:30 a. m.-8:30 a. m	44	270	1846
Dec. 8, 1911.....	9:30 a. m.-7:30 a. m.	22	59	1543

There is a parochial school on the corner of Chambers and Fratney, one block west and one block south of the crossing. Twenty-five children used the Burleigh and Bremen street crossings during a period of fifteen minutes. Approaching the tracks from the south along Bremen street, the view to the north is obstructed by high ground and a building. The bank is high enough to completely obstruct a child's line of vision. Statistics show that traffic on the crossing is heavy. It appears that these crossings require immediate protection, at least during the day-time when children are using the crossing. No old or crippled man can protect these crossings. The territory to be flagged is large, and an active man is required here.

Fratney street and Auer avenue: Fratney street and Auer avenue intersect northeast of the tracks. These crossings are fairly open. The testimony submitted in the case shows that many school children cross at Fratney street. Traffic statistics gathered by the police are as follows:

Date.	Hours	Trains.	Vehicles.	Pedestrians.
Dec. 6, 1911.....	8:30 a. m.-7:59 a.m.	19	130	620
Dec. 7, 1911.....	12:46a.m.-8:48p.m.	18	92	802
Dec. 8, 1911.....	2:58 p.m.-7:30 a.m.	25	62	953

In view of the fact that so many school children use these crossings, it is considered that the safety of the children requires some form of protection at both of these crossings. Neither bell nor gates are considered desirable for the reason that neither would prevent the children from crossing in front of trains. One man cannot properly flag both crossings, therefore it is considered advisable to place a flagman at each of these crossings from 6:30 a. m. to 6:30 p. m.

Concordia avenue has been legally opened across the tracks of the Chicago, Milwaukee & St. Paul Railway Company but the railway company has failed to plank the crossing, provide walks, or to build proper street approaches across its right of way. Planking, walks and proper street approaches should be provided. This crossing is used by many school children and should be placed in good condition to enable a quick safe passage across the tracks. At the last hearing in this case, the Chicago, Milwaukee & St. Paul Railway Company agreed to

build a foot subway extending east and west under the tracks. It is not considered desirable to order the railway company to build a foot subway at the present time, for the reason that grade separation along the "Beer line" as a whole might necessitate the removal of this subway a few years hence. The safety of the children requires that some temporary protection should be provided at this crossing. It is considered that the flagman located at the Booth street crossing can be located so that he can protect the traffic using both crossings.

Keefe avenue: The Keefe avenue crossing is fairly open. Traffic is reported to be very heavy during the summer. The crossing is used during the early morning hours by milkmen and bakers. Traffic statistics gathered by the police department are as follows:

Date.	Hours.	Trains.	Vehicles.	Pedestrians.
Dec. 6, 1911.....	8:13 a. m.-8 a. m....	57	41	590
Dec. 7, 1911.....	12:33 a. m.-8:45 p. m.	48	33	953
Dec. 8, 1911.....	2:45 a. m.-8:25 p. m.	52	41	1,087

It is considered that the safety of traffic, especially the men who drive over the crossing during the dark early morning hours in covered wagons, requires temporary protection.

NOW, THEREFORE, IT IS ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company provide the following additional temporary protection:

1. Install an annunciator and operate the gates during the night at Humbolt avenue (south) crossing.
2. Install an annunciator and operate the gates during the night at North avenue crossing.
3. Install, maintain and operate gates twenty-four hours daily at the Humbolt avenue and Locust street crossings. Gates at both crossings are to be controlled by one gateman located in an elevated tower equipped with an annunciator. Complete detailed plans for gate protection are to be submitted to the Railroad Commission for approval. If on account of the sharp angle of the Humboldt avenue crossing and the location of wires in the vicinity of the crossing, it is not feasible to furnish full gate protection, a flagman shall be stationed at each of these crossings twenty-four hours daily.

4. Install and maintain an automatic crossing alarm provided with a light for night indication at the Chambers street crossing. Plans for circuits are to be submitted to the Railroad Commission for approval.

5. Provide flagman protection at the Burleigh and Bremen street crossings from 6:30 a. m. to 6:30 p. m. daily. This flagman is to be a good active man to protect the children crossing a comparatively wide crossing.

6. Provide flagman protection at the Fratney street crossing from 6:30 a. m. to 6:30 p. m. daily.

7. Provide flagman protection at the Auer avenue crossing from 6:30 a. m. to 6:30 p. m. daily.

8. Plank the crossing, provide walks and proper street approaches across the right of way, and locate the flagman so that he can flag traffic over Booth street and Concordia avenue crossings, from 6:30 a. m. to 6:30 p. m. daily.

9. Install and maintain an automatic crossing alarm, provided with a light for night indication, at Keefe avenue. Plans for circuits 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.

CITY OF MILWAUKEE

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Decided Jan. 25, 1913.

Petitioner alleges that the crossings at First, Midland and Eighth avenues, Milwaukee, Wis., require protection. Plans for grade separation are being prepared by the respondent.

Held: Additional temporary protection is necessary at First ave. crossing and the respondent is ordered to operate the gates at this crossing twenty-four hours daily.

Complaint was made that the crossings at First, Midland, and Eighth avenues in the city of Milwaukee are unsafe and dangerous to human life. Fifteenth and Forest Home avenues, also included in the petition, are in the town of Greenfield. Fifteenth avenue is carried across the tracks of the Chicago & North Western Railway Company on a bridge. The protection of Forest Home avenue is considered in the petition of the town of Greenfield.

Hearings were held on April 30, 1912, and September 27, 1912, in the city hall at Milwaukee. The second hearing was for the purpose of presenting and discussing plans prepared by the city engineer. *D. W. Hoan* appeared for the petitioner and *Wm. G. Wheeler* appeared for the respondent. A third hearing was held December 2, 1912, in the city hall at Milwaukee for the purpose of presenting and discussing plans prepared by the respondent's engineer. A fourth hearing was held January 8, 1913, for the purpose of taking testimony from shippers who are interested in grade separation.

To date the Chicago & North Western Railway Company has not completed plans for grade separation. If, when the respondent has completed plans, the petitioner and the respondent cannot reach an agreement, the Commission will make necessary investigation to solve the problem in accordance with the interests of all concerned.

Conditions surrounding certain crossings included in the petition are such that additional temporary protection is considered necessary for the public welfare.

The Eighth avenue and Midland avenue crossings are protected by gates operated twenty-four hours daily. Immediate additional temporary protection is not considered necessary.

The First avenue crossing with Madison division tracks is protected by gates operated from 6:30 a. m. to 6:00 p. m. Observations show that the view of eastbound trains is almost completely obscured by the building located in the northwest angle of the crossing and by the cars on the siding immediately south of this building. Traffic on the highway is comparatively light, but traffic on the tracks is heavy. On account of obstructions to view it is considered necessary to protect this crossing twenty-four hours daily.

Now, THEREFORE, IT IS ORDERED, That the Chicago & North Western Railway Company operate the gates at the First avenue crossing with the tracks of the Madison division twenty-four hours daily.

Thirty days is considered a reasonable time in which to comply with this order.

(This is an order for additional temporary protection only. The question of grade separation is still under consideration.)

TOWN OF GREENFIELD

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Decided Jan. 25, 1913.

Complaint is made that the crossings at the Janesville Plank Road (Forest Home ave.) and the Kilbourn Road (Twenty-second ave.) in the town of Greenfield, Milwaukee Co., Wis., are dangerous. Twenty-fourth and twenty-sixth aves. were also investigated. Plans for grade separation, including the crossings in question, are under consideration.

Held: Additional temporary protection is required. The respondent is ordered to install and maintain audible crossing alarms with lights for night indication at Twenty-fourth and Twenty-sixth avenues, plans for circuits to be submitted to the Commission. All switching movements are to be flagged over these crossings. A night flagman is to be stationed at the Janesville Plank Road and at the Kilbourn Road.

Complaint was made to the Commission that the crossings at the Janesville Plank Road (Forest Home avenue) and the Kilbourn Road (Twenty-second avenue) in the town of Greenfield, Milwaukee county, Wis., are unsafe and dangerous to human life. The Commission ordered hearings to determine fully the condition surrounding these crossings.

Hearing was held on September 5, 1912, in the city hall at Milwaukee. *Chas. B. Perry* appeared for the petitioner, and *Wm. G. Wheeler* for the respondent. A second hearing was held January 8, 1913, for the purpose of taking testimony from shippers who are interested in grade separation. *D. W. Hoan* appeared for the petitioner, and *Wm. G. Wheeler* for the respondent.

To date the Chicago & North Western Railway Company has not completed plans for grade separation.

Investigation of conditions surrounding these crossings show that additional temporary protection is necessary for public safety.

Janesville Plank Road (Forest Home avenue) crossing is protected by a flagman from 6:30 a. m. to 6:05 p. m. The testimony submitted at the hearing in the case shows that this is a main

traveled road, that an average of from five hundred to one thousand teams use the crossing daily, and that several accidents have occurred at this crossing. Parties living in the vicinity of the crossing claim that night traffic on the highway is heavy. Traffic on the tracks is heavy. In addition to the regular train movements, there are many switching movements over the crossing.

The view of approaching trains is obstructed by piles of cedar poles in the southwest angle, by buildings in the southeast angle, and by a dwelling and high ground in the northeast angle. On account of the heavy traffic and the obstruction to view of approaching trains, it is considered necessary to protect night traffic using this crossing.

Twenty-sixth avenue crosses the double track main line and three sidetracks of the Chicago & North Western Railway Company. The view of trains approaching this crossing is obstructed by cars stored on sidings and by the depot. Traffic on the tracks is heavy. In addition to the regular train movements, there are many switching movements over the crossing. Traffic on the highway is comparatively light; but on account of the obstruction to the view of approaching trains, it is considered necessary to protect traffic using the crossing.

Twenty-fourth avenue crosses the double track main line and a siding of the Chicago & North Western Railway Company. Traffic on the tracks is heavy. In addition to the regular train movements, there are switching movements over the crossing. The view of trains approaching the crossing is obstructed by cars on the siding and by a building in the southeast angle, and therefore it is considered necessary to protect traffic using this crossing.

Kilbourn Road (Twenty-second avenue) crosses the double track main line and a siding of the Chicago & North Western Railway Company. Traffic on the highway is protected by a flagman from 6:30 a. m. to 7:30 p. m. daily. Traffic on the Kilbourn Road is heavy. The testimony shows that it is a main thoroughfare from Milwaukee to Chicago and is now being improved. Testimony shows further that this highway is a pleasure drive and is used extensively by automobiles. Observation shows that the view of approaching trains is obstructed in the northeast, southwest and southeast angles by fences and rising land. On account of the obstruction to the

view of approaching trains and heavy traffic, it is considered that public safety requires twenty-four hour protection daily.

NOW, THEREFORE, IT IS ORDERED, That the Chicago and North Western Railway Company

1. Protect traffic on Janesville Plank Road (Forest Home avenue) crossing by night flagman.

2. Install and maintain automatic audible crossing alarms with lights for night indication, at Twenty-sixth and Twenty-fourth avenues to announce the approach of main line trains. Plans for circuits are to be submitted to the Commission for approval. All switching movements are to be flagged over these crossings.

3. Protect traffic on the Kilbourn Road (Twenty-second avenue) crossing by a night flagman.

Ninety days is considered a reasonable time in which to comply with this order.

(This order covers additional temporary protection only. The question of grade separation is still under consideration.)

PULP AND PAPER MANUFACTURERS TRAFFIC ASSOCIATION

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY,
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY,
CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COM-
PANY,
DULUTH, SOUTH SHORE AND ATLANTIC RAILWAY COMPANY,
GREEN BAY AND WESTERN RAILROAD COMPANY,
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY
COMPANY,
NORTHERN PACIFIC RAILWAY COMPANY,
WISCONSIN CENTRAL RAILWAY COMPANY,
WISCONSIN AND MICHIGAN RAILWAY COMPANY,
WISCONSIN AND NORTHERN RAILROAD COMPANY,
NORTHERN HEMLOCK AND HARDWOOD MANUFACTURERS AS-
SOCIATION,
NORTHERN PINE MANUFACTURERS ASSOCIATION.

Submitted Dec. 11, 1912. Decided Jan. 25, 1913.

The petitioner alleges that the distance rates on pulp wood, established *In re Rates on Pulp Wood*, 1908, 2 W. R. C. R. 168, and now in effect, are unreasonable and unjustly higher than rates on saw logs. The reasonableness of the pulp wood rates depends primarily upon the cost of transportation, but other elements, such as the character and value of the commodity, the conditions under which it is acquired and transported, and the competition in the industries concerned are to be considered. Pulp wood is a low grade commodity, handled at comparatively small cost on account of the trainload character of the shipments, the terminal facilities provided by the shippers, and the heavy loading per car resulting in a large proportion of "pay" weight to "dead" weight. The claims for loss or damage are few. The length of the haul is increasing as the supply in Wisconsin is being exhausted, and the competition of mills more accessible to the raw material and enjoying favorable freight rates is becoming harder to meet. These elements, together with the great volume of traffic caused by the pulp wood industries, seem to justify a claim for low rates. A comparison with pulp wood rates in other parts of the country is of little value as the conditions influencing rates vary and there is nothing to show that these rates are reasonable.

The comparison of pulp wood rates with the rates on saw logs was carefully and extensively made. The raw material is practically the same for both industries, and it appears that the only consideration in favor of lower rates on saw logs is the greater volume of raw material shipped to the lumber industries. This advantage is reduced, however, by a comparison of the ton mileage, as the saw logs are hauled shorter distances

as a rule. The present rates on saw logs are uniformly lower than pulp wood rates, but are conditioned on reshipment of the product out over the line bringing in the raw material, while no such condition is attached to rates on pulp wood. The reshipment provision implies that a portion of the rates on the out shipment of lumber is intended to offset the low rates on the raw material. In comparing the two sets of rates, therefore, the complete haul must be considered, the pulp wood-and-paper haul and the saw log-and-lumber haul. The lumber product in proportion to its weight is about half the value of the paper product, there is less risk in transportation of lumber, and the loading per car is about the same. From these facts it appears that the lumber rates should be about 85 per cent of the rates on paper. If this is taken as the reasonable rate for lumber, the amount by which the present rates exceed this per cent of the paper rates represents the portion chargeable to offset the low rates on the shipment in. Adding this amount would increase the rates on saw logs 18 per cent and reduce the advantage of these rates over the pulp wood rates from between 24 and 35 per cent to between 10 and 24 per cent. This clearly shows that the reshipment clause is of much importance in justifying the lower rates on saw logs. Lower rates based on a reshipment provision allowing for recoupment on the haul of the product out are lawful (sec. 1797—6) and such rates could be given to paper industries, but lower rates on pulp wood cannot be justified on this basis alone unless the paper rates are correspondingly increased. An investigation of the saw log and lumber rates is being made and if readjustments in these rates are found necessary, a further modification of the pulp wood rates may be required.

Held: A careful analysis of the costs of service, made up of terminal and movement expenses, shows that a reduction in the present rates is justified. The respondent railway companies are ordered to discontinue the present rates on pulp wood and to substitute the rates as fixed by the Commission, subject to the same minimum weights and other regulations as at present in effect.

This proceeding involves the reasonableness of rates on pulp wood in effect upon practically all of the railway lines in the state on which this commodity is handled. The rates which are attacked are the distance rates fixed by this Commission *In re Rates on Pulp Wood*, 1908, 2 W. R. C. R. 168, which have been in effect on the lines of the respondent companies since the time of the Commission's decision.

The present complainant is a voluntary association of forty corporations operating about fifty pulp and paper mills in this state. In addition to alleging the unreasonableness of the present rates on pulp wood, the complainants charge unjust discrimination in the fact that rates on logs to be made into pulp are higher than the rates on logs to be sawed into lumber and other articles.

The complaint, as filed with this Commission, named as respondents only the common carriers set forth above, but later,

by order of the Commission on motion of the respondent Chicago & North Western Railway Company, the Northern Pine Manufacturers Association and the Northern Hemlock & Hardwood Manufacturers Association, having headquarters respectively at Minneapolis, Minn., and Wausau, Wis., were made parties respondent.

Separate answers were filed by the Northern Hemlock & Hardwood Manufacturers' Association and by all of the respondent carriers except the Green Bay & Western Railroad Company, the Wisconsin & Northern Railroad Company, and the Wisconsin & Michigan Railway Company. The answers of all the carriers are, in effect, a general denial of the unreasonableness or discriminatory character of the rates complained of. The answer of the Duluth, South Shore & Atlantic Railroad Company in addition sets forth that conditions on that line differ materially from those on the other respondents' lines, in that it has no paper mills and thus gets no transportation of any product out; that but little pulp wood is shipped over the line and there is no competition between buyers of logs for saw mills and for pulp mills at points on the line, and that the operating costs of the line are higher than those of most Wisconsin railways and its earnings at present do not constitute a fair return upon its investment.

The answer of the Northern Hemlock & Hardwood Manufacturers Association also consists of a general denial, after setting forth that the association is a voluntary organization for the purpose of furnishing information and statistics to its members who consist of about ninety manufacturers of lumber having an output of about 900,000,000 feet of that commodity in the year 1912.

The hearing was held at the office of the Commission on December 11, 1912. The petitioner was represented by *Felix J. Streyckmans* and *W. D. Hurlbut*; the Rhinelander Paper Company by *Walter Drew*; the Chicago & North Western Railway Company by *C. C. Wright* and *R. H. Widdecombe*; the Chicago, Milwaukee & St. Paul Railway Company by *J. N. Davis*; the Chicago, St. Paul Minneapolis & Omaha Railway Company by *E. B. Ober*; the Minneapolis, St. Paul & Sault Ste. Marie Railway Company by *A. H. Lossow*; and the Northern Hemlock & Hardwood Manufacturers Association by *John Van Hecke* and *William R. McCaul*.

The matters covered by the present complaint were thoroughly investigated and carefully considered by this Commission in 1908 when the pulp wood rates now complained of were made effective. At that time the relation between rates on pulp wood and those on saw logs was given much attention as well as the reasonableness of the pulp wood rates in themselves, and much of the ground covered in that case will not need to be traversed again except in an incidental way in this opinion. As was to be expected, however certain changes in the conditions surrounding the pulp wood and saw log industry have taken place since 1908, and in addition to these changes there are in some respects more complete data at the disposal of the Commission now than were available in 1908, so that the entire pulp wood rate question is again properly before the Commission at this time for adjustment.

As brought out in the testimony and investigation made by the Commission in this proceeding, the present case involves the reasonableness of rates on pulp wood, both as an independent proposition and as compared with rates on saw logs. The reasonableness of the present rates on pulp wood, considered by themselves, depends primarily upon the cost of transporting that commodity, but other elements, such as the character of the commodity, the conditions under which it is acquired and transported, and the competitive features in the industries of which it constitutes the raw material, are important and will be discussed in their order.

Practically all of the paper manufactured in Wisconsin is made of pulp wood, the great bulk of which consists of hemlock and spruce. A mixture of the pulp made from these two woods is necessary in the manufacture of most of the paper ordinarily made in Wisconsin, the total consumption of hemlock being about twice as great as that of spruce. This pulp wood is shipped both in the form of logs and in the form of cordwood, depending on the convenience of the shipper or purchasers. The pulp wood buyer, while desirous of obtaining larger timber if possible, will accept logs down to a diameter of five inches. The price paid for pulp wood (hemlock) is at present about \$4 per cord, or, where bought in the form of logs, about \$10 per thousand feet. Since hemlock logs, green, weigh from 10,000 to 12,000 lb. per thousand feet and hemlock cordwood

weighs from 4,000 to 4,500 lb. per cord, it is apparent that little difference is made in the price of the material according to whether it is bought in the form of logs or of cordwood. Its value on the basis of \$4 per cord would seem to be about 10 cts. per 100 lb., which definitely places pulp wood in the class of low grade commodities, worth less than even such commodities as soft coal, brick, iron ore, or lime.

As to the conditions under which pulp wood is obtained by the pulp and paper manufacturers, the testimony shows that the wood, whether procured by the different paper manufacturers separately or by pulp wood buying companies organized for the purpose, is for the most part bought from time to time directly from the landowner. It is exceptional for a paper mill company to own a tract of land from which it logs its pulp wood in the manner common among lumbering operators. However, it is not unusual for the pulp wood buyers to purchase portions of their supply from lumber companies or to trade the hardwood, which they incidentally obtain in their purchases of timber, for spruce and hemlock.

Considerable stress was laid in the testimony upon the competition between pulp wood buyers and buyers of timber for lumbering purposes. It was the claim of the pulp wood interests that this competition was very keen and that the lumberman was able to overbid the pulp wood buyer on account of his large advantage in the rates on the raw material to the mill. The representatives of the lumber interests, on the other hand, testified that though there was competition between the lumber and paper interests in the purchase of timber, the buyer from the paper mill was able to pay more for logs than the lumberman could afford to pay, and that when the lumber interests and the paper interests went after the same timber the paper manufactures nearly always obtained it. It is probable that varying conditions in different localities and among different buyers accounts for these differences in the testimony. At any rate, the testimony makes it clear that the initial cost of raw material in a paper industry is materially increased by competition with the lumber manufacturer.

The pulp wood obtained in the manner just described is transported to the paper or pulp mills entirely by rail, with the exception of a portion of the spruce wood obtained from

Michigan and Canada, which is rafted to Ashland or Green Bay and then shipped by rail to destination.

A factor of vital importance to the paper mills in connection with obtaining of the supply of raw material is the distance over which such raw material must be transported. In this respect the situation seems to have been materially changed since the decision of the Commission in 1908. The continual cutting of timber in northern Wisconsin has so far diminished the supply that there is a gradually widening distance between pulp producing territory and the paper mills. While practically all of the hemlock needed is still obtained in Wisconsin, very little spruce is to be found within the state. One of the large pulp wood buying companies, which supplies several of the Fox river valley mills with spruce wood, obtains only about one-tenth of its supply of that wood within Wisconsin. The remainder comes from Minnesota, Michigan and Canada, with an average haul of about 300 miles to most of the Wisconsin mills, though the mills at Ladysmith and Eau Claire are much nearer the Minnesota spruce territory than this. On hemlock there is some variation in the estimates of witnesses as to the length of the haul. The paper mill at Eau Claire obtains most of its hemlock from Grand View, Wis., under a large contract, a distance of 141 miles, but the haul on the remainder of its hemlock supply averages only 50 to 60 miles. The mill at Ladysmith, on the other hand, gets about half of its hemlock within 30 or 40 miles, while the average for all of its supply runs about 65 miles. The haul to some of the mills at Appleton was said to average 60 to 100 miles, but the general average haul on hemlock was stated by a witness from Appleton, representing a company engaged exclusively in the buying of pulp wood, to be from 150 to 200 miles. The increase in length of haul since 1908 in the case of hemlock was stated by this witness to be roughly one-third.

Further information on the length of pulp wood haul was furnished in a tabulation submitted by the petitioner after the hearing, covering a large part of pulp wood shipped to the mills represented by the petitioner from points within Wisconsin. The number of tons hauled one mile according to his statement was 42,515,295, and this figure divided by the total number of tons covered by the statement, or 349,150 tons, gives

an average of 122 miles for interstate traffic. The mills covered by this statement are at such widely scattered points as Appleton, Kimberly and Kaukauna in the Fox river valley, Stevens Point, Grand Rapids and Nekoosa on the Wisconsin river, Rhinelander and Merrill on the upper Wisconsin river, Park Falls, Ashland, Ladysmith and Eau Claire. From all the facts at hand, it seems the average haul within Wisconsin is fully 100 miles and probably a little over.

The transportation of pulp wood from the source of supply to the mill adds to the cost of the new raw material from 50 to 125 per cent of the price paid for it at the point of production. The wood is loaded on flat cars if it is shipped in form of logs, and when shipped as cordwood it is hauled in box cars, flat cars, gondolas, or any other kind of equipment that will hold the load. The loading per car, according to a comprehensive exhibit filed by the petitioner, averaged in 1911 29.6 tons, or 59,200 lb. This very heavy loading, combined with very low value per cwt. to which reference has already been made, shows that, in addition to being a low grade commodity, pulp wood is handled at comparatively small cost on account of the large proportion of "pay" weight to "dead" weight in the car. An additional factor tending to reduce the cost to the carrier is the trainload character of a large part of the pulp wood movement. In addition to loading and unloading the cars themselves, many of the paper mills furnish switching engines to perform the terminal service at one or both ends of the haul. Furthermore, claims for loss or damage to pulp wood are exceedingly rare, the wreck of a train being almost the only contingency in which such claims are likely to arise. The character of the pulp wood movement, then, as briefly outlined above, is such as to entitle it to a very low basis of rates.

In addition to being comparatively inexpensive to handle, the pulp wood traffic is exceedingly heavy in volume. The statistics in the possession of the Commission on the movement of pulp wood by rail to Wisconsin paper and pulp mills during the year 1911 are quite complete. They show a total of 1,066,419 tons received by twenty-five different companies. It seems certain from the statements made at the hearing that fully 700,000 tons of this total constituted intrastate movement, while perhaps another 50,000 tons consisted of spruce wood rafted to

Ashland and Green Bay and reconsigned from those ports, and thus constituting intrastate movement as far as railway carriers were concerned. As will be shown later, this volume of traffic is greatly exceeded by the traffic in saw logs, but when the traffic in pulp wood is considered in its relation to the general traffic of the carriers the above facts show that it is of great importance.

The character of pulp wood and the conditions under which it is obtained and transported have been briefly outlined; another factor on which much emphasis was laid at the hearing is the conditions surrounding the industries of which pulp wood constitutes the raw material. The principal kinds of paper manufactured in Wisconsin are news print paper, wrapping paper, bag paper, and writing paper. About 25 per cent of the product is news print paper. In 1908 the news print paper constituted over 45 per cent of the total Wisconsin output, but since that time the Wisconsin product has met with much sharper competition than before in this field. This new competition has come mainly from Canada and Minnesota. In the latter state several new mills have been opened up, and being located in the very heart of the spruce producing country and in a region of abundant water power, these mills enjoy a much lower cost of raw material and fully as low a manufacturing cost as the Wisconsin mills. The Canadian print paper has been introduced into the United States in large quantities as the result of the recent removal of the tariff on print paper from Canada. Like the Minnesota mills, the Canadian producers are located in the very region from which the Wisconsin mills are obliged to transport their own spruce wood, and inasmuch as the tonnage of the manufactured product is very much less than the tonnage of the raw material going to make up that product, the extra distance from the Canadian mill to the market is much more than offset by the shorter haul of its pulp wood.

The advantage which the Minnesota paper mills have over those in the Fox river valley of Wisconsin in the transportation cost of the spruce pulp wood is well illustrated by a comparison of the rates on pulp wood from various Minnesota points to the Minnesota paper mill points and the Fox river valley points in Wisconsin.

The testimony shows that the Minnesota spruce supplied to the Wisconsin mills comes from the same territory from which it is supplied to the Minnesota mills. A few of these rates are inserted below, not for the purpose of comparing the rates themselves, but merely to show the competitive disadvantage of the Wisconsin mills in purchasing spruce in the territory from which the Minnesota mills also draw their supply. The disadvantage of the Wisconsin mills would be somewhat less, however, at such points as Eau Claire or Ladysmith, which are much nearer the Minnesota forests than are the Fox river valley mills.

TABLE I.
RATES ON PULPWOOD.

FROM MINNESOTA PRODUCING POINTS TO PAPER MILLS IN MINNESOTA AND WISCONSIN.
In Cents Per 100 Lb.

From Minn. Points.	To Minn. mill points.			To Wisconsin mill points (Fox river valley.)
	Little Falls.	Sartell.	Cloquet.	
<i>Northern Pacific:</i>				
Carlton.....	3.5	4	6	8
Moose Lake.....	3.5	4	3	8.5
Willow River.....	4	4	3	9.5
Mission Creek.....	4	3.5	4	10
Cloquet.....	3.5	4	.....	8
Tamarack.....	3	3.5	3	9.5
Topeka.....	2.5	2.5	5	11
Battle Lake.....	3	3.5	6	11.5
Fergus Falls.....	3.5	3.5	6	12
Detroit.....	3	3.5	6	11.5
	Grand Rapids.		Cloquet.	
<i>Great Northern:</i>				
Baden.....			3	9
Goodland.....	3		3.5	10
Swan River.....	3		3	10
Bemidji.....	4.5		.....	15

In addition to the new competition of the Canadian and Minnesota mills, the Wisconsin paper mills are finding difficulty in meeting the competition of the paper mills in Maine, New York, and other eastern states, and have also been driven from Pacific coast markets by the establishment of mills in that region. The manner in which print paper produced in Wisconsin compares with that in other states is shown by the following

figures submitted at the hearing, giving the 1912 production of news print paper in various states in tons per day:

New York	1,779 tons
Maine	1,017 "
Minnesota	372 "
Wisconsin	353 "
New Hampshire	388 "
Vermont	120 "
Ontario	420 "
Quebec	565 "

In addition to being enormous producers of news print paper and being close to a large supply of spruce timber, the New England and New York mills enjoy very favorable freight rates on paper into middle western territory. While in general the rates from eastern mill points into the middle west are about 16 cts. per 100 lb. higher than the rates from Wisconsin mill points to the same territory, this difference does not prevail in the case of Chicago and St. Louis, both large consumers of paper. To these two points the rates from New York average about 18 cts. and 21 cts. respectively, while the rates to the same points from Wisconsin are 10 cts. to 12 cts. and 16 cts. respectively. To points in Texas and in the far west the rates from all the eastern mills and from the Wisconsin mills are equal, while the rates into Indiana and Ohio from Wisconsin and from the east are also about the same. Rates from Wisconsin into the Atlantic states average about 16 cts. per 100 lb. higher than the rates from the eastern mill points to the same territory. It will thus be seen that the adjustment of rates on paper as between Wisconsin mills and eastern mills admits the eastern mills into the Middle West markets, but effectually bars the Wisconsin product from the eastern markets; while the New York or Maine manufacturer can ship to the Far West and Southwest on an equal basis with the producer in Wisconsin. This situation, of course, as was pointed out by the respondents at the hearing, is in no wise under the control of the particular carriers involved in this case, but the purpose in commenting upon it here is not to attack the rates on paper, but to show the competitive features surrounding the production of paper in Wisconsin.

The following tabulation, compiled from information furnished by the petitioner since the hearing, covering shipments of

paper from the mills represented by it, shows the territory by groups into which Wisconsin paper is shipped, and the relative amount shipped to each region:

TABLE II.

TERRITORY TO WHICH WISCONSIN PAPER IS SHIPPED.

Group.	States.	Percent of total shipments.
1.	New England (Massachusetts).....	0.01
2.	New York, New Jersey, Pennsylvania, Maryland, Dis- trict of Columbia.....	1.47
3.	Ohio, Indiana, Michigan.....	15.88
4.	West Virginia, Virginia.....	0.19
5.	Kentucky, Tennessee, Mississippi, Alabama, Georgia, Florida.....	2.03
6.	Wisconsin.....	9.38
7.	Illinois.....	30.45
8.	Minnesota, Iowa, South Dakota.....	12.87
9.	Missouri.....	16.09
10.	Nebraska, Montana, Wyoming.....	4.16
11.	Kansas, Oklahoma, Arkansas, Colorado.....	3.95
12.	Louisiana, Texas, New Mexico.....	2.50
13.	Washington, Oregon, Idaho, California, Nevada, Utah, Arizona.....	0.74
14.	Miscellaneous (Manitoba, Philippines).....	0.28
		100.00

The shipment of paper from Wisconsin mills in 1911 is reported as 313,557 tons from the mills represented by the petitioner and 47,548 from the other mills in the state, or a total of 361,105 tons. As is shown by Table II, most of the product of the Wisconsin mills travels long distances to market. Paper loads heavily, the average per car, as stated by the petitioner, being 43,338 lb., and, according to the same authority, it pays an average rate of 17.42 cts. per 100 lb. Paper thus not only moves in large volume, but it furnishes a very handsome revenue to the carriers.

Another factor which is claimed by the paper manufacturers to entitle them to favorable consideration at the hands of the carriers is the fact that a large tonnage of other materials besides pulp wood and paper is moved into and out of mills each year. In addition to the general advantage to the railways due to the building of permanent factories with large numbers of operatives, the actual tonnage of the paper factories in materials other than paper and pulp wood is shown in statements submitted by the petitioner to have been as follows in 1911:

Commodity.	Mills represented by petitioner. Tons.	Other mills. Tons.	Total. Tons.
In-bound:			
Coal.....	291,466	48,957	340,423
Pulp.....	103,564	14,025	117,589
Paper stock and miscellaneous.....	149,821	28,898	178,719
Out-bound:			
Pulp.....	145,044	8,821	153,865
Miscellaneous.....	4,350	299	4,649
	694,245	101,000	795,245

A large amount of pulp is shipped between the Wisconsin mills, but the above statement includes such shipments only once and not at both forwarding and receiving points. With the combined tonnage of paper and pulp wood reported at 1,427,524 tons, the above statement raises the total tonnage of the mills to 2,222,769 tons, of which about two-thirds consist of pulp wood and paper and the remainder of other raw materials and products. This heavy tonnage bringing a large revenue to the carriers each year makes the paper industry one of the most substantial and important patrons that the railways of Wisconsin serve, and, it is argued, an industry making such abundant use of the facilities of the carriers should receive very liberal treatment from the railway lines in the handling of the commodities necessary to its operation.

The facts above set forth, all of which were brought out at the hearing and in the Commission's investigation, would seem to justify the following conclusions with respect to the pulp wood traffic, when considered independently of the saw log traffic: (1) Pulp wood is a commodity of very low grade and heavy loading and consequently is entitled to a low scale of rates; (2) the supply of pulp wood is continually becoming less plentiful, and the distance from the source of supply to the mills is increasing at such a rate as to make the freight cost of the commodity considerably greater at present than it was five years ago; (3) competition in the paper industry, especially in the manufacture of news print paper, is now much more severe than it was in 1908 and that fact affects the ability of the shipper to pay freight charges and the value of the service to him; (4) the paper industry in Wisconsin furnishes a large tonnage to the carriers, not only of pulp wood in and paper out, but of other

raw materials and products, and the prosperity of the industry is thus very important to the railway lines serving it.

Comparing, generally, the conditions above outlined with those existing in 1908, we find that several of the elements enumerated are such as would ordinarily tend to the establishment of lower rates than were demanded by the conditions in 1908. How far this tendency should be reflected in the actual rate schedule, can not be stated with accuracy, since the elements above described affect mainly the value of the service to the shipper and it is impossible to ascribe a definite monetary significance to such elements. These elements are therefore merely to be kept in mind as representing a tendency toward a lowering of the rates, and the principal basis of the decision must be in this, as in most railway rate cases, the cost of performing the service.

The characteristics of the pulp wood traffic in Wisconsin cannot be adequately considered without taking into account also the traffic in saw logs and the conditions surrounding that traffic. Much of the testimony tends to the conclusion that logs to be made into pulp and paper and logs to be sawed into lumber are practically the same article. Where pulp wood is shipped in the form of cordwood it differs in form from saw logs, but, as has already been shown, it is about the same class of material as pulp wood logs. There was some testimony to the effect that the pulp mill will take timber of a poorer character than the lumber manufacturer can use, such as upper branches, knotty and snaky wood; in fact, one buyer of pulp wood at the hearing testified that from 35 to 50 per cent of the pulp wood is timber of a size not used by sawmills. Other testimony, however, was to the effect that the kind of timber the lumber manufacturer would use would depend largely on the state of the lumber market; when lumber prices were high the sawmill would use as low grades of timber as the paper mill would take. It is probably safe to say, as a general proposition, that the testimony in this case shows a substantial similarity between saw logs and pulp wood, so that the two commodities and the industries that they supply may be compared with this similarity as a starting point.

The rates on saw logs in Wisconsin are uniformly lower than the rates for like distances on pulp wood. The following tabulation shows what these rates are on the Chicago & North West-

ern, Chicago, Milwaukee & St. Paul, and "Soo" lines in Wisconsin, the saw log rates as given being the voluntary rates of the carriers, while the pulp wood rates are those fixed by this Commission in 1908. The schedules differ, however, in the fact that the rates on saw logs are conditioned on reshipment of the product out over the line putting in the raw material, while no such condition is attached to the rates on pulp wood. Though a few instances exist where trainload or other special rates are made lower than the distance schedule on the three lines named, the rates shown below are the prevailing scale in Wisconsin:

TABLE III.
DISTANCE RATES ON SAW LOGS AND PULP WOOD IN WISCONSIN.
Rates in Cents per 100 Lb.

Distance, miles.	Rates on saw logs.				Rates on pulp wood.	Ratio, aver- age saw log rates to pulp wood rates.
	C. M. & St P.	C. & N. W.	M. St. P. & S. S. M.	Math. average.		
5.....	1.0	1.0	1.1	1.03	1.50	69
10.....	1.0	1.0	1.2	1.07	1.64	65
15.....	1.2	1.25	1.3	1.25	1.78	70
20.....	1.3	1.25	1.4	1.32	1.92	69
25.....	1.4	1.5	1.5	1.47	2.06	71
30.....	1.5	1.5	1.6	1.53	2.20	70
35.....	1.5	1.5	1.7	1.57	2.34	67
40.....	1.6	1.5	1.8	1.63	2.48	66
45.....	1.7	1.5	1.9	1.70	2.62	65
50.....	1.8	1.75	2.0	1.85	2.72	68
55.....	1.8	1.75	2.1	1.88	2.82	67
60.....	1.9	1.75	2.2	1.95	2.92	67
65.....	1.9	1.75	2.3	1.95	3.00	65
70.....	2.0	2.0	2.4	2.13	3.07	69
75.....	2.0	2.0	2.5	2.17	3.12	70
80.....	2.1	2.0	2.6	2.23	3.20	70
85.....	2.2	2.5	2.7	2.47	3.30	75
90.....	2.3	2.5	2.8	2.53	3.45	73
95.....	2.4	2.5	2.9	2.60	3.60	72
100.....	2.5	2.5	3.0	2.67	3.75	71
110.....	2.5	2.5	3.1	2.70	3.85	70
120.....	2.7	2.75	3.2	2.88	3.95	73
130.....	3.0	3.0	3.3	3.10	4.08	76
140.....	3.0	3.0	3.4	3.13	4.20	75
150.....	3.0	3.25	3.5	3.25	4.33	75
160.....	3.0	3.25	3.6	3.28	4.45	74
170.....	3.0	3.5	3.7	3.40	4.60	74
180.....	3.0	3.5	3.8	3.43	4.75	72
190.....	3.1	3.75	3.9	3.58	4.90	73
200.....	3.1	3.75	4.0	3.62	5.05	72
210.....	3.1	4.0	4.1	3.73	5.25	71
220.....	3.2	4.25	4.2	3.88	5.45	71
230.....	3.2	4.25	4.3	3.92	5.60	70
240.....	3.2	4.5	4.4	4.03	5.80	69
250.....	3.3	4.75	4.5	4.18	6.00	70
260.....	3.3	5.0	4.7	4.33	6.15	70
270.....	3.3	5.0	4.9	4.40	6.30	70
280.....	3.5	5.0	5.1	4.53	6.45	70
290.....	3.5	5.0	5.3	4.60	6.60	70
300.....	3.5	5.0	5.5	4.67	6.75	68

The average rates on saw logs shown in the above tabulation are a mere mathematical average, taking no account of the relative amounts of logs shipped on the three lines, and are therefore inserted rather for convenience than as an accurate statement of the average rates on which saw logs move. The tabulation shows that these average saw log rates run from 65 to 76 per cent of the pulp wood rates, a representative figure being about 70 per cent.

The saw log rates on the respondent lines other than those named in Table III are, with the exception of the Omaha line, generally a little higher than the rates just given. On the Green Bay & Western line the distance tariff on saw logs names rates nearly as high as the rates on pulp wood, but these saw log rates are not conditional on reshipment of the product out. The Green Bay line also names a few specific reshipment rates which correspond fairly close to the reshipment rates named in Table III. The Duluth, South Shore & Atlantic Railroad Company publishes separate distance tariffs on saw logs where reshipment is required and where there is no such reshipment, the former rates being about two-thirds as high as the latter. A difference is also made between soft wood and hardwood logs, the rates on the former being 10 to 20 per cent lower than on the latter. These rates are all stated in dollars per thousand feet, but the soft wood rates conditioned on reshipment appear to be about in line with the average saw log rates named in Table III. The Northern Pacific line has a few specific intrastate saw log rates in Wisconsin conditioned on reshipment, which seem to be in general a little higher than the Soo line distance rates. On the Omaha line a large number of specific saw log rates are named, most of them being conditioned on reshipment. While the majority of these rates are quoted in dollars per thousand feet, a reduction to cents per 100 lb. indicates that these rates are ordinarily much lower than any of the rates shown in Table III for like distances. In fact, the Omaha rates are so low as to be far out of line with most of the log rates in the state. For example, on that line a rate of 1.75 cts. per 100 lb. is quoted for a series of distances running from 143 to 197 miles, while under another tariff logs are moved from 118 to 159 miles at \$1.25 per thousand feet, which amounts to 1.25 cts. or less per

100 lb. Notwithstanding these variations on the Omaha and other lines from the distance rates shown in Table III, and the existence of a number of specific rates on the roads named in that table, it is probably safe to assume that the distance rates as shown are representative log rates for the majority of the traffic in this state. At any rate, these distance rates themselves are in most cases so low that any lower rates must, in the absence of special conditions, be considered abnormal and not properly to be compared with rates on pulp wood.

The mass of facts which has been presented to the Commission bearing upon the relation between the saw log and pulp wood businesses in their commercial and transportation aspects may perhaps be sufficiently summarized for the purpose of this case by the following table. The statements and statistics shown below are for the most part taken from the testimony given at the hearing, and in some cases it has been necessary to make estimates and computations from the facts furnished the Commission in order to arrive at comparable figures for the two industries. The statements presented, however, represent the best information of the Commission upon the various matters involved.

TABLE IV.

COMPARATIVE DATA ON LUMBER AND PAPER INDUSTRIES IN WISCONSIN

	Saw logs.	Pulp wood.
Raw material:		
1. Kinds of timber.	All kinds; hemlock about 35%; pine about 30%; hardwood about 30%.	Hemlock about 60%, spruce about 33%, remainder jack pine, tamarack, etc.
2. Source of supply.	Wisconsin, upper peninsula of Michigan.	Hemlock, Wisconsin spruce, 10% or less from Wis., remainder from Minn., Mich. and Canada.
3. Amount used annually in Wisconsin.	Est. hemlock 3,250,000 tons. " pine 2,870,000 " " hardwood 3,650,000 " Est. total 9,770,000 tons.	(1911) 1,066,419 tons.
4. Amount moved to mill by common carrier.	Est. (hemlock and hardwood) 5,600,000 tons. Pine, no data.	(1911) 1,066,419 tons.
5. Intrastate movement by common carrier.	Hemlock and hardwood about 1,500,000 tons. Pine, no data.	Hemlock, est. 600,000 tons. Spruce, est. 30,000 " Other wood, est. 70,000 " Total 700,000 "

COMPARATIVE DATA ON LUMBER AND PAPER INDUSTRIES IN WISCONSIN—Concluded.

	Saw logs.	Pulp wood.
6. Length of haul, intra-state, by common carrier.	Hardwood and hemlock 5 to 140 mi. Av. 82 mi. Pine, no data.	9% 25 mi. and less. 7% 25 to 50 mi. 8% 50 to 75 mi. 17% 75 to 100 mi. 41% 100 to 150 mi. 12% 50 to 200 mi. 6% over 200 mi. Average 122 mi.
7. Ten miles moved by common carrier within Wisconsin est. (tons X average haul.)	Hemlock and hardwood, 93,000,000. Pine, no data.	85,400,000.
8. Loading per car, lb.	Testimony, 55,000 to 78,000; average probably a little over 60,000.	Average 59,200.
9. Equipment used.	Flat cars.	For logs, flat cars; for cordwood, box cars, flat cars, gondolas, etc.
Finished product:		
10. Character of product.	Lumber, lath, shingles, etc.	Paper pulp, though a material between pulp wood and paper is to some extent shipped independently.
11. Weight of logs or pulp wood per ton of lumber or paper.	3.9 tons.	3.1 tons.
12. Weight of product shipped by rail annually.	Lumber, est. 2,615,000 tons. Lath, est. 75,000 " Shingles, est. 58,000 " Total 2,748,000 "	Paper 361,105 tons. Pulp 145,014 " Total 506,149 "
13. Value of product (lumber or paper) at mill.	Hemlock about \$13.50 per M; hemlock hardwood, about \$14.50 per M; hemlock = 2,250 lb. per M; hardwood about 3,750 lb. average for both, weighted with amount produced of each. = about 2,713 lb. per M; value per ton. hardwood and hemlock thus equals about \$21.00.	Print paper, about \$43 per ton, Other Wisconsin paper up to \$95 per ton. Probable average about \$60 per ton.
14. Destination of product (lumber or paper).	Hemlock and hardwood: 33% to Wisconsin. 30% to Illinois. 22% to Cent. Frt. Assn. territory. 15% to So. Minn., eastern Iowa.	9% to Wisconsin. 30% to Illinois. 20% to other states E. of Miss. river. 29% to Minn., Iowa, Mo. 12% to southwest and far west.

Except for the much greater volume of traffic in saw logs and their product than in pulp wood and its product, the above tabulation would seem to furnish no justification for lower rates on saw logs than on pulp wood. From the transportation standpoint, the greater importance of the saw log traffic due to heavier volume is somewhat weakened by its shorter haul. Thus the ton mileage of pulp wood moving wholly within Wisconsin

seems to be about 85,000,000, while that on hardwood and hemlock logs is only about 7,000,000 greater. The ton mileage of pine moving wholly intrastate is unobtainable from any figures presented to the Commission, but since the production of pine lumber in Wisconsin is very much smaller than the combined production of hemlock and hardwood lumber, the intrastate movement of pine would hardly furnish a ton mileage greater and would probably be less than the ton mileage of hemlock and hardwood. Thus, while saw logs move in several times as great volume as pulp wood within Wisconsin over the lines of common carriers, they probably furnish not more than twice the ton mileage.

But there is one feature in connection with the rate situation as between saw logs and pulp wood that is worthy of careful consideration. This is the fact that the rates on saw logs are conditioned on the reshipment of the product out over the line bringing in the logs. The distance tariff on pulp wood contains no such provision. Since rates conditioned upon the out-shipment of the product are generally made lower than the carrier would consider to be remunerative if independent of the out-haul, and the carriers depend on the haul of the product for a part of their return on inbound shipments, the existence of this transit provision in the saw log tariff makes it necessary to consider the rates on lumber out in connection with the rates on saw logs in. The rate on saw logs may thus be said to consist of the distance rate shown in Table IV, plus some portion of the rate on lumber out from the milling point. What that portion is, or is intended to be, is of course not apparent from the face of the tariffs. Under these circumstances, it is obvious that pulp wood distance tariff rates which are in no wise dependent upon the outhaul of the product can not be fairly compared with the saw log distance rates which are not, in contemplation of the carrier, the complete compensation received for the carriage of the logs.

Before it can be proved, therefore, that rates on pulp wood are discriminatorily high as compared with rates on saw logs, it must be shown that the inbound rate on saw logs, plus that portion of the outbound rate on lumber which is assignable to complete the compensation for the saw log haul, is materially lower than the distance rate on pulp wood. The only way in which this proof can be made is by considering both the pulp

wood-and-paper-haul and the saw log-and-lumber-haul as a whole. If the rates on lumber are enough higher than those on paper so that the advantage of the lumberman on the raw material in is completely overcome, then it cannot be said that the pulp wood rates are too high as compared with the saw log rates. If, on the other hand, the rates on paper and the rates on lumber are about equivalent to one another, then an advantage exists in favor of the lumberman, since the advantage on raw material in is not offset by any disadvantage on the product out.

But in comparing rates on lumber with rates on paper the difference between these two commodities must be constantly kept in mind. Table IV shows an average value of lumber equal to about one-half the value of news print paper and about one-third the average value of paper. This lumber valuation, it is true, excludes pine, which would probably raise the average materially. But it is also a fact that most of the paper manufactured in Wisconsin is a higher grade than news print, so that it is safe to say that the value of paper is at least twice that of lumber as the two commodities are produced in Wisconsin. Moreover, whatever advantage there may be in the risk of transportation is certainly on the side of lumber, while the loading per car of the two commodities appears to be about the same. Under these circumstances it would seem that lumber is entitled to somewhat lower rates than paper. What the difference in the rates should be where there is, as here, 100 per cent difference in the value, is not certain, but it is to be noted that paper is classed in the western classification in class 5, while the lumber rates carried in class tariffs are generally in the neighborhood of class B rates or lower. The variation between fifth class and class B usually runs from 15 to 25 per cent, and for the sake of conservatism the former figure will be assumed to be about fair in this case. In other words, it will be assumed that lumber on the average for the distance over which it is shown to move in this case, is entitled to rates equal to about 85 per cent of the rates on paper to the same territory.

Table V shows what the rates on paper and on lumber are to the territories to which lumber is shipped and also what the rates on lumber would be if fixed at 85 per cent of the rate on paper. Since the lumber and paper mill industries cover considerable territory in Wisconsin and are rather definitely marked out into a northern and southern group, the rates are shown from typical points in each group.

The particular points chosen as points of destination may or may not be consumers of large quantities of lumber; they are chosen rather as representative of the territory into which lumber goes than because of any definite information at hand as to their actual consumption.

TABLE V.
RATES ON PAPER AND LUMBER.
FROM WISCONSIN MILLS TO TERRITORY CONSUMING WISCONSIN LUMBER.
Rates in Cents per 100 Lb.

To	Northern Group of Mills.				Southern Group of Mills.			
	Lumber from Merrill.	Paper from Rhineland.	\$5 per cent of paper rate.	Excess lumber rate over \$5 per cent of paper rate.	Lumber from Oshkosh.	Paper from Appleton.	\$5 per cent of paper rate.	Excess lumber rate over \$5 per cent of paper rate.
Wisconsin Points:								
Milwaukee	10	10	8.5	1.5	7	7.5	6.4	0.6
Madison	10	10	8.5	1.5	8	10	8.5	0.5*
LaCrosse	8	12.5	10.6	2.6	10	12.5	10.6	0.6*
Janesville	10.5	12	10.2	0.3	8.5	10	8.5	.....
Racine	10	12	10.2	0.2	8.5	10	8.5	.....
Illinois Points:								
Chicago	10	12	10.2	0.2	8.5	10	8.5	.....
Rockford	11	12	10.2	0.8	11	10	8.5	2.5
Galena	12.5	12.5	10.6	1.9	12	12.5	10.6	1.4
Peoria	15	16	13.6	1.4	15	15	12.8	2.2
Springfield	16.5	16	13.6	2.9	16.5	16	13.6	2.9
Decatur	16.5	16	13.6	2.9	16.5	16	13.6	2.9
Rock Island	15	12.5	10.6	4.4	15	12.5	10.6	4.4
Bloomington	16.5	16	13.6	2.9	16.5	16	13.6	2.9
Danville	16.5	16	13.6	2.9	16.5	14	12.	4.5
Southern Minnesota Points								
St. Paul	10	8	6.8	3.2	12	12.5	10.6	1.4
Winona	10	12.5	10.6	0.6	10	12.5	10.6	0.6*
Faribault	13	14.5	12.3	0.7	13	14.5	12.3	0.7
Albert Lea	13	14.5	12.3	0.7	11.5	14.5	12.3	0.8*
Eastern Iowa Points:								
Dubuque	13.5	12.5	10.6	2.9	13.5	12.5	10.6	2.9
Davenport	16	12.5	10.6	5.4	15	12.5	10.6	4.4
Waterloo	16	14.5	12.3	3.7	15	14.5	12.3	2.7
Cedar Rapids	16	14.5	12.3	3.7	15	14.5	12.3	2.7
Burlington	17	16	13.6	3.4	17	15	12.8	4.2
Ottumwa	17.5	17.5	15	2.5	17	17.5	15	2.0
Cent. Traffic Ass'n Points:								
Ft. Wayne, Ind.	18	16	13.6	4.4	15.5	14	12	3.5
Indianapolis, Ind.	18	16	13.6	4.4	15.5	14	12	3.5
Evansville, Ind.	20	17	14.5	5.5	17.5	15	12.8	4.7
Toledo, O.	19	17	14.5	4.5	16.5	15	12.8	3.7
Cleveland, O.	20	17	14.5	5.5	17.5	15	12.8	4.7
Akron, O.	20	17	14.5	5.5	17.5	15	12.8	4.7
Columbus, O.	20	17	14.5	5.5	17.5	15	12.8	4.7
Dayton, O.	20	17	14.5	5.5	17.5	15	12.8	4.7
Cincinnati, O.	20	17	14.5	5.5	17.5	15	12.8	4.7
Grand Rapids, Mich.	15.5	16	13.6	1.9	13	14	12	1.0
Kalamazoo, Mich.	18	16	13.6	4.4	15.5	14	12	3.5
Jackson, Mich.	18	16	13.6	4.4	15.5	14	12	3.5
Saginaw, Mich.	16.5	17	14.5	2.0	14	15	12.8	1.2
Flint, Mich.	19	17	14.5	4.5	16.5	15	12.8	3.7
Pt. Huron, Mich.	19	17	14.5	4.5	16.5	15	12.8	3.7
Detroit, Mich.	19	17	14.5	4.5	16.5	15	12.8	3.7

*85 per cent of paper rate exceeds lumber rate.

The above tabulation shows that on the 85 per cent assumption the rate advantage to the southern Wisconsin points range from 1.5 cts. in favor of paper to 2.8 cts. in favor of lumber. To Milwaukee, however, which is necessarily a large consumer of lumber, the advantage is 0.6 cts. and 1.5 cts. in favor of paper from the two groups of mills, and an examination of the Wisconsin points as a whole leads to the conclusion that 0.5 cts. is a safe average of the present advantage on paper shipped to southern Wisconsin. To Chicago, lumber has an advantage of 0.2 cts. from the northern group of mills, while the two commodities seem to be about on an equality from the southern group. To other Illinois districts, however, paper has an advantage of from 0.8 cts. to 4.5 cts. and on this traffic the average advantage of paper would be fully 2 cts. Since Chicago is undoubtedly a large consumer of Wisconsin lumber, the advantage of paper for Illinois as a whole will be brought down materially below 2 cts., but can probably be conservatively placed at 0.5 cts. Into southern Minnesota the present advantage of paper is slight, except in the case of the Twin Cities, where it is 3.2 cts. and 1.4 cts. Eastern Iowa, however, shows a marked advantage in favor of paper, running as high as 5.4 cts. and averaging well over 2 cts. Combining this average in Iowa with the smaller average in Minnesota, but giving consideration to the importance of the Twin Cities as consumers of lumber, it seems that a figure of 1.5 cts. as the present advantage of paper into southern Minnesota and eastern Iowa is very safe. The advantage on shipments into the Central Freight Association territory is very strongly in favor of paper, though at Grand Rapids, Mich., which is undoubtedly a large consumer of lumber, this advantage is reduced to 1 ct. and 1.9 cts., because the rates on lumber are combined rail-and-water rates. On this account the average advantage of paper into the territory in question is placed at about 4 cts., though the figure for other markets than Grand Rapids would constitute a somewhat higher average.

The situation, then, is as follows: The paper manufacturers and the lumber manufacturers bring substantially the same raw material into the mills, but the lumber manufacturer transports this raw material at a rate averaging about 30 per cent lower than the rate on the paper manufacturer's material. The two manufacturers make from this raw ma-

terial two commodities, one of which is worth only about half as much as the other and is entitled, according to our assumption, to outbound rates averaging at least 15 per cent lower than the rates on the other product. Instead of enjoying such rates on his product, however, the lumberman pays rates about 0.5 cts. higher than he should (in comparison with rates on paper) on some 33 per cent of his traffic, 0.5 cts. higher on about 30 per cent, 1.5 cts. higher on 15 per cent, and 4 cts. higher on 25 per cent. When these various amounts of disadvantage are weighted with the proportion of the entire output represented by each, it is found that the average disadvantage of the lumber shipped is about 1.42 cts. per 100 lb. of lumber. Since each 100 lb. of lumber represents an inbound shipment of about 3.9 times its weight in logs (Table IV), this advantage of 1.42 cts. must be divided by the latter figure to obtain the disadvantage in logs, which is accordingly found to be about 0.36 cts. per 100 lb. of logs. In other words, so far as the comparison between lumber and paper industries is concerned, the reshipment clause in the log tariff makes a difference of something like 0.36 cts. per 100 lb. in the average rate on logs. The average rate on logs moved within the state, represented by the rate for the average distance over which logs are transported, is about 1.95 cts., the rate for 62 miles. The addition of 0.36 cts. to this rate increases the rate by 18 per cent. An addition of about 18 per cent to each of the average saw log rates shown in Table III would result in rates ranging from 10 to 24 per cent lower than the present rates on pulp wood, instead of from 24 to 35 per cent lower, as is the case at present. In other words, according to these calculations, a reduction of from 10 to 24 per cent in the rates on pulp wood would make these rates about fair as compared with the rates on saw logs, although, on account of the reshipment provision, the pulp wood rates would still be about 18 per cent higher than the saw log rates.

It is recognized, of course, that the calculations just preceding are founded on rather general and, at certain points, somewhat vague testimony, and to some extent also on assumption. They represent, however, the best information the Commission has at hand, and it would take a very substantial error in the figures as to lumber traffic to change the disadvantage of lumber shipments out into an equality with paper or an advantage

in favor of lumber. Furthermore, the facts just brought out are by no means a proper measure as to what would be inherently reasonable pulp wood rates. The intention is merely to show that the apparent advantage of lumber manufacturers on the raw material in is reduced one-third or more by the fact that the rate on lumber out includes a portion of the carrier's compensation for the haul in. While the foregoing calculations show that as between pulp wood and saw logs the rates on the former should perhaps average something like 18 per cent higher than the rates on the latter, it may well be that, considered independently, the saw log rates are in some cases too low, so that, unless a change is made in the saw log rates, the pulp wood rates should be more than 18 per cent higher than the saw log rates.

It has been shown that the reshipment clause in the saw log tariff is of much importance in justifying lower rates on saw logs than on pulp wood. That such a reshipment provision and lower rates based thereon with the idea of recouping on the haul of the product out are lawful in this state, cannot be doubted in view of the provisions of sec. 1797—6 of the Wisconsin statutes, which specifically legalizes rates of this sort. Under this statute it would of course be lawful also for the paper manufacturers to enjoy lower rates conditioned on the reshipment of the product out, but it has been shown that the low saw log rates granted to the lumber manufacturers under this arrangement are actually and not only theoretically offset in part by higher rates out, and if the addition of a reshipment clause to the pulp wood tariff were made the sole ground for a reduction of the pulp wood rates, while paper rates were left as they are at present, there would be no recouping for the lower rates in on account of higher rates out; so that the reshipment provision, though made the excuse for a reduction on pulp wood, would not be carried out according to the theory on which alone it is justified. Thus, it does not follow as a matter of course that because the carrier accorded the shipper of saw logs a reshipment rate, the same kind of rate can be demanded by the shipper of pulp wood under present conditions, when the two commodities are compared with each other and not considered independently by themselves.

In addition to the testimony as to the conditions surrounding the pulp wood and paper industry and the comparative situation as between that industry and the lumbering industry, evidence was presented by both the petitioner and the respondent carriers with respect to rates on pulp wood in other parts of the country. This evidence consisted of several comparisons of rates on different railway lines in those portions of the United States where there is traffic in pulp wood with the distance rates in Wisconsin. It seems hardly necessary to go into an extensive presentation or discussion of these comparative rates at this time. The following statement, summarizing in a very brief and general way the evidence on this point, may indicate what the comparisons tend to show:

Railroad.	Kind of rates.	Relation to Wis. rates	Remarks.
<i>Eastern & Southern:</i>			
Maine Central.....	Group, to 2 points...	Lower.....	Maximum difference about 1 ct.
N. Y. C. & H. R.....	Group, to 6 points...	Lower.....	Difference ranges 0.41 to 3.4 cts.
Buff. Roch. & P....	Group, to Johnsonburg, Pa.....	Higher.....	Difference about 25 %.
Norfolk & W.....	Distance (reshipm't)	Higher.....	Difference about 1 ct.
Southern.....	Distance, in zones:.. 1st, 60 mi., 2nd, 40 mi., others, 20 mi..	Lower.....	Difference ranges 0.07 to 1.8 cts.
<i>Canadian:</i>			
Can. Pacific.....	Distance.....	About double..	Nothing to show where applicable.
<i>Michigan:</i>			
Mich. Cent.....	Group, to 4 points...	A little higher.	Except at outer stations, in groups.
Pere Marquette....	Group, to Muskegon	A little higher.	Except at outer stations, in groups.
<i>Minnesota:</i>			
Northern Pac.....	Distance.....	Higher.....	Difference averages about 30 %.
Northern Pac.....	Group, to 2 points...	A little lower..	Except at nearest stations, in groups.
Northern Pac.....	Group, to Cloquet...	Higher.....	Difference ranges, 0.5 to 1.5 cts.
Great Northern....	Group, to 2 points...	Higher.....	Difference ranges 0.2 to 1.7 cts.
Minn. & Int.....	Group, to Brainerd.	Higher.....	Difference ranges 0.2 to 1.2 cts.
Dul. Minn. & Nor...	Group, to Duluth...	A little lower..	Except at nearest stations, in groups.
Dul. & Iron R.....	Distance.....	Lower.....	Except below 15 mi. difference ranges 0.04 to 0.74 cts.

The above statement shows that the rates given in the comparisons are in some cases higher and in some cases lower than those now in effect in Wisconsin. The rates given for New York and Maine seem to be generally lower, while those for

Michigan are a little higher and those in Minnesota are partly higher and partly lower.

The rates presented for comparative purposes, however, whether higher or lower than the Wisconsin rates, are not of very great importance in this case in the determination of reasonable rates on pulp wood for Wisconsin. This is due to several causes: (1) There is nothing to indicate whether the rates shown to be higher or lower than the Wisconsin rates are not unreasonably high or unreasonably low, and if they are unreasonable in either direction they furnish no safe basis for rates in Wisconsin; (2) where rates are shown between specific points there is often nothing to show how much traffic these rates affect or whether the points most heavily interested in the pulp wood traffic are or are not included in the statements. It may be also that there are trainload rates or other special rates superseding in part the rates shown in the comparison as to large volumes of traffic; (3) where the rates shown are distance rates it may well be that they are maximum rates on which little traffic moves. This is apparently true in the case of the Northern Pacific Railway Company, whose distance rates, as shown by the above statement, are higher than the Wisconsin rates, but whose main paper mill points are supplied at rates lower (except in the case of Cloquet) than the Wisconsin rates. The Canadian Pacific distance rates mentioned in the statement are so high that they are probably to be explained on the same ground; a further source of doubt as to these rates is the fact that there is nothing to show what portion of the enormous Canadian Pacific system they cover, or whether they apply over the whole system; (4) most of the pulp wood producing territory involved in the rate comparison is, so far as our information goes, nearer to the paper mills than the pulp wood territory in Wisconsin, so that the hauls in the other states are probably shorter and the actual freight charges on pulp wood, even under higher rates, may be less than they are in Wisconsin. In other words, transportation conditions differ to some extent as between other pulp wood territories and Wisconsin and it is not certain that, with hauls as long and resulting freight charges as heavy as they are in Wisconsin, the railway lines in regions now having higher rates would not reduce those rates. At all events, it is plain from the foregoing facts that comparisons

with other pulp wood rates, though instructive and worthy of attention if sufficiently complete, can by no means be controlling in fixing rates for Wisconsin.

The primary basis on which reasonable rates must be found, as has been stated before, is the cost of performing the service. For the purpose of obtaining some light on this cost the carriers' reports and other data on file with this Commission have been carefully analyzed. This analysis covers the cost value of the property and business of the carriers used in connection with their service; their earnings and operating expenses; the rates of return to which they are entitled on their investment; the nature of the traffic involved, its weight and value in proportion to its bulk, its position in these respects with reference to the remainder of the carrier's traffic; and many other facts. Pulp wood is a low grade commodity and involves little risk in transportation. Its loading per car is heavy, amounting to about twice as much as the average loading per car for the entire traffic of the carriers. Since low grade commodities of this kind can bear but low rates and since heavy loading means relatively low cost of transportation, it also follows that the rate for such traffic should be a great deal lower than the average rate for all traffic. In fact, the rates on pulp wood, as has already been pointed out, should be among the lowest rates to be found in the tariffs.

When the loading per car is placed at 30 tons and when the operating expenses are increased by 5 per cent of the cost value of the property and business used in the service, it is found that for the leading roads involved in this case the cost of handling the traffic at the terminals ranges from about 1.10 cts. to 1.25 cts. per 100 lb., and that the cost of moving it between the terminals varies from about 0.17 of a mill to about 0.23 of a mill per 100 lb. per mile of haul. These unit costs represent the results obtained when the operating expenses, including interest charges at the rates given, are apportioned between the different departments of the service and between the terminal and the movement portions of such service, and when the latter items are in turn distributed over the proper traffic and operating units. The allocations involved in this work and the other calculations that were necessary in connection therewith have, for the most part, been carried through the reports of the carriers for the

past five years. They were made with the greatest care and the results obtained have been fully compared and tested. When considered in connection with the fact that pulp wood is a low grade commodity, there being but few of lower grade, and that it is handled in large quantities, often in trainload lots, it is obvious that the above unit costs must shed a great deal of light not only on what the rates on pulp wood ought to be, but on how they should be computed and set forth in the tariff. That low grade traffic of this kind, especially when offered in great volumes, should be accepted for transportation at rates that contribute relatively less toward the fixed expenses of the carriers than is the case for traffic of higher grades, is a generally recognized fact in the transportation field.

The rates provided in the order herein are somewhat lower than the rates which in the similar case in 1908 were promulgated by this Commission. The reasons for these differences in the two cases will be found largely in the fact that in the instant case the relative amounts which the various parts of the traffic should contribute to the total receipts of the carriers have been more fully determined, as well as more closely adhered to. Furthermore, in cases where a given rate or rates are higher than they should be, it is frequently found that gradual reductions therein are better suited to commercial conditions than more sweeping ones.

The rates on pulp wood, which are set forth in the order herein, appear to us to be reasonable under the circumstances. As to saw logs, it has been shown that the rates are so closely connected with the rates on lumber produced from them that these two sets of rates must be dealt with together. If, in the investigation of these rates that is now under way, it should ultimately be found that they require readjustment and that any such readjustment also requires further changes in the rates on pulp wood as ordered herein, then it also follows that the necessary modifications in the present order will be made.

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 Duluth, South Shore & Atlantic Railroad Company, the Green Bay & Western Railroad Company, the Minneapolis, St. Paul & Sault Ste. Marie Railway

Company, the Northern Pacific Railway Company, the Wisconsin Central Railway Company, the Wisconsin & Michigan Railway Company, and the Wisconsin & Northern Railroad Company, discontinue their present rates on carload shipments of pulp wood between points on their respective lines in the state of Wisconsin, and that they substitute in lieu thereof, subject to the same minimum weights and other regulations as are at present in effect, rates not exceeding the following:

Distance.	Rates, in cts. per 100 lb.	Distance.	Rates, in cts. per 100 lb.
5 miles	1.35	110 "	3.15
10 "	1.45	120 "	3.25
15 "	1.55	130 "	3.35
20 "	1.65	140 "	3.45
25 "	1.75	150 "	3.55
30 "	1.85	160 "	3.65
35 "	1.95	170 "	3.80
40 "	2.05	180 "	3.80
45 "	2.15	190 "	3.80
50 "	2.25	200 "	4.00
55 "	2.35	210 "	4.20
60 "	2.45	220 "	4.30
65 "	2.55	230 "	4.40
70 "	2.62	240 "	4.50
75 "	2.69	250 "	4.60
80 "	2.76	260 "	4.70
85 "	2.83	270 "	4.80
90 "	2.90	280 "	4.90
95 "	2.97	290 "	5.00
100 "	3.05	300 "	5.10

RHINELANDER PAPER COMPANY

vs.

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

NEKOOSA-EDWARDS PAPER COMPANY, INTERVENER.

Decided Jan. 30, 1913.

The M. St. P. & S. S. M. Ry. Co. requests a rehearing of the pulp wood rate matter in *Rhineland Paper Co. v. M. St. P. & S. S. M. R. Co.* 1912, 9 W. R. C. R. 111. The original petition alleged discrimination against the Rhineland Paper Co. in rates charged to Rhineland, Wis., higher than the rates to Grand Rapids, Port Edwards, Nekoosa, Neenah and Menasha, Wis. It was ordered (8 W. R. C. R. 105) that the respondent either charge the rates ordered in 2 W. R. C. R. 168 to all points involved, or lower the Rhineland rates to correspond with the special rates granted by the respondent to the other points named. Thereupon the rates ordered in 2 W. R. C. R. 168 were put in effect to all the points involved. Upon rehearing, the order 9 W. R. C. R. 111 left them on an equal basis but lowered the rates to correspond with the special rates previously in effect. From this order the respondent now petitions for relief and, pending this rehearing, the rates ordered in 2 W. R. C. R. 168 were left in effect. The entire pulp wood rate situation was investigated in *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, and rates were ordered substantially the same as in 9 W. R. C. R. 111. The refunds authorized in the previous decision have not been made pending further investigation.

Held: The rates on pulp wood ordered in the recent decision affect all railway lines carrying pulp wood in Wisconsin and these rates apply to the points in question, reducing the rates and disposing of the charge of discrimination. The respondent is authorized to refund to the Rhineland Paper Co. the amount collected in excess of these rates on carload shipments from Wisconsin points to Rhineland arriving at destination after Jan. 3, 1911, and to Nekoosa-Edwards Paper Co. similar excess charges on shipments to Port Edwards and Nekoosa, arriving at destination after Nov. 30, 1911.

REHEARING.

This is a rehearing of the matters relating to the rates on pulp wood involved in the case of the same title decided April 30, 1912 and reported in 9 W. R. C. R. 111.

In order that the issues of the present case may be fully understood, a brief review of the history of this proceeding is desirable. The original complaint of the Rhineland Paper Com-

pany against the Minneapolis, St. Paul & Sault Ste. Marie Railway Company charged that while the respondent company was collecting the distance tariff rates on pulp wood fixed by this Commission *In re Rates on Pulp Wood*, 1908, 2 W. R. C. R. 168, it had established and was collecting rates substantially lower than such tariff to Grand Rapids, Port Edwards, Nekoosa, Neenah and Menasha, Wis. Upon investigation of these charges, the Commission found that the charging of a lower basis of rates to the other points named than to Rhinelander constituted a discrimination against Rhinelander and the respondent company was ordered, on November 10, 1911, either to discontinue its lower rates to the other points and substitute therefor the Commission's scale of rates, or to reduce the Rhinelander rates to the approximate equality of the other rates.

The alternative adopted by the carrier was to raise the rates to the level of the Commission's distance tariff and this increase was made effective November 30, 1911. Thereupon the Nekoosa-Edwards Paper Company of Nekoosa and Port Edwards petitioned the Commission for the privilege of intervening in the case and asked for a rehearing in the matter. The Rhinelander Paper Company also filed with the Commission an amended petition, adding to its original allegations the charge that the Commission's scale of distance rates was unreasonable and excessive. The Commission, upon re-investigating the matter, renewed its finding that the existence of the lower basis of rates to Nekoosa and the other points than to Rhinelander was discriminatory but went further, under the amended complaint, and found that the distance rates which were then being applied to Nekoosa and the other points as well as to Rhinelander were under the circumstances excessive, and by order dated April 30, 1912, the Commission established a new distance schedule, reducing the existing distance rate in such proportion as to be about equivalent to the specific rates formerly in effect to Nekoosa. This new schedule was ordered to be put into effect to Rhinelander, while the old specific rates to Nekoosa, Port Edwards, Grand Rapids, Neenah and Menasha were ordered to be restored.

Upon receipt of the Commission's decision, just mentioned, the respondent, Minneapolis, St. Paul & Sault Ste. Marie Railway Company, petitioned for a rehearing upon the grounds,

among others, that the Commission was not justified in its finding of discrimination as between Rhinelander and Nekoosa; that the rates to Nekoosa were rates of the Wisconsin Central Railway Company, a corporation which, though under lease to the "Soo" line, was a separate corporation whose voluntary rates were no criterion for rates on the "Soo" line proper, and that the fixing of a lower distance scale for the "Soo" line than that in use by other lines was a discrimination against the "Soo" line as singled out from all the other railroads in Wisconsin.

The petition of the "Soo" line also asked that the effectiveness of the order of April 30, 1912, be stayed until the determination of the matter upon rehearing in this case was granted by the Commission. The pulp wood rates at present in effect to Rhinelander, Nekoosa, Port Edwards, Grand Rapids, Neenah and Menasha, therefore, are the distance rates established by this Commission in 1908.

In compliance with the petition of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, a rehearing was held at the office of the Commission, June 6, 1912, at which the Rhinelander Paper Company was represented by *Drew & Jameson*, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company by *A. H. Bright*, and the Nekoosa-Edwards Paper Company by *Brazeau & Goggins* and *Felix Streyckmans* and *W. D. Hurlbut*.

The evidence presented at the rehearing consisted largely of statistics and computations on the part of the "Soo" line, intended to demonstrate that the new distance scale on pulp wood fixed by the Commission would be unremunerative. There was also some additional testimony as to the conditions surrounding the acquirement and transportation of pulp wood on the part of the paper mills involved in the case. It was further testified on the part of the "Soo" line that the specific rates formerly in effect to Nekoosa and Port Edwards, lower than the Commission's distance scale, were conditioned on a contract entered into with the Nekoosa-Edwards Paper Company that the product of the pulp wood brought in under such rates were to be shipped out over the "Soo" line. Strong objection was however made to this evidence on the part of the Rhinelander Paper Company, for the reason that such reshipment condition did not appear on the tariffs naming the rates to Nekoosa and Port Edwards, and it was claimed the reshipment provision was therefore not legally

effective and was no justification for lower rates to Nekoosa than to Rhinelander.

The entire pulp wood rate situation in Wisconsin has been carefully investigated by this Commission and the result of this investigation has been announced in the decision and order of the Commission in *Pulp & Paper Mfrs. Traffic Ass'n. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, decided January 25, and effective February 14, 1913. In that case a large amount of data bearing upon the pulp wood traffic in Wisconsin in both its commercial and transportation features were submitted and considered and as a result it was determined that some reduction below the existing distance scale of pulp wood rates throughout the state was justified by the circumstances. Analyses of the reports of the carriers and all other available facts regarding the cost of transporting pulp wood, together with the characteristics of the commodity and the commercial and competitive conditions surrounding its use, led to the establishing of a distance schedule, substantially the same as that fixed in the order of the Commission in the present case, dated April 30, 1912, (9 W. R. C. R. 111).

The distance rates thus ordered by this Commission in its recent decision affect all the railway lines carrying pulp wood in Wisconsin and the application of these rates to the points involved in the present proceeding will follow as the result of that decision and order. All the facts and data submitted in the present case have been carefully considered and have been found fully to warrant the establishing of these rates to Rhinelander, Grand Rapids, Nekoosa, Port Edwards, Neenah and Menasha, as well as to other Wisconsin points. The uniform application of this distance scale to Nekoosa and the other points formerly involving specific rates, as well as to Rhinelander, disposes of the charge of discrimination as between the different paper mills and at the same time leaves the rates on the intervener's pulp wood about equal to the specific rates which were in force at the time the original complaint of the Rhinelander Paper Company was filed.

The Rhinelander Paper Company, in its amended petition alleging the unreasonableness of the distance rates on pulp wood, asked for a refund of the amounts paid by it in excess of the rate which might be found to be reasonable on all its intrastate

shipments reaching destination within a year of the filing of the amended petition. The Commission granted this request in its order of April 30, 1912, by authorizing the payment of such refund on all shipments reaching destination between January 3, 1911, and the date of the effectiveness of the order. Since the order just mentioned has never become effective, but is herein reaffirmed as to Rhinelander, it seems that under the circumstances of this case the Rhinelander Paper Company is entitled to a refund of the amounts collected of it in excess of the distance rates herein ordered from January 3, 1912, to the date of the effectiveness of the order given below.

As to the Nekoosa-Edwards Paper Company, the rates on pulp wood paid by that company since November 30, 1911, have been the distance rates which are superseded in the order herein by a lower distance scale. Since the former rates from specific points to Nekoosa and Port Edwards were increased as the result of the first order of this Commission dated November 10, 1911, which gave the carrier the option to raise the Nekoosa rates or lower the Rhinelander rates, the withdrawal of this option by the second order, and the requirement that the lower Nekoosa rates be restored, was accompanied by an authorization of a refund to the Nekoosa-Edwards Paper Company of the excess over the latter rates paid by it since November 30, 1911. The order restoring these lower rates to Nekoosa has never become effective but is in this case superseded by the order fixing the new schedule of distance rates for both Rhinelander and Nekoosa, and the Nekoosa-Edwards Paper Company appears to be entitled, under the circumstances, to a refund of the amounts paid by it in excess of the distance scale herein made effective on all shipments reaching destination from November 30, 1911, to the date of the effectiveness of the order given below.

The amount of the refund in each case cannot be definitely stated in the order since the Commission has not in its possession the expense bills on which such refund is to be based. The computation of the refund will therefore be left to the parties, with recourse to the Commission for further order in case of disagreement.

The order herein will supersede the order entered in this case on April 30, 1912.

We therefore find and determine that the present rates and charges of the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, on pulp wood from Wisconsin points on its line to Rhinelander, Grand Rapids, Nekoosa, Port Edwards, Neenah and Menasha, Wis., are exorbitant, and that reasonable rates for the services performed would be rates not exceeding those named in the order herein.

IT IS THEREFORE ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, discontinue its present rates on carload shipments of pulp wood from points on its line within the state of Wisconsin to Rhinelander, Grand Rapids, Port Edwards, Nekoosa, Neenah and Menasha, Wis., and that it substitute in lieu thereof, subject to the same minimum weights and other regulations as are at present in effect, rates not exceeding the following:

Distance.	Rates in cts. per 100 lb.	Distance.	Rates in cts. per 100 lb.
5 miles	1.35	110 "	3.15
10 "	1.45	120 "	3.25
15 "	1.55	130 "	3.35
20 "	1.65	140 "	3.45
25 "	1.75	150 "	3.55
30 "	1.85	160 "	3.65
35 "	1.95	170 "	3.80
40 "	2.05	180 "	3.80
45 "	2.15	190 "	3.80
50 "	2.25	200 "	4.00
55 "	2.35	210 "	4.20
60 "	2.45	220 "	4.30
65 "	2.55	230 "	4.40
70 "	2.62	240 "	4.50
75 "	2.69	250 "	4.60
80 "	2.75	260 "	4.70
85 "	2.83	270 "	4.80
90 "	2.90	280 "	4.90
95 "	2.97	290 "	5.00
100 "	3.05	300 "	5.10

IT IS FURTHER ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, be and the same is hereby authorized to refund to the petitioner, the Rhinelander Paper Company, the amounts collected by the respondent railway company in excess of the rates herein ordered

on all carload shipments of pulp wood from Wisconsin points on its line to the petitioner at Rhinelander, Wis., arriving at destination between January 3, 1911, and the date of the effectiveness of this order.

IT IS FURTHER ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, be and the same is hereby authorized to refund to the intervener, the Nekoosa-Edwards Paper Company, the amounts collected by the respondent railway company in excess of the rates herein ordered on all carload shipments of pulp wood from Wisconsin points on its line to the intervener, at Port Edwards and Nekoosa, Wis., arriving at destination between November 30, 1911, and the date of the effectiveness of this order.

OSHKOSH FUEL COMPANY

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Decided Jan. 31, 1913.

The petitioner alleges that the charge exacted on a shipment of fuel wood from Crandon to Milwaukee, Wis., was unreasonable. The rate exacted was $4\frac{1}{2}$ cts. per cwt. applied to the minimum weight. The minimum weights on wood are based on the length of the car, and the marked capacity of the car furnished for the shipment in the present case was less than the minimum applicable under the rule. There are few exceptional cars and the reasonableness of the general rule is not in question.

Held: The minimum should not be greater than the full weight permitted to be loaded in the car. A reasonable charge would have been the rate applied to the actual weight of the shipment. Refund is ordered.

The petition in this case is for a refund of \$2.11 which is alleged to have been paid in excess of a reasonable charge on a shipment of fuel wood which moved from Crandon to Milwaukee, Wis., on April 10, 1912, in Missouri Pacific car No. 54941. The paid freight bill for the shipment, which accompanied the petition, shows that the actual weight of the shipment was 45,300 lb., and that charges were paid on 50,000 lb. at the rate of $4\frac{1}{2}$ cts. per cwt., making \$22.50.

Respondent, in its answer to the petition, after admitting the shipment, the weight, rate and charges as alleged therein, denies each and every other allegation, and says that it does not believe that the petitioner is entitled to any order of reparation.

The claim was submitted upon the pleadings, correspondence, documents, and vouchers on file.

Respondent's tariff G. F. D. 5950—C naming a rate on fuel wood from Crandon to Milwaukee shows that 50,000 lb. is the minimum weight applicable to shipments in cars under 40 feet and over 34 feet 6 inches in length, on which the rate of $4\frac{1}{2}$ cts. per cwt. applies. The Official Railway Equipment Register shows that Mo. Pac. car No. 54941 is 36.5 feet in length. The

weight and charges complained of, therefore, are the lawful weight and charges applicable to the shipment involved. The complaint, however, is based upon the allegation that the capacity of the car was only 40,000 lb., and could not, therefore, according to the rules of the respondent lines, be loaded to exceed 10 per cent above this capacity, which would be 44,000 lb. The Official Railway Equipment Register lists this car at a capacity of 40,000 lb., consequently the shipment was actually 1,300 lb. in excess of the full limit of weight permissible to be loaded into the car used.

In a communication received from the assistant general freight agent of the railway company it is stated that there are conditions peculiar to the shipment complained of alone, and that in the opinion of the respondent no change of tariff is necessary.

The charges exacted of the petitioner, under the circumstances disclosed, are undoubtedly unreasonable. The minimum by the tariff to apply on a car should not be greater than the full weight limit permitted to be loaded in the car. The respondent's tariff minimum on wood is based on the length of cars only, but cars of the length on which a minimum of 50,000 lb. applies usually have a weight capacity of 50,000 lb. or more. Cars of this length with weight capacity below 50,000 lb. are exceptions to the general rule and represent but a very small proportion of the cars suitable for or apt to be supplied for shipments of wood. It is quite possible that a case of this kind will not occur again. Under these conditions, it does not appear to be necessary for the Commission to order any change in the rules or to specially provide for future shipments. Should similar instances arise in the future, the remedy applied in the present case will still be available to shippers.

For the reasons assigned, we find and determine that the charge exacted of the petitioner on the shipment of fuel wood from Crandon to Milwaukee is exorbitant, and that the reasonable rate for such shipment would have been \$20.39, which is the amount based on a rate of 4½ cts. per cwt. applied to the actual weight of the shipment.

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 Oshkosh Fuel Company the sum of \$2.11.

**IN RE APPLICATION OF THE ROCKLAND TELEPHONE COMPANY
FOR AUTHORITY TO INCREASE ITS RATES.**

Decided Jan. 31, 1913.

Application was made for the determination of adequate rates for the Rockland Tel. Co. in the town of Rockland, Manitowoc Co., Wis. The rate schedule and annual reports of operation have not been filed with the Commission in compliance with the Public Utilities Law. The company's accounts have not been properly classified and it is difficult to determine the actual investment and operating expenses.

No regular annual charge is made for service to stockholders. Four nonstockholders pay an annual charge. The company proposes to charge \$5 to stockholders and \$12 to nonstockholders. The present practice of the company and the proposed rates are discriminatory and in violation of sec. 1797m—90.

The stockholders own their instruments and keep them in repair. The utility is allowed to pay an annual rental for facilities furnished by subscribers (sec. 1797m—90) and a rental is provided in the present case, including depreciation, repairs and interest per phone.

Held: The present rates are inadequate and the applicant is ordered to put in effect the rate and equipment rental approved by the Commission.

The company is to make annual provision for depreciation of not less than 7 per cent of the cost of the plant.

Application in this case was filed on October 22, 1912, by the Rockland Telephone Company.

The petition represents that the applicant is a corporation organized under the laws of Wisconsin and having its principal office and place of business in the town of Rockland in Manitowoc county, Wis.

The petition further represents:

“That the company was organized in February, 1908, for the purpose of carrying on and conducting a telephone business and furnishing telephone service to its members and others.

“That the company was originally organized with sixty shares of capital stock of par value of \$25 each.

“That the articles of incorporation of the company from time to time have been amended so that at the present time the company has an authorized capital stock of \$6,000 represented by 240 shares.

“That of these shares 138 have been actually sold and issued. That the stockholders of the company are substantially all farmers residing in the towns of Rockland and Maple Grove in the county of Manitowoc and the town of Rantoul in the county of Calumet. That the company was organized and has been conducted as a farmers’ telephone company, each person holding one share of stock and each shareholder has been entitled to telephone service upon the lines of this company. That this company now has twenty-six miles of pole lines and furnishes telephone service to its 138 stockholders and to four other persons. That service is furnished to persons other than stockholders at an annual charge of \$12 per year. That no regular annual charge has been made for telephone service to stockholders of this company, but some incidental charges have been made, as for long distance service or service upon the lines of the company and on lines of some other company, and a charge of 10 cts. per minute for persons not stockholders or regular patrons, also a charge of 25 cts. per minute for the use of the telephone for each minute used over five minutes at one time. That the total revenue from these various sources during the last year did not exceed \$25. That this amount was insufficient to provide for the maintenance of the telephone lines and service of this company and that the company during the last two or three years has been constantly becoming more and more in debt, until it is now indebted in the sum of \$700 for money used in improvements and repairs of its lines and service. That the company has endeavored to get various contributions from the members of the company to pay the debts of this company and at its last stockholders’ meeting held in February, 1911, voted to ask for such contributions in the sum of \$5 from each member, upon the condition that if all paid such \$5 sum then the same should be donations, but if each and all did not pay \$5 then such contributions should be a loan to the company. That about one-half of the members of the company have advanced the \$5 but the remainder of the members of the company have failed to make such contribution. Therefore the company is still in debt for the whole amount and is becoming more and more in debt, and as time advances the poles and lines and instruments of the company require more and more attention and more and more expense for maintenance.”

The application states, finally, that in view of these conditions it is imperative that the method of business of the company be changed and that an annual charge be made to each person receiving service from this company. A fair and reasonable charge for the service of the company, the petitioner claims, would be \$5 a year to stockholders and \$12 a year to persons not stockholders.

Applicant asks that "an order be entered permitting and authorizing the company to put in force a schedule of charges as herein prayed for, or such other schedule of charges as may be just and lawful in the premises and also for the enforcement of collection of the charges."

A hearing was set for November 18, 1912, but no appearances were made.

The Rockland Telephone Company, up to the time of filing the above petition, had failed to comply with the Public Utilities Law requiring utilities to file with this Commission a statement of their rates and annual reports of their operations. Consequently, no information regarding the company prior to this application has ever been received by this Commission. In order to pass upon the petition, therefore, a thorough examination of the applicant's books and records was made by the Commission. As a result of the examination into the records and practices of the company, the following facts appear:

This is a telephone company organized for strictly rural service. It was incorporated in February, 1908, and was capitalized at \$1,500 in sixty shares at \$25 each. By amendment of June 26, 1908, the capitalization was increased to \$3,000 and by amendment of April 15, 1911, the capital stock was placed at 240 shares at \$25, making a total authorized capitalization of \$6,000. From an examination of the stock record it appears that by the close of 1912, 141 shares had been sold. The stocks outstanding January 1, 1913, therefore, amounted to \$3,525.

Out of these 141 shareholders 136 have telephone connection with the Rockland Telephone Company at the present time. Besides the shareholders there are four "renters" who do not own stock but who receive regular telephone service. These 140 make up the total subscriber's list.

Before giving a statement of the company's charges, it would be well to consider some features of the physical construction of the system. The Rockland Telephone Company has no switchboard of its own. Messages requiring a switchboard operator are handled chiefly by the central of the Manitowoc & Western Telephone Company whose central office is located in the village of Reedsville. Some messages are handled by the central of the Wisconsin Telephone Company at Potter. The system is divided into six circuits, having an average of about twenty-four sub-

scribers to each. A subscriber may call another on the same circuit without having the message pass through central. Calls between circuits, however, require switching. Two circuits connect with the exchange at Potter, while the remaining four circuits make use of the exchange at Reedsville. The Rockland company's lines do not enter the villages of Reedsville and Potter, but the Manitowoc & Western Company and the Wisconsin Telephone Company, respectively, extend their lines out to connect with the rural company.

The arrangement with the two exchanges is, that a switching charge of 3 cts. per message is to be assessed against the Rockland Telephone Company for every connection made by either of the two centrals. The Rockland company receives monthly statements from the exchanges and collects the switching charges from each subscriber according to the calls put in by him. All subscribers, whether stockholders or not, must pay their switching charges.

The regular charges made by the Rockland Telephone Company at the time of this application, are as follows:

Stockholders—No rental charge.

Non-stockholders—\$12.00 a year rental.

10 cts. per message for persons who are neither stockholders nor regular customers.

25 cts. per minute for use of the line for longer than 5 minutes at a time when line is requested.

25 cts. per message for use of telephone between the hours of 9 p. m. and 7 a. m. for unnecessary purposes.

The last two charges do not constitute a regular source of revenue but are rather in the nature of fines or penalties to prevent abuse of lines. The effect of the other items upon revenue will be taken up later.

It has been necessary to inquire into the expenditures for the past five years in order to determine the investment in the system. This investment has been rather difficult to determine, owing to incompleteness of accounts. The financial books consist of a cash book containing a record of annual receipts and expenditures, unclassified, and of a minute book containing certain summary statements of the financial condition of the company. So far as practicable the construction expenditures have been segregated from operating expenses and the following results have been arrived at:

ANNUAL CONSTRUCTION EXPENDITURES.

	1908	1909	1910	1911	1912	Total
Organization	\$197 95	\$3 00	\$21 90	\$34 00		\$259 85
Wire plant	2,330 57	1,633 82	270 25	59 68		4,294 32
Interest			20 00	27 30		47 30
Miscellaneous equipment.....	39 36					39 36
Miscellaneous construction.	41 00	23 73	17 00	11 00	\$5 00	97 73
Total.....	\$2,608 88	\$1,665 55	\$329 15	\$131 98	\$5 00	\$4,738 56

The total investment in the system is thus determined at approximately \$4,700. This is considerably lower than the amount given in the company's petition, where the investment is placed at about \$6,500. The investment would aggregate this much if the cost of subscriber's instruments were considered. Since the 136 shareholders now connected paid \$12 each for their own instruments, there is an amount of approximately \$1,630 expended by the company for telephone instruments for which the company was reimbursed. The annual construction expenditures given in the above table, therefore, do not include the value of the telephone instruments. The proper amounts to be excluded each year on this account were determined from the record of yearly collections from subscribers. The final amount of \$4,700 represents, as nearly as it can be determined, the actual investment of the company. This value may appear somewhat low, but as there is no land and no central office owned by the company, the \$4,700 seems to be a fair value.

Using this value of plant and other information given in the minutes of the last annual meeting, an approximate balance sheet can be constructed as follows:

BALANCE SHEET AS OF JANUARY 1, 1913.

ASSETS.		LIABILITIES.	
Cost of plant.....	\$4,700 00	Capital stock (141 shares).....	\$3,525 00
Cash.....	1 93	Notes payable.....	250 00
Material and supplies.....	185 83	Accounts payable.....	395 00
		(amounts received on resolution)	
		Surplus	717 78
Total assets	\$4,887 76	Total liabilities	\$4,887 76

As has already been pointed out, no classification of expenditures has been made in the company's accounts. This fact has

made it difficult to determine accurately its operating expenses. The items which have been clearly identified as expenses rather than construction are given below:

EXPENSE CHARGES.

	1908	1909	1910	1911	1912	Total
Repairing line.....	\$5.50	\$64.14	\$4.75	\$55.67	\$25.84	\$155.90
Taxes.....		.78	2.18	2.20	7.20	12.36
Expense of meetings.....		35.50	12.00	48.00	37.75	133.25
Traveling expenses.....		6.00		21.50		27.50
Secretary's salary.....		15.00	15.00	15.00	15.00	60.00
Stationery and supplies.....				5.50	3.87	9.37
Collection expenses.....		8.00	5.00	5.00	5.00	23.00
Interest.....					3.75	3.75
Total.....	\$5.50	\$129.42	\$38.93	\$152.87	\$98.41	\$425.13

While the expenses can not be definitely determined from the company's records, still it is evident that their expenses, excluding depreciation, are very low. No salaries are paid other than \$15 per year to the secretary. Directors are paid \$2 for every meeting they attend. This expense of meetings for the past four years averages \$35 per year. Taxes amount to 5 cts. per phone. These items are regular expenses occurring every year. Operation and maintenance of wire plant must be estimated apart from company's books, as the repairs to line, during the first few years when the company has scarcely passed through the construction period, cannot be taken as an indication of what they will be in the future. From the 1910 reports to the Commission an analysis of the wire plant expenses of thirty-two class D independent telephone companies with from twenty-four to forty-eight miles of pole line was made, which showed a weighted average of \$6.69, an arithmetic average of \$9.85, and a median of \$5.72 per pole-mile. An analysis of nine class C companies of same range of pole-miles showed a weighted average of \$8.04, an arithmetic average of \$7.80, and a median of \$8.16 per pole-mile. An allowance of \$8.00 per mile, therefore, seems ample in this instance.

Using these expense figures and allowing 7 per cent on \$4,700 for interest and depreciation, respectively, the following expenses result:

OPERATING EXPENSES.

Wire plant expenses.....	\$280.00
Substation expenses	204.00
General office salaries.....	15.00
Misc. general expenses.....	45.00
Taxes	7.00
Commercial	5.00
	<hr/>
Total of above.....	\$556.00
Depreciation 7%.....	329.00
	<hr/>
Total operating expenses.....	\$885.00
Interest 7%.....	329.00
	<hr/>
Total	\$1,214.00

The substation expense item, \$204, requires some explanation. All of the telephone instruments, excepting those used by non-stockholders, are owned by the individual subscribers. By this private ownership of instruments and by the agreement that subscribers shall maintain their own phones, the company is relieved of the necessity of meeting interest, depreciation, and repairs on such instruments. Some consideration should be given, in fixing a rate, to the difference in the position of those who have bought instruments and those who have not. If the company's proposal were carried out and \$5 were charged to stockholders as against \$12 to nonstockholders, a discrimination in violation of sec. 1797m—90 of the Public Utilities Law would result. However, according to the same section it is permissible for utilities to pay a rental for equipment or facilities furnished by the subscribers. In this instance, the expenses for depreciation, repairs and interest saved to the company would be about \$1.50 per year for each instrument. This amount the company should pay as a rental to subscribers owning their phones.

There are at present only two sources of revenue to the company. One source is the rental charged to the four nonstockholders. This brings in \$48 a year. The other source is the toll earnings collected by the Manitowoc & Western Exchange at Reedsville, and the Wisconsin Telephone Company's exchange at Potter. These tolls are the 10 ct. charges imposed by

¹ \$8 per pole-mile for 35 pole-miles.

² 136 instruments at \$1.50 each.

³ Includes expense of meetings \$35, and \$10 for supplies and miscellaneous.

the Rockland Telephone Company for use of its lines by outsiders. Last year this revenue amounted to \$45, making a total revenue of \$93 for 1912. Obviously, a revision in rates must be provided to care for the \$1,214 expenses.

From a consideration of local conditions and of the rates charged for telephone service upon other rural systems, it appears that a rate proper in this instance would be an annual charge of \$9 per subscriber. This would furnish a revenue of \$1,260 a year which will fully cover the expenses. Allowing \$45 a year as probable revenue from tolls, the company's total revenue will come to \$1,305, which gives ample allowance for expenses which may not have been considered. The \$9 would be a gross rate, so that those who own their instruments and therefore receive a rental of \$1.50, would pay a net rental of \$7.50. To stockholders the expense of telephone service would be somewhat further reduced through any dividends which might be declared.

THEREFORE, IT IS ORDERED:

1. That the petitioner in this case, the Rockland Telephone Company, abandon that portion of its rate schedule which relates to annual rental charges and substitute therefor a charge of \$9 per year per phone.
2. That the company shall pay an annual rental of \$1.50 to subscribers who own and maintain their own instruments.
3. That the company shall so adjust its accounts and records as to insure an annual provision for depreciation of not less than 7 per cent on the cost of the plant.

IN RE APPLICATION OF THE CASHTON MUNICIPAL LIGHT AND WATER COMMISSION FOR AUTHORITY TO INCREASE RATES.

IN RE VALUATION OF THE CASHTON MUNICIPAL LIGHT AND WATER PLANT.

Submitted Jan. 17, 1913. Decided Jan. 31, 1913.

Application is made for authority to put into effect a schedule of water rates for the Cashton Mun. Lt. & W. Plant, Cashton, Wis. The rates applied for have been charged for some time past but have not been filed with the Commission according to the provisions of the Public Utilities Law. The applicant further asks to be exempted from the necessity of furnishing meters.

A valuation as of date Jan. 1, 1913, shows a cost new of \$12,375 and a present value of \$10,196.

Held: The rates submitted are subject to the criticism applicable in general to all flat rate schedules. However, it appears that the village should be exempted from furnishing meters for the present at least, and the village is authorized to put in effect the schedule as submitted.

This application was filed with the Commission on December 7, 1912; it shows that the lawful rates of the applicant are as follows:

FLAT RATES:

Banks, per year.....	\$5.00
Barber shops, 2 chairs.....	5.00
Each additional chair.....	.50
Billiard rooms.....	5.00
Blacksmith shops.....	5.00
Boarding or lodging houses 6 rooms or less.....	7.00
Each additional room.....	.50
Butcher shops.....	7.00
Churches (special)	
Club rooms.....	5.00
Cigar factories.....	5.00
Dwellings, 6 rooms or less.....	5.00
Each additional room.....	.25
Ice cream rooms.....	2.00
Photo gallery.....	5.00
Restaurants, 3 tables or less.....	7.00
Stables, livery and boarding, single stall.....	1.50
Hotel, per stall.....	.50
Private, per horse.....	1.00
“ “ cow.....	.50
Work shops.....	5.00
Bakeries, per year.....	5.00

Bath tubs, public 1 tub.....	\$5.00
Each additional tub.....	3.00
Private	1.50
Each additional tub.....	1.00
Stores, building places.....	5.00
Building purposes, per 1000 bricks, kiln count.....	.10
Stone work, per cord.....	.10
Plastering per 100 yards.....	.25
Cemeteries (special)	
Laundry	15.00
Manufacturing establishments (special)	
Offices and sleeping rooms.....	5.00
Printing offices	5.00
Saloons	8.00
School, public (special)	
Soda fountain, extra.....	2.00
Urinals, private	1.50
Wash basins, saloons, hotels and public places, per bowl.....	1.00
Water closets, saloon, self-closing faucets, hotels and public places, first bowl.....	5.00
Each additional bowl.....	3.00
Private, first bowl.....	1.50
Each additional bowl.....	1.00

METER RATES:

When the daily consumption is less than	
1,000 gal. per day, per 1,000 gallons	\$0.30
1,000 to 2,000 " " .....	.25
2,000 to 4,000 gallons " " .....	.15

The application states that the rates, as stated above, would not yield sufficient revenue to meet the expenses of the plant and the village asks for authority to put in effect the following schedule:

FLAT RATES:

Banks	\$3.50
Barber shops, 2 chairs or less.....	8.00
Each added chair.....	1.00
Billiard rooms	3.00
Blacksmith shops	5.00
Stores	3.50
Building purposes per 1,000 brick.....	.10
Stone work, per cord.....	.10
Plastering per 1,000 sq. yds.....	.25
Club rooms	5.00
Depots	3.50
Dentist's fountain cuspidor, extra.....	2.50
Drug stores	7.50
Hotels, 10 rooms or less.....	10.00
Each additional room.....	.50
Marble works	3.50
Offices and sleeping rooms.....	3.50
Printing offices	4.00
Saloons	12.00
Schools, public	30.00
Soda fountains, extra for season.....	3.00

rates. Upon receiving notice from the Commission that the rates as charged were illegal, the village filed the application as outlined above.

Hearing was held at Madison, January 17, 1913. *M. A. Erickson* appeared for the applicant. There were no appearances in opposition. Hearing dealt principally with the reasons why the increased rates were considered necessary by the village. Applicant also asked to be relieved from the necessity of furnishing meters at its own expense.

From the applicants' report for the last fiscal year it appears that the revenues of the water department, under the rates which it asks to have legalized, were \$1,615, and expenses, exclusive of any provision for taxes, interest, or depreciation, were \$1,041.92. The cost of the plant, as stated by its superintendent, has been about \$10,077. The Commission's valuation, as of January 1, 1913, showed the cost new to be \$12,375, and the present value, \$10,196. Adequate provision for taxes, interest, and depreciation would require not less than \$600 per year, so that the total expenses, even with these items stated conservatively, would be somewhat greater than the revenues.

No detailed computations of the cost of fire protection, as distinguished from the cost of general service, have been considered necessary. It appears from the detailed inventory that the greater part of the distribution system consists of very small wrought iron pipe which is of very little value for fire protection. Pressure of only twenty pounds is carried at the pump, and standpipes will not furnish pressure for fire purposes. In fact, the village uses a fire engine to secure pressure instead of relying on pressure from the water plant. This indicates that the present charge for fire protection does not need to be reviewed at this time.

The schedule of flat rates as submitted by the applicant is subject to criticism along the same general lines which have been mentioned in previous decisions of the Commission, but it is believed that this schedule should be approved, subject to such review as may appear necessary at some later time.

In view of the facts which were presented relative to the financial condition of the plant, it seems that the village should, at least for the present, be exempted from the necessity of furnishing meters.

IT IS THEREFORE ORDERED:

1. That the village of Cashton be and the same hereby is granted authority to put into effect the schedule of rates asked for in this application.

2. That the village of Cashton be and the same hereby is relieved of the necessity of supplying water meters at its own expense.

IN RE APPLICATION OF THE MELVILLE SETTLEMENT TELEPHONE COMPANY FOR AUTHORITY TO INCREASE RATES.

Submitted Jan. 16, 1913. Decided Jan. 31, 1913.

Application is made by the Melville Settlement Tel. Co. in the town of La Fayette, Chippewa Co., Wis., for authority to increase the rate for telephone service.

Held: The increase appears to be reasonable and the applicant is authorized to put the rate applied for into effect.

Application in this matter was filed with the Commission December 2, 1912. It sets forth that the applicant is a public utility engaged in the telephone business in the town of La Fayette, Chippewa county, Wis.; that the lawful rates of the applicant now in effect are \$9 per phone per year; that the present rates are not sufficiently high to take care of the depreciation and the repairs that are necessary on the lines; and that the applicant desires to put into effect a rate of \$12 per phone per year.

Hearing was set for January 16, 1913, but no appearances were made. Some information relative to the situation was submitted by the applicant and such investigation as the conditions permitted was made by the Commission.

Applicant states that \$9 now received from each telephone user is divided as follows:

To Wisconsin Telephone Co.....	\$3.00
To local central.....	4.20
Maintenance and operation.....	1.80

The schedule of rates asked for would make \$4.80 per phone per year available for maintenance and operation, depreciation, interest and taxes.

Under the terms of the applicant's contract with the Wisconsin Telephone Company the latter company agrees to construct and maintain one metallic circuit from its exchange at Chippewa Falls, to connect with the applicant's system at a point not to exceed one and one-half miles from the Chippewa

Falls exchange for each twenty subscribers of the applicant. Applicant's subscribers have unlimited service through the exchanges at Eau Claire and Chippewa Falls.

No details were submitted with regard to the expenses of the local exchange of the applicant, for which \$4.20 per phone per year is paid.

The cost of the plant as reported for June 30, 1912, was \$3,850. All circuits are reported as metallic. There were 49 miles of pole line and 110 miles of wire.

No extended analysis of costs has been practicable in this case, but the Commission has made such analyses for a considerable number of small telephone utilities and these point to the conclusion that, for a utility furnishing metallic circuits and having free service with such exchanges as those of the Wisconsin Telephone Company at Eau Claire and Chippewa Falls, a rate of \$12 per phone per year is in no way unreasonable.

THE APPLICANT, the Melville Settlement Telephone Company, IS THEREFORE AUTHORIZED to discontinue its present schedule of rates for exchange service and to substitute therefor a rate of \$12 per phone per year.

WAUSAU PAPER MILL COMPANY

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Sept. 17, 1912. Decided Jan. 31, 1913.

Complaint was made that the rates on pulp wood from Wisconsin points to Brokaw, Wis., are unreasonable and unjustly higher than rates on saw logs.

Held: The matter of complaint is fully covered in *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, and the order applies of its own force to the shipments of the petitioner. The petition is dismissed.

The petitioner, a corporation engaged in the manufacture of paper at Brokaw, Wis., alleges in its complaint that the respondent railway company charges and collects rates on logs to be used in the manufacture of paper higher than the rates on logs to be made into lumber, and that the existence of such higher rates on the petitioner's raw material constitutes an unjust discrimination, since the petitioner's traffic and the traffic of the saw log user are like kinds of traffic. The petitioner asks for a refund of the amount paid by it on shipments of logs to its mill from August 10, 1911, to the date of the petition in excess of the amount which would have been chargeable had the saw log tariff been in effect on the pulp wood shipments. The refund thus sought was fixed, by an amendment to the petition at the time of the hearing, at \$2,888.50.

The answer of the respondent company denies the alleged discriminatory character of its rates on pulp wood logs as compared with its rates on saw logs; denies that the petitioner is entitled to have the rates complained of reduced or otherwise changed; and denies that the petitioner is entitled to reparation in the premises.

The hearing was held at the office of the Commission, September 17, 1912; the petitioner was represented by *Kreutzer, Bird, Rosenberry & Okoneski*, and the respondent Chicago, Milwaukee & St. Paul Railway Company by *J. N. Davis*.

The matters involved in this case were considered at length and were disposed by order of this Commission in *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365. By the order in that case the rates on pulp wood were materially reduced for all intrastate traffic in Wisconsin and the rates from Wisconsin points to Brokaw are necessarily included in the effect of that order. The burden of the present complaint seems to be that the rates on saw logs are lower than the rates on logs to be made into pulp and paper, and the existence of a difference in the rates on the two commodities constitutes an unjust discrimination. The decision in the *Pulp Wood Case* just cited points out the reason for the existence of some difference between the saw log and pulp wood rates, but reduces the latter rates so as to materially decrease the difference theretofore existing. The facts and statistics submitted in the present case have been fully considered and analyzed and the Commission has come to the conclusion that the rates ordered upon the recent *Pulp Wood Case* to be applicable throughout Wisconsin are just and reasonable rates to be applied on shipments to Brokaw, considered both independently and in relation to the saw log rates. It follows, from the fact that the order in the *Pulp Wood Case* applies of its own force to the situation of the petitioner in the present case, that the petition herein will be dismissed.

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

WAUKESHA LIME & STONE COMPANY

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY,
CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Decided Feb. 4, 1913.

Petition was made for a rehearing of the rate matter involved in *Waukesha Lime & Stone Co. v. C. M. & St. P. R. Co. et al.* 1912, 9 W. R. C. R. 87. It was alleged that the rates are discriminatory in favor of the shipper at Waukesha. The rates on sand, gravel and stone were considered in a former decision (9 W. R. C. R. 347), leaving the rates on lime for further investigation. The rates in effect for lime were largely commodity group rates providing the same rate for all shipments. This system is inequitable and deprives certain shippers of the advantages of their location. The rates provided by the Commission were based on the cost of transportation and vary with the length of haul.

Held: The rates based on the cost of service are right in principle, but commercial conditions have been firmly adjusted to the group system. The elimination of the old rates would seriously disturb established conditions and injure productive capital. It appears advisable to permit the existing group rate system to remain in effect and to secure to each producer the advantages of location to which he is entitled under this system. The respondent is to put in effect the rates on lime in carload shipments between Waukesha and certain Wisconsin points as fixed by the Commission, subject to the minimum weights and rules of transportation now in effect.

REHEARING.

In the above entitled proceedings an order was issued by this Commission in which provisions were made for a readjustment of the rates on lime and crushed stone, sand and gravel on lines of the respondents between Waukesha, Wis., and other points in this state (9 W. R. C. R. 87). This order met with many objections, not only from the respondents, but from lime producers and dealers located at other points than Waukesha. The former filed petition for a rehearing of the case, alleging, among other things, that the rates thus fixed by the Commission are unreasonably low, that such rates are discriminatory in favor of shippers located at Waukesha, and that shippers adversely affected by the order had had no opportunity to be heard in the matter. The petition was granted and all shippers in

the state who were believed to be interested in the matter were notified of this fact and requested to appear at the rehearing for the purpose of offering such testimony and arguments as they might deem important. The Union Lime Company, Nast Bros. Lime & Stone Company, and the Standard Lime & Stone Company, producers and shippers of lime, also filed petitions asking leave to intervene and to be heard in the case, alleging in substance that the order of the Commission seriously disturbed the present adjustment of the freight rates on lime in this state and would result in unjust discriminations against the interveners in favor of shippers located at Waukesha. This petition also was granted.

The rehearing was held June 4, 1912. The Waukesha Lime & Stone Company was represented by *Newberry & Jacobson* and *F. L. Gilbert*. The intervening lime producers were represented by *Lines, Spooner, Ellis & Quarles*. The carriers were represented by *C. C. Wright*.

Insofar as the rates on crushed stone, gravel, and sand are concerned, the matter was disposed of in an order of this Commission, June 24, 1912 (9 W. R. C. R. 347). In this order the rates provided for these commodities in our order of April 25, 1912, were made effective, it having been found that these rates were reasonable under the circumstances. That part of the issue in the case which relates to the rates on lime will be disposed of herein.

In order to determine whether the rates on lime that were promulgated by this Commission in its order of April 25, 1912, are reasonable, it is necessary to again examine the more important facts in the case. In the quantity of lime produced, Wisconsin is the third in order of the states in this country, its average annual output amounting to about 250,600 tons, or about 2,500,000 barrels. By far the greater proportion of the lime-producing plants in this state are located south of Lake Winnebago and north of Milwaukee. In fact, about the only important plant located outside of this district is the Waukesha Lime & Stone Company which is located at Waukesha. The lime industry in this state has grown up under so-called commodity rates of transportation under which, except for short distances, the rates from all the lime-producing points to all lime-consuming points in the state are about the same. This

system of charging appears to have been in effect for the past thirty years, although during this period many changes must have been made in the rates themselves. This system, as a system, would have been greatly disturbed, in fact wholly wiped out, had the Commission's rates been put into effect. This could hardly be otherwise, for the Commission's rates are largely based on the cost of the service to the carrier and are therefore greatly affected by the length of the haul, while under the existing system the rates for all the stations within each group are the same, regardless of variations in the distance.

It is undoubtedly a fact that the order in question of this Commission tended to disturb the existing rate adjustment and to give the Waukesha Lime & Stone Company slight advantages in the rates to lime-consuming points in the southern parts of this state. While the changes thus brought about in the rates may be somewhat more far-reaching than those which it may be deemed advisable to bring about in one step under such circumstances as those which obtain in this case, they cannot be said to be wrong in principle. Group rates of the kind which now govern the lime rates in question are often proper for long haul traffic. For short haul traffic, on the other hand, the contrary is often true. The reasons for this are obvious. To include in the same group a section of the country that in itself is as wide and as long as the average length of the haul of the commodities involved outside of this group, is more than likely to result in inequitable distribution of the transportation charges as between shippers or shipping points. Some shippers are thereby often made to pay more than their share, while others are charged less. It may also deprive some of such natural advantages as they have because of their location. Such inequalities are likely to be severely felt, especially when the traffic involved is low grade traffic which at best can be moved but short distances, even at the lowest reasonable rates. All this is becoming more and more fully realized as time goes on, and it is these facts which are responsible for the tendencies on the part of the rate makers to gradually reduce the size and even to eliminate entirely groups of this sort. Such elimination, however, is painful to those who are adversely affected thereby; so much so, in fact, that it cannot often be safely made in any one step. Circumstances are even met with, especially where

commercial conditions have been firmly adjusted to the group system, when the adverse effects of its elimination would, for the time being at least, more than offset the advantages derived therefrom.

Established conditions of the kind thus described often stand in the way of and prevent the application of rates of transportation that are based more closely upon the cost of service. The instant case is an example in point. The rates given in the Commission's order conform quite closely to the so-called cost curve. As distance is one of the important elements in the cost, it necessarily follows that these rates vary with the length of the haul. That is, they are higher for longer hauls than for shorter ones. Under these rates Waukesha has the advantage whenever its hauls are the shortest, while the other shipping points have similar advantages whenever their hauls are the shortest. Under these rates, further, each shipper is charged in proportion to the cost to the carriers of performing the service, and, insofar as the rates of transportation are concerned, is permitted to reap the fruit of such natural advantages as his location gives him. While such rates as these are theoretically sound, they cannot always be generally applied. In this case, for instance, it has been persistently argued that they would build up the lime business at Waukesha at the expense of the other producers in the state; that in this way they would ruin much capital invested in good faith; and that for these and other reasons their adoption would be contrary to good business and public policy.

That these rates would tend to give Waukesha lower rates to more and better markets than its proportion of the total investment in the lime producing business would justify, is undoubtedly a fact. Whether this would result in unjust discrimination and be contrary to public policy is a matter that very largely depends on existing conditions and that in each case must be determined on its own special facts. In cases such as this, where it would seriously disturb established conditions and injure productive capital, it is quite likely that the best interests of the greatest number are subserved by permitting the existing group rate system to remain in effect and by seeing to it that each producer secures such advantages in rates in his immediate neighborhood as those to which, because of his location, he is clearly and equitably entitled under this system of rate making. At

any rate, this is the conclusion we have reached from a careful study of the best available facts we have been able to obtain in the case. A readjustment of the rates along these lines is required in this case in order to place Waukesha upon an equitable rate basis when compared with the other producing points involved. Such readjustment of the rates would also, under the circumstances, seem to be fair and just to all concerned.

It appears to us from the facts in this case that the rates given in our former order herein and which were suspended pending the rehearing of the case, and such further order as might be made in the matter, should be modified as provided in the following order:

IT IS THEREFORE ORDERED, That the rates named in the order of this Commission dated April 24, 1912, in the present case, be superseded by the present order, and that the respondents herein, the Chicago, Milwaukee & St. Paul and the Chicago & North Western railway companies, discontinue charging the present rates on lime between Waukesha and the stations given below and substitute therefor the following rates:

RATES ON LIME IN CARLOADS.

Between Waukesha and the following stations on the Chicago & North Western Ry.	Rate in cents per 100 lb.	Between Waukesha and the following stations on the Chicago, Milwaukee & St. Paul Ry.	Rate in cents per 100 lb.
County Line.....	\$4.00	Lake.....	\$4.00
Racine.....	4.25	Oakwood.....	4.00
Racine Junction.....	4.25	Caledonia.....	4.00
Berryville.....	4.50	Franksville.....	4.00
Kenosha.....	4.50	Corliss.....	4.00
Wales.....	3.50	Racine Junction.....	4.25
Dousman.....	3.50	Racine.....	4.25
Sullivan.....	3.50	Somers.....	4.50
Helenville.....	4.00	Truesdell.....	5.00
Jefferson Jct.....	4.00	Duplainville.....	3.50
Lake Mills.....	4.50	Pewaukee.....	3.50
London.....	5.00	Alaska.....	3.00
Deerfield.....	5.50	Hartland.....	4.00
Sussex.....	4.00	Granville.....	4.00
Keesus.....	4.00	Menomonee Falls.....	4.00
Rockfield.....	4.50	Germantown.....	4.00
Jack-son.....	4.50	Richfield.....	4.50
West Bend.....	5.00	Schleisinzerville.....	5.00
Barton.....	5.50	Brown Deer.....	4.00
Mignon.....	4.00	Thiensville.....	4.00
Ulao.....	4.50	Cedarburg.....	4.50
Port Washington.....	5.00	Grafton.....	4.50
Belgium.....	5.50	Saukville.....	5.00
Granville.....	4.00	Fredonia.....	5.50

This order is subject to the same minimum weights and the same rules of transportation as those now in effect.

NATIONAL DISTILLING COMPANY

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY,
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Sept. 17, 1912. Decided Feb. 4, 1913.

The petitioner alleges that the freight rates charged by the C. & N. W. Ry. Co. and C. M. & St. P. Ry. Co. on liquor from Milwaukee to Wisconsin points are unreasonably high and discriminatory as compared with rates from Peoria, Ill., and Cincinnati, Ohio. The rates from Peoria and Cincinnati appear to be unreasonably low. The Commission is without jurisdiction over interstate rates, but the carriers will probably make the required changes. The rates on Milwaukee shipments are the second class rates for less than carload and carload lots.

Held: Considering the rather high value of the commodity, the risk and the high cost of transportation, lower rates on less than carload lots are not warranted. For carload shipments the cost of transportation is less; the loading is heavy, reducing the proportion of dead weight to pay weight; and the loading and unloading are done by the shippers. The respondents are ordered to charge class 4 rates on all carload shipments of whiskey between Milwaukee and Wisconsin points. These rates are to apply on whiskey, alcohol, domestic brandy, cologne spirits, domestic gin, domestic rum and high wines, in wood and in glass packed in boxes, in straight and mixed carloads. The minimum weight is to be 24,000 lb.

The petitioner, a corporation organized under the laws of Wisconsin and located in Milwaukee, Wis., alleges in its petition that both respondents are discriminating in freight rates on liquors against Milwaukee in favor of Peoria, Ill., and Cincinnati, Ohio; it alleges that in a number of cases the rates are higher from Milwaukee to certain other Wisconsin points than are the rates from Peoria and Cincinnati, although the distances are decidedly in favor of Milwaukee; that because of this discrimination business is given to Peoria and Cincinnati that would otherwise go to Milwaukee. Petitioner prays that the Commission order the establishing of rates by respondent companies, with distances considered, proportionate to those enjoyed by Peoria and Cincinnati.

Respondent Chicago, Milwaukee & St. Paul Railway Company formally answered the petition, making general denial of rates

discriminatory against Milwaukee. No answer was filed by the Chicago & North Western Railway Company.

The matter was heard September 17, 1912. The appearances were *Albert F. Zinn* for petitioner; *C. C. Wright* for Chicago & North Western Railway Company; *J. N. Davis* for Chicago, Milwaukee & St. Paul Railway Company.

The conditions complained of in this case appear to be due partly to the difference in classification of whiskey in the official classification which applies in connection with tariffs naming class rates from Cincinnati, Ohio, to Wisconsin points, and the western classification which applies in connection with tariffs naming class rates from Milwaukee, Wis., to Wisconsin points; and partly to the fact that class rates and commodity rates on whiskey from Peoria, Ill., to many points in Wisconsin are the same as class rates and commodity rates on whiskey from Milwaukee, Wis., to the same points.

The official classification provides for whiskey and rum in less than carloads at class rule 25, and in carloads fourth class, subject to a minimum weight of 30,000 lb. Rates on articles classified as R—25 are 15 per cent lower than rates of articles classified second class. The western classification provides for whiskey, in wood, less than carload or carload lots at second class; in this classification, therefore, no class is provided for whiskey in carload lots.

Class R—25 rates from Cincinnati, Ohio, to points in Wisconsin are considerably higher than the second class rates from Milwaukee, Wis., to the same points. The fourth class rates from Cincinnati to points in Wisconsin are also considerably higher generally than second class rates from Milwaukee to the same points. There are, however, exceptions to this condition, as the fourth class rate from Cincinnati, Ohio, to Lake Michigan ports in Wisconsin and points intermediate between these ports and Chicago are lower than the second class rates from Milwaukee to some of these points. There are no commodity rates from Cincinnati that affect the general situation.

The second class rates from Peoria, Ill., to points in Wisconsin, St. Paul and Duluth, Minn., and points taking the same rates are considerably higher than the second class rates from Milwaukee, Wis., to the same points. There are, however, a number of commodity rates on whiskey, in wood, from both Pe-

Peoria and Milwaukee that have a more or less important bearing on the situation, though in no instance are these commodity rates from Peoria lower than the rates applying on the same quantity from Milwaukee to the same points. The situation in question with respect to the rates actually charged as brought about in this case is quite fully illustrated in the following table:

RATES APPLYING ON WHISKEY.

To	From	Miles.	Rates in cts. per 100 lb.						
			Class rates.					Whiskey in wood.	
			1	2	R-25	3	4	L. C. L.	C. L.
Manitowoc..	Milwaukee, Wis....	77	28	22.5	.....	19.5	14.5	22.5	22.5
	Peoria, Ill.....	347	58	48	.....	34	25	33	30
	Cincinnati, O.....	470	43	39	.....	33	29	33	20
Marinette...	Milwaukee, Wis....	164	40	33	.....	25	20	33	33
	Peoria, Ill.....	393	65	55	.....	44	28	33	33
	Cincinnati, O.....	557	52	44	.....	37	33	37	23
Sheboygan..	Milwaukee, Wis....	52	25	21	.....	18.5	13.5	21	21
	Peoria, Ill.....	322	50	42	.....	33	23	33	30
	Cincinnati, O.....	445	46	39	.....	33	29	33	20
Appleton...	Milwaukee, Wis....	99	35	30	.....	24	16	30	30
	Peoria, Ill.....	315	58	43	.....	34	25	48	30
	Cincinnati, O.....	492	86	71	.....	60	53	60	36
Wausau	Milwaukee, Wis....	180	48	39.5	.....	30.5	21	39.5	30
	Peoria, Ill.....	396	58	48	.....	34	25	48	30
	Cincinnati, O.....	573	91	75	.....	64	56	64	39
La Crosse...	Milwaukee, Wis....	193	50	42	.....	33	23	42	30
	Peoria, Ill.....	308	50	42	.....	33	23	42	30
	Cincinnati, O.....	586	86	71	.....	60	53	60	36
Eau Claire..	Milwaukee, Wis....	264	60	50	.....	40	25	50	30
	Peoria, Ill.....	409	60	50	.....	40	25	50	30
	Cincinnati, O.....	657	91	75	.....	64	56	64	39
Ashland....	Milwaukee, Wis....	338	65	55	.....	44	28	55	35
	Peoria, Ill.....	554	65	55	.....	44	28	55	35
	Cincinnati, O.....	731	91	75	.....	64	56	64	39

The rates shown in the above table apply to many points other than those designated. The carload rates on whiskey from both Peoria, Ill., and Milwaukee, Wis., apply also on alcohol, domestic brandy, cologne spirits, domestic gin, domestic rum and high wines, in straight or mixed carloads, or in mixed carloads with whiskey.

The Chicago, Milwaukee & St. Paul Railway Company argued that the petitioner based its complaint upon the alleged discrimination alone and that it has not considered the fact that

the rates in question are controlled by other carriers than the respondents in this case.

Among other facts the above table gives the distances and the rates on whiskey between Milwaukee, Wis., Cincinnati, Ohio, and Peoria, Ill., on the one hand, and most of the leading cities or shipping points in Wisconsin on the other. These facts, it will be noticed, go far in confirming the allegations in the petition in this case. The distances to the points named are much shorter from Milwaukee than from Cincinnati and Peoria; the rates to the points named are lower from Milwaukee than from Cincinnati, with the few exceptions which have been mentioned. From Peoria to the points given, the rates are either higher or the same as the rates from Milwaukee, except to some of the lake port points. The rates from Milwaukee are thus either lower or the same as the rates with which they come in competition.

The reasonableness of the rate adjustment complained of in this case is seriously questioned. In determining these rates the distances as a factor therein seem to have been largely disregarded. As distance is one of the most important factors in rate making, it is obvious that rates in which this factor has not received attention are likely to be out of line. Furthermore, the Wisconsin traffic on the commodity involved herein has not, except in a few instances, been provided with carload classification and rates. This omission may be due to lack of demand for such rates and may therefore be merely an oversight. Nevertheless, the facts indicate that this omission results in some injustice to the petitioner.

A proper readjustment of the rate situation in this case is combined with many difficulties. Whiskey is by comparison a rather high priced commodity. A carload of 80 bbl. is probably worth \$4,800; its transportation is also, for various reasons, combined with considerable risk. In addition to this it is costly to transport and this for the reason that, owing to the way it is shipped, it often happens that only from twenty-four to thirty-thousand pounds of it can be gotten into a car. Factors of this sort are important elements in rate making. Commodities to which such facts as these apply should bear, and ordinarily are meant to bear, comparatively high rates for transportation. In fact, the situation is such that under the present rate adjust-

ments in this state whiskey should not be charged lower than second class rates for less than carload shipments nor lower than fourth class rates for carload shipments. As whiskey in less than carload lots is now transported at second class rates, it follows that a reduction in these rates would cause whiskey to bear less than its just share of the total cost of service. Insofar as carload shipments are concerned, the present situation can of course be remedied by providing carload rates on whiskey. On the other hand, the rates on whiskey from Cincinnati and Peoria to Wisconsin points appear to be lower than they should be; but being interstate rates they are beyond the jurisdiction of this Commission. It appears from this, that, insofar as the less than carload shipments are concerned, it is the rate from Cincinnati and Peoria to Wisconsin points rather than the rates from Milwaukee to these points that should be changed. While these changes cannot be brought about by this Commission, we have reason to believe that they will be made by the carriers themselves. For these reasons, as well as because that the less than carload rates from Cincinnati and Peoria are in no case lower to Wisconsin points than the rates from Milwaukee, it is thought best for the present to withhold further action in the matter insofar as the less than carload rates are concerned.

With respect to the carload rates, however, the situation is different. This traffic is relatively much less costly to handle than less than carload traffic. For this there are many reasons: in the first place the carload loading is relatively heavy and this fact in turn materially reduces the proportion of dead weight to the pay weight that must be transported; it is also loaded and unloaded by the shippers and involves much less in the way of station, office and other services. From the facts in this case, and other conditions that are usually taken into consideration in classifying freight, it appears to us that whiskey in carload lots should be placed in the fourth class in the classification and be transported at fourth class rates.

In this connection consideration has also been given to the question of minimum weights that should be applied to such carload shipments; and whether on such shipments certain mixtures should be permitted. On shipments from Peoria the minimum weight per carload is 30,000 lb. This amount, however, is probably greater than can be gotten into the smaller cars. It

is also likely that this is a minimum that is better adapted to the commodity rates under which it is thus applied than to conditions generally. The facts obtained in the matter indicate that 24,000 lb. would be a fair minimum when taken in connection with the fourth class rates in this state. The rates in question from Peoria apply on whiskey, alcohol, domestic brandy, cologne spirits, domestic gin, domestic rum and high wines, in wood and in glass packed in boxes in straight and mixed carloads. This classification would seem to be fair under the circumstances and will be applied in the instant case.

IT IS THEREFORE ORDERED, That the respondents herein, the Chicago, Milwaukee & St. Paul Railway Company and the Chicago & North Western Railway Company, discontinue their present rates on whiskey between Milwaukee and other points in this state, and that they substitute therefor class 4 rates.

IT IS FURTHER ORDERED, That the fourth class rates thus provided herein shall apply on whiskey, alcohol, domestic brandy, cologne spirits, domestic gin, domestic rum and high wines, in wood and in glass packed in boxes, in straight and mixed carloads, and that the minimum weights on such carloads shall not exceed 24,000 lb.

It is recommended that this order be applied generally in this state.

CITY OF MILWAUKEE

vs.

THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY.

Decided Feb. 4, 1913.

The service on the 8th street-16th street viaduct of the T. M. E. R. & L. Co., Milwaukee, Wis., is inadequate. The supplementary order (11 W. R. C. R. 338) indicated changes to facilitate traffic so that the operation of additional cars would be possible.

Held: The overcrowding on the line in question is due to old equipment and insufficient number of cars. The respondent is ordered to operate cars on this line according to the schedule provided by the Commission.

SUPPLEMENTARY ORDER.

On August 23, 1912, the Commission rendered a decision on the rate of fare in the above entitled case, the order on service being reserved for a later decision.

On January 24, 1913, a supplementary order was issued effecting the handling of traffic in the down-town district, one of the purposes of the order being to facilitate the movement of traffic to such an extent that additional cars might be operated during the rush periods of the day without unduly increasing the congestion at busy corners.

Observations indicate that considerable overcrowding occurs on the 8th street-16th street viaduct cars during the morning and evening rush periods. This is due partly to the equipment used on a large number of cars operating on this line. This equipment is old and is giving only poor service. A great many of the delays on this line which are disastrous to the schedule, occurring as they often do during the rush period, are caused by failures of this equipment.

The overcrowding is due partly, also, to the fact that not enough cars are scheduled to operate on this line during certain hours of the day, on Monday, Tuesday, Wednesday, Thursday and Friday.

IT IS THEREFORE ORDERED, That the Milwaukee Electric Railway and Light Company operate its cars on the 8th street-16th

street viaduct line (via 3rd street) in such a manner as to conform to the following schedule:

1. Not less than eleven cars to leave, southbound, from Third street and Grand avenue between 5:15 p. m. and 6:30 p. m. every day except Saturday and Sunday.

2. Not less than twenty cars to leave, northbound, from Third street and Grand avenue between 5:15 p. m. and 6:30 p. m. every day except Saturday and Sunday.

3. Not less than ten cars, from the north, to arrive at Third street and Grand avenue between 6:15 a. m. and 7:00 a. m. every day except Sunday.

4. Not less than two cars more than are scheduled in time tables No. 776, in effect March 1, 1912 and No. 777, in effect March 2, 1912, to arrive from the north at Third street and Grand avenue between 7:45 a. m. and 8 a. m. every day except Sunday.

5. The frequency of cars on the 8th street-16th street viaduct line, both via 3rd street and via 11th street, to be not less than scheduled in time tables No. 776, in effect March 1, 1912, No. 777, in effect March 2, 1912, and No. 911, in effect November 24, 1912.

6. The additional cars called for in this order shall be so placed in the schedule and operated as to render the greatest possible service.

Five days is deemed a sufficient time in which to comply with the terms of this order.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF A
HIGHWAY CROSSING EAST OF HARTLAND ON THE LINE OF
THE CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COM-
PANY.

Submitted Jan. 25, 1912. Decided Feb. 7, 1913.

The Commission, on its own motion, investigated a grade crossing at Cottonwood ave. east of the depot on the C. M. & St. P. Ry., at Hartland, Wis.

Held: The crossing requires protection and it is ordered that the respondent install and maintain gates at the crossing and operate the gates between 6:00 a. m. and 12:00 midnight from November 1 to Mar. 31, inclusive, and for twenty-four hours daily during the remainder of the year.

This proceeding was instituted, on motion of the Commission, as a result of informal complaints, to determine whether public safety requires the alteration or additional protection of a highway crossing at grade, located at Cottonwood avenue, east of the depot at Hartland on the line of the Chicago, Milwaukee & St. Paul Railway Company.

A hearing was held on January 25, 1912, in the village hall at Hartland, Wis. *W. W. Brown*, village president, appeared for the village of Hartland, and *F. W. Melin* for the Chicago, Milwaukee & St. Paul Railway Company.

It appears from the testimony that Cottonwood avenue runs north and south, crossing two main tracks and one passing track on the line of the Chicago, Milwaukee and St. Paul Railway Company, approximately at right angles. The chief point of danger is on the north approach from eastbound trains. From this approach the view of eastbound trains is obstructed by the depot and other buildings until travelers are very close to the tracks. Witnesses stated that when westbound trains stop at the station the rear cars are ordinarily close to the crossing, a condition which makes it impossible to see approaching eastbound trains until one is actually on the tracks. It was pointed out that trains frequently pass the crossing at relatively high speed while other trains are stopped at the depot. From the south approach the view of eastbound trains is obstructed at

times by freight trains or detached box cars standing on the passing track near the crossing. Traffic over the crossing was shown to be heavier in summer than in winter, due largely to the fact that the highway is used to reach certain lake summer resorts. Estimates of witnesses placed the automobile traffic at figures ranging between twenty and one hundred daily. One witness stated that between four hundred and five hundred persons, including those riding and walking, crossed during the day under ordinary conditions. It was shown that the Sunday traffic is considerably greater than the week day traffic. More than twelve school children were said to use the crossing several times a day. It appears from the testimony that a number of serious accidents have occurred at this crossing and that numerous others have been narrowly averted. Witnesses stated that there are many switching movements over Cottonwood avenue and that traffic is frequently blocked by freight trains.

The engineer of the Commission reports that on account of the numerous switching movements near the crossing, and the fact that trains are held on the passing track for indefinite periods, bell protection is not desirable. He states that the separation of grades at the crossing is feasible, but expresses the opinion that continuous gate protection will prove adequate under existing conditions.

From an examination of the testimony and of our engineer's report, we find that the crossing in question is unusually dangerous. Although the separation of grades is feasible, it would entail a greater expense than is warranted by the present traffic conditions at the crossing. Under the circumstances we believe that the crossing will be made reasonably safe under present conditions by the maintenance of continuous gate protection during the summer months and eighteen hour protection during the winter months.

IT IS THEREFORE ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company install and maintain gates at the highway crossing at Cottonwood avenue, located on its line east of the depot at Hartland, Wis., and operate such gates between the hours of 6 a. m. and 12 midnight, from November 1 to March 31, inclusive, and for twenty-four hours daily during the remainder of the year.

May 1, 1913, is regarded as a reasonable date at which the gates herein ordered shall be in operation.

A. S. BADGER COMPANY

vs.

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

Decided Feb. 7, 1913.

The petitioner alleges that an excess charge was exacted on a shipment of lumber from Rhinelander to Star Lake, Wis. The rate charged was the sum of the locals from Rhinelander to Heafford Jct., and from this point to Star Lake.

Held: The rate exacted was unreasonable and the reasonable charge would have been the through rate of 7 cts. per cwt., subsequently established (8 W. R. C. R. 125). Refund is ordered.

The petitioner is a corporation engaged in buying and selling lumber, with offices at Chicago. It alleges that respondent charged an excessive, unreasonable and exorbitant rate on a shipment of lumber shipped from Rhinelander to Star Lake, Wis., on September 30, 1912; that a freight charge of 4½ cts. per cwt. was charged from Rhinelander to Heafford Junction, and 8 cts. per cwt. from Heafford Junction to Star Lake; that after the above shipment moved the respondent published a rate of 7 cts. per cwt. in supplement No. 5 to its G. F. D. No. 13585; that previous to this shipment, petitioner shipped a car of lumber, via respondent's line, between the points mentioned above, upon which a like charge for freight was exacted; that upon complaint the Commission determined that a through rate of 7 cts. per cwt. was a reasonable rate (8 W. R. C. R. 125). Wherefore, petitioner prays that respondent be required to refund to it the sum of \$25.30, which represents the difference between the charges as collected and a reasonable rate of 7 cts. per cwt.

The claim was submitted upon the pleadings, papers, documents, schedules, and vouchers on file.

The facts in this case are identical with those in the case of *Badger Co. v. M. St. P. & S. S. M. R. Co.* 1911, 8 W. R. C. R. 125, and the ruling in that case controls the instant case.

We therefore find and determine that the charges exacted of the petitioner for transporting one carload of lumber from Rhinelander to Star Lake, Wis., are excessive and unreasonable and do find that a reasonable rate to have charged for such shipment would have been 7 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 the sum of \$25.30, being the amount in excess of the rate herein found to be reasonable for the aforesaid shipment of lumber.

TOWN OF WATERFORD

vs.

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

Submitted Oct. 22, 1912. Decided Feb. 8, 1913.

Complaint was made that "Cooper's crossing", located one and one-half miles north of Honey creek, and "Heinebaugh crossing", located three miles south of Lake Beulah, in the town of Waterford, Racine Co., Wis., are dangerous.

Held: The crossings require protection and the respondent is ordered to install and maintain at each crossing an automatic alarm with an illuminated sign, plans for track circuits to be submitted to the Commission for approval.

The petitioner, a regularly organized town in the county of Racine, alleges that two highway crossings on the respondent's line, located one and one-half miles north of Honey creek, and three miles south of Lake Beulah, in the town of Waterford, are dangerous to public travel because of the surrounding physical conditions. The Commission is therefore asked to require the respondent to provide adequate protection at these crossings.

No answer was filed by the respondent.

A hearing was held on October 22, 1912, at the respective crossings. *G. W. Healy*, town chairman, appeared for the petitioner. The respondent was unrepresented.

Crossing One and One-half Miles North of Honey Creek.

The testimony shows that at this crossing, which is known locally as "Cooper's crossing," the railroad runs approximately north and south and the highway northwest and southeast. The angle of crossing is very acute. This condition was said to add to the danger of the crossing, since travelers are obliged to look back over their shoulders to observe trains approaching from the rear. Moreover, witnesses stated that the highway approaches are narrow and descend from the tracks on both sides, making difficult the control of frightened teams when

they are obliged to stop and wait for a train to pass. It was pointed out in the report of the Commission's engineer that from the north approach on the highway the view to the north is limited by trees and by a curve in the track which begins 510 feet north of the crossing. From the south approach, he reports, the only obstruction to the vision is the curve in the track to the north. The testimony shows that the highway is an important one connecting Troy, Waterford and Honey Creek. Traffic over the road was said to consist largely of farm teams. Witnesses estimated that about twenty-five teams use the crossing daily, and that on Sundays as many as fifty automobiles often cross. Our engineer reports seventeen regular train movements over the crossing. Witnesses stated at the hearing that trains frequently fail to whistle for the crossing. Several accidents at the crossing were reported at the hearing and a number of others were said to have been narrowly averted.

Crossing Three Miles South of Lake Beulah.

The testimony shows that at this crossing, which is known locally as the "Heinebaugh crossing," an east and west highway intersects the respondent's track approximately at right angles. From the west approach on the highway the view of the track to the north is unobstructed, but to the south it is limited by the banks of a cut and high ground. From the east approach the view of the track to the north is obstructed by an orchard, and to the south by weeds and brush along the highway, high ground, and the banks of the railroad cut. A witness stated that from a point forty rods east of the crossing to a point about sixty feet from the track no view can be had of a train approaching from the north. It was also stated that on the east approach one must be within twenty feet of the track before a clear view of a train from the south can be had. The highway was said to connect with the main road leading from Milwaukee to Honey Creek and Spring Prairie. It is not, however, an important thoroughfare. It was estimated by a witness that about twelve or fifteen teams use the crossing daily. The Commission's engineer reports that the highway appears to be heavily traveled, and that it is much used in connection with the shipping of milk. There are seventeen regular train movements over the crossing.

After a careful consideration of the testimony and of our engineer's report, we find that both of the crossings in question are more than ordinarily dangerous and require some form of protection. With regard to the crossing one and one-half miles north of Honey Creek, it appears that since the hearing the condition of the highway approaches has been improved. Surfacing in the spring after the frost leaves the ground will place these approaches in a satisfactory condition. In view of the traffic conditions, the obstructions to the vision, and the danger of misjudging relative distances from the track because of the acute angle of crossing, we believe that the installation of a bell and light is necessary for public safety. With regard to the crossing about three miles south of Lake Beulah, we believe that it should be protected by the installation of a bell and light.

IT IS THEREFORE ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, install and maintain at each of the two crossings located on its line, respectively one and one-half miles north of Honey Creek and about three miles south of Lake Beulah, an automatic crossing alarm 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.

F. G. BORDEN COMPANY

vs.

LA CROSSE AND SOUTHEASTERN RAILWAY COMPANY,
CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Nov. 12, 1912. Decided Feb. 14, 1913.

The petitioner alleges that excessive charges are exacted on shipments of tobacco from Wisconsin points on the C. M. & St. P. Ry. to petitioner's warehouse on the L. C. & S. E. Ry. at Viroqua, Wis., for concentration and reshipment over the two lines. The rates exacted are the full class rates instead of the sum of the concentration rates on the two lines formerly charged. Both lines terminate at Viroqua, but it appears that track connection is not feasible and petitioner's shipments are transferred at Westby, Wis. Competitors at Viroqua on the C. M. & St. P. Ry. enjoy concentration rates.

Held: Concentration rates for shipments over more than one line are seldom practicable. The carrier granting concentration rates should be in a position to insure receiving the benefit of the haul out and should not have to divide the revenue with another carrier. Conditions peculiar to the present case, however, entitle the petitioner to such rates, especially as they appear to be sufficiently remunerative to the carriers and will secure traffic for the C. M. & St. P. Ry. Co. which might otherwise pass over other lines. The respondents are ordered to charge on shipments of tobacco for concentration and reshipment over respondent's lines the sum of the concentration rates on the C. M. & St. P. Ry. from points of origin to Westby and on the L. C. & S. E. Ry. from Westby to Viroqua. The petition for refund is dismissed.

The petitioner, a dealer in tobacco, with warehouses located at Viroqua, Wis., and other Wisconsin points, complains that on shipments of tobacco from Wisconsin points to Viroqua over the lines of the respondent companies for concentration at the petitioner's warehouse in the city of Viroqua and reshipment over the same lines, the respondent companies refuse to apply the sum of the Chicago, Milwaukee & St. Paul concentration rates to Westby and the La Crosse & Southeastern concentration rate from Westby to Viroqua, but charge the full joint class rate from point of origin to Viroqua. Petitioner's warehouse at Viroqua, it is alleged, is located on the track of the La Crosse and Southeastern Railway Company which has no track connection with the track of the Chicago, Milwaukee & St. Paul

Railway Company in that city, and the petitioner's competitors located on the latter company's track at Viroqua have the benefit of concentration rates from Chicago, Milwaukee & St. Paul points. The petitioner asks for the establishment of joint concentration rates between the respondents to Viroqua, equal to the local concentration rate of the respondent, the Chicago, Milwaukee & St. Paul Company to that point; and prays for a refund on seven shipments which moved under the rate complained of.

The answer of the Chicago, Milwaukee & St. Paul Railway Company sets forth the tariff rule governing concentration of tobacco; points out that Viroqua is named as a point for such concentration only on the Chicago, Milwaukee & St. Paul line and not on the La Crosse & Southeastern line; and alleges that the shipments of petitioner are for this reason subject to full tariff rates by moving over the two lines; respondent further alleges that if tobacco shipped on a concentration rate were permitted to leave the rails of the carrier giving it such rate, the carrier could not protect its interest.

The hearing was held at the office of the Commission on November 12, 1912. The petitioner was represented by *F. G. Borden*; respondent Chicago, Milwaukee & St. Paul Railway Company by *J. N. Davis*; and respondent, La Crosse & Southeastern Railway Company by *C. H. Tate*.

The location of respondent companies' lines at Viroqua and Westby is in some respects peculiar. The two lines meet at Westby, the La Crosse & Southeastern line coming in from La Crosse from the northwest, and the St. Paul line from Sparta to the north. The terminus of each line is at Viroqua, about $7\frac{1}{2}$ miles beyond Westby, but the two lines enter Viroqua in such a way that track connection between them is, according to the testimony, not feasible. The petitioner, therefore, located on the La Crosse & Southeastern line at Viroqua, cannot have delivery in cars at its warehouse unless its shipments come over the La Crosse & Southeastern line, and to do this they must, when originating on the St. Paul line, be transferred to the La Crosse & Southeastern line at Westby, otherwise petitioner must accept delivery at the freight depot or team track of the St. Paul company at Viroqua and team the goods across the city to its warehouse.

The concentration of tobacco at specified points on the Chicago & North Western and the Chicago, Milwaukee & St. Paul lines is provided for in W. T. L. Circular 1—L, and the provisions for such concentration have been carried through the entire series of circulars without any change material to the present case for several years. The rule is as follows:

“Tobacco (Leaf) in bales, bundles or in boxes, for the purpose of concentration, from stations on C. M. & St. P. Ry., C. & N. W. Ry., C. St. P. M. & O. Ry., H. & N. E. Ry., or L. C. & S. E. Ry., to the concentration stations named, will take one-half tariff rate applicable on Tobacco (Leaf), in boxes, to concentration points named, same to be reshipped via the line which hauled shipment to concentration point, to Chicago or Milwaukee at full tariff rates, in accordance with the tariff and classification.”

Here follows a list of stations designated “C. & N. W. Ry. concentration stations” and “C. M. & St. P. Ry. concentration stations,” the latter including Westby and Viroqua.

Since the rating on tobacco (leaf), in boxes, is, under the western classification, fourth class, the concentration rate above provided for amounts to one-half the fourth class rates. On the La Crosse & Southeastern a specific tariff provision permits the application of one-half fourth class rates for concentration from Westby to Viroqua, when the finished product is to be shipped within one year via the La Crosse & South Eastern Railway at full tariff rates. Concentration of tobacco, it will be seen, could take place at either Westby or Viroqua at one-half fourth class rates if it moved to these points as “C. M. & St. P. concentration stations,” but, according to the claim of the St. Paul line, this provision does not permit concentration at such rates at Viroqua or Westby as “La Crosse & Southeastern concentration stations”; and even where the whole movement is over the St. Paul line, as it is in the case of shipments to Westby, it is the contention of that road, that the concentration rate is not applicable if the tobacco is not stored at Westby but is delivered to another carrier for further movement, even though it is later redelivered to the St. Paul company for the haul out. In the absence of a concentration rate, the rate applicable to leaf tobacco received is fourth class in hogsheads, barrels or boxes, and is second class in bales or bundles.

For several years prior to December, 1911, petitioner was given the benefit of concentration rates on the St. Paul line to Westby and its shipments moved to Viroqua at those rates plus the local concentration rate of 4 cts. on the La Crosse & South-eastern line from Westby to Viroqua. Since December 1911, however, this concentration rate privilege has not been accorded to the petitioner and its shipments have been charged the full joint fourth class rate of the two lines to Viroqua, or, where the tobacco is packed in bales or bundles, the full joint second class rate. This change resulted not from any modification of the tariff or rules, but apparently from the discovery on the part of the Chicago, Milwaukee & St. Paul Railway Company that the existing rules did not warrant the application of concentration rates.

The relief prayed for in the petition is the establishment of joint concentration rates through to Viroqua, which shall be the same as the local concentration rates on the St. Paul line. The petitioner, however, did not press this claim at the hearing, but appears to be willing to pay the St. Paul concentration rate to Westby plus the La Crosse & Southeastern concentration rate from Westby to Viroqua. If the case is considered to involve only the establishment of the sum of these local concentration rates, the objections of the respondent Chicago, Milwaukee & St. Paul Railway Company seem to be as follows:

(1) That tobacco shipped into a given point for concentration should be concentrated at that point and not delivered to another carrier, otherwise the first carrier will be unable to protect its interests so as to be assured of having the haul out.

(2) That concentration rates, fixed much lower than full tariff rates, are justified on the theory that the full tariff rates on the haul out will compensate for the smaller remuneration on the haul in, and thus the carrier not receiving the full haul out cannot afford to grant concentration rates on the haul in.

The first objection of the respondent Chicago, Milwaukee & St. Paul Railway Company does not seem, in the present case, to be insuperable. It is true that a carrier granting concentration rates must be in position to enforce the provision relating to the haul of products out, otherwise there is great opportunity for unjust discrimination. But in the present case the facts do not seem to warrant much apprehension on the subject. The

petitioner is located in a city reached by the St. Paul line; and the fact that the St. Paul track is not accessible to the petitioner in that city is more or less accidental. The St. Paul railway company would seem to be able, under the circumstances, to protect itself sufficiently, especially in view of the fact that petitioner operates several warehouses at other points on its line, and thus presumably has more or less extensive relations with the carrier. But it is not to be understood that every carrier should be required to permit concentration shipments to leave its line and trust to the integrity and solvency of a more or less distant or unknown shipper on a foreign railroad line for the return of the commodity on the out-movement. The circumstances of this case are peculiar and the same results might not follow in a case not identical in its facts.

A more important objection to the relief desired by the petitioner is the second one stated above, namely, that a carrier granting concentration rates on a shipment should not have to divide the haul out with another line. As far as the haul in is concerned, the fact that two lines participated in it would not, in this case, be detrimental to the St. Paul company, for the inbound shipment would pay the sum of the local concentration rates. The rates into Westby on the St. Paul line are generally as high as they are to Viroqua, seven miles farther, so that the St. Paul road, receiving local concentration rates to Westby, will obtain as much revenue as it would if it carried the shipment on to Viroqua. But the out-haul to such points as Chicago, Milwaukee and Janesville is made under joint class rates, so that where shipments move over both lines the St. Paul line must divide the revenue with the La Crosse and Southeastern line. We are informed that the division between the two lines on tobacco shipped from Viroqua to the points to which the petitioner ships is 25 per cent to the La Crosse & Southeastern line and 75 per cent to the St. Paul line. The rate on tobacco out is the fourth class rate, which is 23 cts. per cwt. to Chicago, Milwaukee, Janesville, Milton, and other points in the same territory.

The revenue which the St. Paul line obtains on these outshipments, therefore, amounts to 17 cts. per cwt., while the La Crosse & Southeastern road receives 6 cts. for the haul to Westby. On tobacco going the entire distance from Viroqua into

southern Wisconsin over the St. Paul line, that road, of course, receives its full 23 cts.

The theory of the concentration rate which the St. Paul road urges as a bar to the relief asked in this case is in general the theory upon which that rate is based and justified, namely, that lower rates in are intended to be compensated for by the collection of full tariff rates out. Strict adherence to this theory would result in refusal to grant concentration rates where the railway line divides the haul out. It would seem, however, that some cases, of which the present is an example, offer a large measure of justification for some departure from this theory. If the petitioner were given the sum of the local concentration rates to Viroqua, it would still be paying more than its competitors located on the St. Paul track at Viroqua, by the amount of the La Crosse & Southeastern concentration rate from Westby, or 4 cts. per cwt. The granting of this relief could, therefore, hardly be construed as an unjust discrimination in favor of the petitioner as between the petitioner and its competitors on the St. Paul track at Viroqua. The only difference is, that one receives the services of two carriers and the other of only one. This difference in service would not necessarily make the granting of equal rates for the two services an unjust discrimination. For example, the class rates from Viroqua to such points as Chicago, Milwaukee, and Janesville over the two lines are the same as over the St. Paul line alone. The difference there as here consists in the services of the two lines instead of the one, but no difference is made in the rate on that account. And here the proposal is not to give the petitioner the same rates into Viroqua that are accorded to its competitors at that point, but, if the relief above described is granted, the petitioner will still pay 4 cts. per cwt. more than its competitors.

If the fact that the St. Paul line does not receive the full compensation for the haul out does not constitute unjust discrimination in favor of the petitioner, then the only ground for the objection to the granting of the relief desired is that of the loss of revenue to the St. Paul road. An examination of the various rates involved in the petitioner's traffic, however, in the light of the large amount of data in the possession of the Commission bearing upon the cost to the carriers of performing the services, indicates that even with the concentration rate and the

divided outhaul rate the revenue from the business is sufficient to yield ample returns to the carriers. This being the case, and there being no discrimination involved in the application of the concentration rates to the traffic in question, the granting of these rates seems to be well justified.

Two further points tend to strengthen the conclusions just stated. One is the fact that the Chicago, Milwaukee & St. Paul Railway Company for several years has so interpreted its concentration rules as to give the petitioner the benefit of the rates asked for. According to the representative of the La Crosse & Southeastern Railway Company this fact was an important consideration leading to the establishment of the petitioner's warehouse at Viroqua, and the warehouse will probably have to be abandoned if relief is not granted. Whether this is an accurate statement or not, the fact remains that the petitioner has been encouraged in the building up of a concentration business at Viroqua by the interpretation given its rule by the Chicago, Milwaukee & St. Paul Railway Company. Theoretically, perhaps, the petitioner was chargeable with the knowledge that the rules were not being properly construed, but as a practical proposition it was but natural for the petitioner to rely upon the established practices of the carrier.

The second additional point in favor of granting relief is that a considerable tonnage is shipped from the petitioner's warehouse at Viroqua to Chicago and Milwaukee which could move over the La Crosse & Southeastern and the Chicago & North Western, or (in the case of shipments to Chicago) the Chicago, Burlington & Quincy Railroads to destination. An exhibit introduced at the hearing shows that over one-half of the petitioner's outbound tonnage, between February, 1910, and July, 1912, moved to Chicago and Milwaukee. If none of the petitioner's inbound shipments were subject to the requirement that they go out over the St. Paul line, this outbound tonnage could be routed over the other lines named, and would then be lost to the St. Paul line entirely. The concentration provision insures to the St. Paul line enough of this outbound tonnage to balance the inbound shipments and whatever extra tonnage the petitioner might have for Chicago or Milwaukee would probably be routed, as a matter of course, over the same line. It is by no means certain, therefore, that the St. Paul company will be

a heavy loser by the application of the concentration provision to the petitioner's inbound shipments.

In view of all the facts above set forth, the application of the sum of the local concentration rates seems to be reasonable under the circumstances of this case and will be ordered. But it will, of course, be understood that the facts of this case are in many respects unusual and the action taken herein will not be a precedent for similar action in cases not in all circumstances the same.

The petitioner asks for a refund on seven shipments made by it to Viroqua between December 29, 1911, and February 14, 1912. Most of the shipments, however, moved from points on the La Farge branch of the St. Paul line, and since the most direct route from these points to Viroqua over the St. Paul line lies partly in Minnesota, these shipments may have been interstate in character. In view of this fact and other circumstances in the case, the Commission has determined not to authorize a refund.

IT IS THEREFORE ORDERED, That the respondents, the La-Crosse & Southeastern Railway Company and the Chicago, Milwaukee & St. Paul Railway Company, cease and desist from applying joint fourth class or second class rates on tobacco from points on the line of the Chicago, Milwaukee & St. Paul Railway in Wisconsin to Viroqua, Wis., for concentration at that point and reshipment therefrom over the lines of the respondent companies, and that they substitute, in lieu thereof, a rate consisting of the sum of the present local concentration rates from the point of origin on the Chicago, Milwaukee & St. Paul line to Westby and the present local concentration rates of the La Crosse & Southeastern Railway Company from Westby to Viroqua.

REITBROCK LAND AND LUMBER COMPANY

vs.

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

Decided Feb. 21, 1913.

The petitioner alleges that excess charges were exacted on shipments of lumber from Athens to Viroqua, Wis. The shipment moved over a different route than that designated by the shipper.

Held: The shipper has the right to select the route of shipment and is entitled to a refund of the charge in excess of the rate applicable had the shipment moved according to shipping directions. Refund is ordered.

The petitioner is engaged in the manufacture of lumber at Athens, Wis., with general offices at Milwaukee, Wis. It alleges that on June 3, 1912, it shipped three carloads of lumber from Athens to the Tibbetts Cameron Lumber Company of Viroqua, that instructions were given to route the cars in care of the La Crosse & Southeastern Railway Company, but that same was routed via the Minneapolis St. Paul & Sault Ste. Marie Railway Company and charges of 13 cts. per cwt. were charged according to its tariff G. F. D. 13585 effective August 1, 1911, whereas, if the cars had been routed as directed by petitioner, the rate would have been 10 cts. per cwt. according to joint freight tariff M. St. P. & S. S. M. G. F. D. No. 11270 routing shipments via the Minneapolis, St. Paul & Sault Ste. Marie Railway Company and Green Bay & Western R. R. Co. and La Crosse & Southeastern Ry. Co. between Athens and Viroqua, Wis. Wherefore, petitioner prays that the respondent be authorized to refund to it the difference between the charges paid by it and the charges that should have been made if shipment had moved over the shortest route, which difference is \$40.77.

The respondent, answering the petition, admits that the allegations therein are substantially correct and that the overcharge is the result of forwarding the car in question over a route the rate upon which was 3 cts. per cwt. higher than the rate which would have been charged had it been forwarded over another route.

The claim was submitted upon the pleadings, papers, documents, and vouchers on file.

The shipper has the right to dictate to the carrier the route over which the shipment is to move. If the carrier causes it to be transported by another route which results in a charge against the shipper in excess of the charge legally effective over the route selected by the shipper, it is incumbent upon the carrier to make reparation in the amount of such excess. *Engesether v. C. St. P. M. & O. R. Co. et al.* 1912, 8 W. R. C. R. 504, and *Hodges v. W. C. R. Co.* 1906, 1 W. R. C. R. 300.

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 sum of \$40.77, being the amount found to be in excess of the charges legally applicable to the shipment.

IN RE APPLICATION OF THE WATER AND LIGHT COMMISSION
OF THE CITY OF COLUMBUS FOR AUTHORITY TO INCREASE
RATES.

Submitted Aug. 26, 1912. Decided Feb. 25, 1913.

- The city of Columbus, Wis., applied for a readjustment of the meter rates for water and electric service furnished by the municipality. Meters are being installed for both services. A valuation was made and the revenues and expenses investigated. Apportionments were made between the water and electric utilities and a further apportionment between the departments of each service.
- If a municipally owned utility does not pay taxes the same as a privately owned plant, the consumers would receive cheaper rates at the expense of the taxpayers. An allowance for taxes was included in the present case.
- One of the most common causes of poor service is due to the use of lamps after they have depreciated below 80 per cent of their original efficiency. If the utility gives free lamp renewals, the disinclination to destroy a lamp which is still giving illuminating service is obviated. It is deemed advisable for the utility to provide free lamp renewals and an estimate of the additional cost was included in operating expenses.
- A valuation of the physical property, as of date June 30, 1912, shows a cost new for the electric utility of \$42,063 and a present value of \$39,918; and a cost new for the water utility of \$55,933 and a present value of \$53,696.
- The utility asks for permission to establish a flat rate for current consumed by a laundry in heating flat irons. The current used is mostly off peak and is entitled to the power rate.
- Consumers supplied with water from dead ends are compelled to pay for more water than is actually used as the water is stagnant unless the tap is left open. It was suggested that these dead ends be flushed periodically and it appears that cause for complaint has been removed.
- The Commission is asked to determine the responsibility of the water utility in cases where leaks occur in the service pipe between the main and the curb, between the curb and the meter, and beyond the meter.
- Held:** The service pipe to the curb is a part of the equipment to be owned and repaired by the utility. Moreover, the consumer ordinarily has no great interest in water wasted that does not go through his meter and is reluctant to report leaks which cause such losses if he is compelled to pay for the repairs. In order to protect itself, it seems advisable that the utility maintain the pipe up to the meter. This cost is a proper operating expense to be provided for in the rates.
- The city is ordered to abandon the present electric and water rates and to put in effect schedules approved by the Commission.

The city is to establish and maintain a depreciation reserve fund in accordance with sec. 1797m—15, ch. 499, laws of 1907. The rate of depreciation for the electric utility is to be not less than 5 per cent and for the water utility not less than one per cent.

The application in the above entitled matter was filed July 23, 1912, and sets forth that electric light and water furnished by this utility on a meter basis results in inequalities causing considerable dissatisfaction among the persons supplied.

The application further sets forth as a cause of complaint that consumers supplied with water from dead ends are compelled to draw much more water than is used, because the water in these dead ends is stale or stagnant, especially in hot weather, unless the tap is left open. The parties so served complain that being served through a meter they must use an inferior quality of water, or pay a tax in the form of wasted water to obtain water as good as that used by persons differently situated. The applicant asks to be permitted to establish a flat rate on service furnished from dead ends of water mains.

The application also prays that the Railroad Commission determine the responsibility and rights of the city in cases where leaks occur in the service pipe between the main and the curb, between the curb and the meter, and beyond the meter.

The application further states that there is one public laundry in the city that uses electric flat irons. The owner of this laundry contends that the meter rate is excessive and prohibitory for the purpose of heating flat irons; consequently, permission is asked to establish a flat rate for this class of service.

Pursuant to notice fixing time and place of hearing for August 26, 1912, at the office of the Railroad Commission in the Capitol, Madison, Wis., the following appearances were entered: *C. R. Gamidge*, mayor of the city of Columbus, *W. J. Riedner*, city treasurer, *E. E. Brossard*, city attorney, *Paul Loomis*, superintendent water department, *H. C. Wrede*, *A. C. Quentmeyer*, *J. L. Putman*, and *M. G. Udey*. The testimony dealt primarily with the causes of complaint as set forth in the petition. It appears from the testimony that the chief purpose of the application is not to increase rates but to have them adjusted to eliminate certain discriminations in the rates for electricity and to establish an equitable meter rate for water service. Heretofore water has been supplied almost entirely on a

flat rate basis, but consumers are now being put on meters as fast as possible and the city wants an equitable meter rate for this purpose established.

The rates for electric current which the applicant has in force at the present time are as follows:

Commercial Lighting

Minimum bill, \$6.00 per annum.

Current, 10 cts. per kw-hr.

Meter rent, 25 cts. per month.

Discount. If bill is between \$5.00 and \$10.00 per month consumer is entitled to a discount of 10 per cent if paid on or before the 15th of the month. If it is more than \$10.00 per month, consumer is entitled to a discount of 20 per cent if paid before the 15th of the month.

Commercial Power

5 cts. per kw-hr. with no discount.

Street Lighting.

10 cts. per kw-hr. for current consumed.

The meter rate for water in force is as follows:

20 cts. per 100 cu. ft.

Minimum bill is the same as what consumer would pay under flat rate schedule.

Special Rate: Columbia Canning Co., 10 cts. per 100 cu. ft.

Hydrant rental \$40.00 per year per hydrant.

Rate for construction purposes:

40 cts. per 100 sq. yds. for paving.

5 cts. per lineal foot for curb and gutter.

VALUATION

A valuation of the physical property of the water and light plant was made as of June 30, 1912. According to this valuation the cost new of the property devoted to the electric utility amounted to \$42,063, that devoted to the water utility \$55,933, a total of \$97,996. The following summary gives the cost new and present value of each class of property:

	Electric.		Water.		Total.	
	Cost new.	Present value.	Cost new.	Present value.	Cost new.	Present value.
A. Land	\$500	\$500	\$800	\$800	\$1,100	\$1,100
B. Transmission & distribution.....	16,048	14,959	33,829	33,293	49,877	48,252
C. Buildings & miscellaneous structures.....	2,765	2,461	10,577	10,010	13,342	12,471
D. Plant equipment	15,921	15,415	4,262	3,459	20,183	18,874
E. General equipment.....	174	158	184	92	358	250
F. Paving.....						
Total	\$35,408	\$33,493	\$49,452	\$47,454	\$84,860	\$80,947
G. Add 12% (see note)...	4,249	4,019	5,934	5,695	10,183	9,714
Total.....	\$39,657	\$37,512	\$55,386	\$53,149	\$95,043	\$90,661
H. Material & supplies...	1,980	1,980	547	547	2,527	2,527
Total.....	\$41,637	\$39,492	\$55,933	\$53,696	\$97,570	\$93,188
I. Non-operating.....	426	426			426	426
Total.....	\$42,063	\$39,918	\$55,933	\$53,696	\$97,996	\$93,614

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

It has been the practice of the utility to charge each water consumer \$5 to cover part of the cost of service connection. There are 328 water consumers, which would make a total of of \$1,640 paid by users for this purpose. It seems that it would be only fair and just to deduct this amount from the value of the plant on which the utility is entitled to a reasonable return, as no such deduction has been made in the valuation made by the Commission's engineering staff.

The utility is placing all its water users on a meter basis as rapidly as possible. Of the 328 consumers connected at the time of the valuation 148 were still unmetered. Assuming that about the same type of meter as has been installed for other consumers will be used for those still to be metered, it seems that an additional value of about \$1,406 should be allowed. After making the proper adjustments, a cost new of \$55,699, and a present value of \$53,462 is obtained for the water plant.

Since the valuation made by the Commission's engineering staff, the city has added two more street lighting circuits to its electric utility. One is a series tungsten circuit of 67 lamps and the other is an ornamental street lighting system of 26 3 light standards, 2 5 light standards, and 2 sets of cross-arms carrying 4 lights each, set on the regular line poles. The above, together with a 16 kw. constant current regulator and panel

installed in the power plant, cost the city \$3,585.22, which amount has been added to the staff's valuation, making a cost new for the electric utility of \$45,648 and present value \$43,503.

The non-operating property of \$426, as shown in the valuation above, is a 2" fiber conduit used for the ornamental street lighting system. This conduit was laid some time ago, so that the pavement that was about to be put in would not be torn up when the ornamental street lighting system was installed. As this conduit was not in use when the staff made its valuation, it was included merely as non-operating property.

Following is given a balance sheet for the water and light department taken from the city's annual report to the Commission for the year ending June 30, 1912:

BALANCE SHEET.

June 30, 1912.

	Electric.	Water.
ASSETS.		
Cost beginning of year.....	\$17,482 48	\$38,291 35
Additions during year.....	20,411 61	1,603 07
Cash.....	475 25	897 61
Accounts receivable.....	3,216 00	2,458 62
Materials and supplies.....	1,387 71	204 74
Prepaid insurance.....	157 85	.....
Total assets.....	\$43,130 90	\$43,455 39
LIABILITIES.		
Funded debt.....	\$27,000 00	\$25,000 00
Accounts payable.....	5,500 81	716 49
Accrued bond interest.....	.....	109 38
Munic. proprietary interest.....	10,630 09	17,629 52
Total liabilities.....	\$43,130 90	\$43,455 39

It will be noted that the book value of the electric plant, given as \$37,894.09, corresponds very closely to the present value of the Commission's valuation after material and supplies and non-operating expenses have been deducted. The latter amount being \$37,512. The book value of the water plant is reported as \$39,894.42. The present value given in the Commission's appraisal minus materials and supplies amounts to \$53,149.

OPERATING EXPENSES.

The operating conditions of the Light and Water Department of Columbus have changed materially since the city made

its last annual report to the Commission. Water now is pumped almost entirely by electricity, and the municipal street lighting system has been more than doubled. Furthermore, it has been deemed advisable to give free incandescent lamp renewals in lieu of the present method of allowing 10 cts. on each burned out carbon lamp that is returned. These changes in operating conditions have necessitated some estimates as to the corresponding effect on expenses. The utility submitted station log sheets covering about six months of operation under the new conditions. These have been used as a basis for whatever estimates pertaining to station operation that were necessary.

The station log sheets show that the electric pump is operated on an average of 4.6 hours per day and consumes on the average of 17.2 kw-hr. per hour. During the 222 days that the pump has been operated, it used 17,612 kw-hr. On the basis of the average daily use it is estimated that this pump will use about 29,622 kw-hr. in a year.

The city during the past year had in operation a series tungsten street lighting system of 93 100 watt lamps burning on an all night moonlight schedule. The meter on this system shows that it consumed 26,920 kw-hr. the first year. The city now has added another series tungsten system of 67 100 watt lamps, which it is estimated will burn about 19,390 kw-hr., and an ornamental system composed of 26 3 light and 2 5 light standards, and 2 sets of 4 light cross-arms set on the regular distribution system poles. In this system 28 100 watt and 68 60 watt tungsten lamps are used. These are to burn from dusk to 10 p. m., which will be about 1,443 hours per year. On this basis the ornamental system will use 10,921 kw-hr. The total consumption for the year for street lighting accordingly has been placed at 57,231 kw-hr.

No records are available as to the number of kw-hr. generated for commercial lighting and power. An analysis of consumer records, however, submitted by the city shows that 99,294 kw-hr. were sold for lighting and 14,270 kw-hr. for power. Assuming that there is about a 20 per cent loss in the distribution system, we would have about 122,000 kw-hr. generated for the former and 19,100 kw-hr. for the latter.

Following is given a summary of the estimates as to what the station output would have been during the past year had the

electric pump been operated, and had the two new street lighting systems been installed:

Electric pumping	29,622 kw-hr.
Street lighting	57,231 "
Commercial lighting	122,000 "
Commercial power	18,100 "
<hr/>	
Total generated	226,953 kw-hr.

The changed operating conditions and the increase in the amount of current generated makes it necessary to estimate the amount of fuel that will be used. An examination of the station log sheets shows that from May 12 to December 19, 1911, the average pounds of coal per switchboard kw-hr. was 9.83. On this basis it is estimated that about 1,150 tons of coal would be used. The city at the present time is paying \$4.20 for coal delivered on the sidetrack at its station, and 10 cts. a ton for unloading it, which makes a total fuel cost of \$4,945.

As stated above, it has been deemed advisable for the city to give free lamp renewals in lieu of the present method of allowing 10 cts. on each burned out carbon lamp that is returned. The reason for this is that one of the most common causes of poor service is due to the operation of lamps after they have depreciated below 80 per cent of their original efficiency, and that there is a disinclination, particularly on the part of consumers, to destroy a lamp which is still giving illuminating service. If the utility gives free lamp renewals this disinclination is removed. For the purpose at hand it can be assumed that a 50 watt carbon lamp will be burned about 800 hours before it is renewed, or, in other words, after it has used about 40 kw-hr. If the price of each lamp is 16 cts., this would mean a cost of about \$0.004 per kw-hr. Last year 97,864 kw-hr. were sold to commercial lighting consumers, which would result in a cost of about \$391 for free lamp renewals.

The installation of the tungsten street lighting system, also, necessitates an estimate of lamp renewals. Operation of the first circuit was begun in November 1911; hence, any expenses had for lamp renewals up to June 30, 1912, the date of the last annual report, do not represent what the normal cost will be. From a great deal of data collected in this office it is safe to assume that the cost over a period of years for maintenance and renewals will be near to 80 cts. per 1000 burning hours.

At Columbus there are 160 lamps burning about 2,500 hours per year, which will mean a cost of about \$2 per lamp. There are also 96 lamps scheduled to burn 1,443 hours which would mean a yearly cost of \$1.12 per lamp. From the above it would seem that under normal conditions about \$427 per year will be needed for maintenance and renewals of the lamps and fixtures of the municipal street lighting system.

If interest is computed on a $4\frac{1}{2}$ per cent basis on the present value, \$2,405.79 will be needed for the water plant and \$1,957.63 for the electric plant for this purpose. The city pays $3\frac{1}{2}$ per cent interest on the bonds for the water plant and $4\frac{1}{2}$ per cent on the bonds for the electric plant, which would seem to indicate that the amount allowed above will be only sufficient to meet the regular interest requirements and to set aside a small surplus to meet contingencies not anticipated. Should this surplus, through economies in operation or otherwise, become quite certain each year, it might be advisable for the city to establish a sinking fund for the retirement of its electric and water bonds, so that after a considerable number of years the city would have no indebtedness to meet and could, if it wished, correspondingly reduce the rates. This is a question of policy for the city to determine, which should take into consideration the interest of the present generation as against the interest of future generations. However, it is offered here merely as a suggestion.

Depreciation of plants similar to the one at Columbus is usually placed at 5 per cent for the electric and 1 per cent for the water, based on the cost new. These rates have been used in this case and result in \$2,282.40 being charged to the electric department and \$557.00 to the water department for depreciation. In order that the city will have sufficient money to keep its investment intact and to rehabilitate its plants when necessity demands, it is deemed advisable that the city be required to establish a depreciation fund based on the above rates and as prescribed in sec. 1797m—15 of ch. 499, laws of 1907. The city will at least be able to get 2 per cent interest on whatever money it has in such fund, which, together with the yearly addition, should be sufficient to meet the needs of the plants.

There is a certain relation of equity existing between consumers and taxpayers which demands that one be not benefited at the expense of the other. If a municipally owned utility

does not pay taxes to the city just as a privately owned plant would, it means that taxes must be higher and that what the consumers of the utility do not pay through rates the taxpayers must. If all the taxpayers were consumers, this inequity would be considerably lessened, but as they are not, it seems only reasonable and fair that in this instance, at least, taxes at the rate of about 1 per cent on the present value should be included as a component part of a reasonable rate.

Apportionment of Expenses.

The water and light departments of Columbus are operated as a joint utility which necessitates the apportionment of expenses common to both, so that each will bear its proper share of the expenses incurred. The following, Table I, shows the operating expenses, as adjusted above, apportioned to the electric and water departments:

TABLE I.
 APPORTIONMENT OF EXPENSES
 BETWEEN THE ELECTRIC AND WATER DEPARTMENTS.

CLASSIFICATION.	Total.	Electric.	Water.
STEAM GENERATION			
Operating labor.....	\$840 00		
Fuel for steam.....	4,945 00		
Water for steam.....	96 00		
Total.....	\$5,881 00	\$5,293 00	\$588 00
ELECTRIC GENERATION AND PUMPING			
Operating labor.....	\$840 00	\$588 00	\$252 00
Steam generated.....	5,881 00	5,293 00	588 00
Miscellaneous supplies and expenses.....	820 06	667 37	152 69
Maintenance equipment.....	53 55	40 86	12 69
Maintenance buildings, fixtures and grounds...	69 53	7 50	62 03
Total.....	\$7,664 14	\$6,596 73	\$1,067 41
DISTRIBUTION			
Operating labor.....	\$150 66	\$132 65	\$18 01
Supplies and expenses.....	1 17	1 17	
Maintenance of distributing system.....	66 25	47 13	19 12
Maintenance of services.....	93 37		93 37
Maintenance of hydrants.....	54 72		54 72
Maintenance of transformers.....	2 00	2 00	
Maintenance of meters.....	58 03	22 43	35 60
Maintenance of cisterns, etc.....	91		91
Total.....	\$427 11	\$205 38	\$221 73
CONSUMPTION			
Commercial lamp renewals.....	\$391 00	\$391 00	
Customers' premises, expenses.....	264 00	264 00	
Municipal lamp renewals.....	427 00	427 00	
Total.....	\$1,082 00	\$1,082 00	
Total direct.....	\$9,173 25	\$7,884 11	\$1,289 14
GENERAL			
General office salaries.....	\$1,500 00	\$1,290 00	\$210 00
Miscellaneous general expenses.....	374 19	321 80	52 39
Railroad Commission expenses.....	20 64	17 75	2 89
Total.....	\$1,894 83	\$1,629 55	\$265 28
UNDISTRIBUTED			
Insurance.....	\$316 88	\$186 52	\$30 36
Stationery and printing.....	138 07	118 74	19 33
Maintenance of buildings, fixtures and grounds.....	5 00	4 30	70
Total.....	\$359 95	\$309 56	\$50 39
Interest.....	\$4,363 42	\$1,957 63	\$2,405 79
Depreciation.....	2,839 40	2,282 40	557 00
Taxes.....	969 65	435 03	534, 62
Total.....	\$8,172 47	\$4,675 06	\$3,497 41
Total all expenses.....	\$19,600 50	\$14,498 28	\$5,102 22

As this apportionment differs quite a good deal from the one made by the utility in its annual report to the Commission, it probably is advisable to explain it. The reason for it is the changed operating conditions. Pumping is now done almost entirely by electricity and the steam pump used formerly is

kept entirely for use in case of fire. Such being the case, it seemed best to treat the current used for pumping as current sold by the electric department to the water department.

Two men are employed in the power and pumping station, one during the day, the other during the night. The wages of these men, which constitute the item operating labor, have first been separated one-half to boiler-room and one-half to power and pumping station. The latter then has been apportioned to each department on the basis of the number of hours daily operation, resulting in a division of the above item 70 per cent to electric and 30 per cent to water.

The steam pump of the water plant is operated about one hour a week in order to keep it in good working order. The amount of steam that is used for this purpose is not very much, but it seems that it would be no more than fair that the water department should bear a proportionate share of the stand-by fuel costs resulting from the fact that a certain amount of steam pressure must be maintained against the possibility of having to use the pump in case of fire. The fact that steam must be maintained to run the generator does not alter the situation. A part of this fuel cost is in the nature of emergency service that the water department should bear. From the circumstances surrounding the operation of this plant it is estimated that about \$588 to cover the cost of steam generation should be assessed to the water department.

All the other expenses of generation, pumping, distribution and consumption have been incurred directly by one department or the other, hence did not need to be apportioned but were used as given in the city's report.

The items under general and undistributed have been apportioned to each on the basis of the total direct expenses as is the usual custom.

Interest and taxes were assessed to each directly on the basis of value, and depreciation as actually computed for each.

ELECTRIC UTILITY.

Table II shows the apportionment of the electric expenses over capacity and output in the manner usually followed by the Commission:

TABLE II.
 APPORTIONMENT OF ELECTRIC EXPENSES
 OVER CAPACITY AND OUTPUT.

CLASSIFICATION.	Total.	Capacity.		Output.	
		Amount.	Per cent.	Amount.	Per cent.
ELECTRIC GENERATION					
Operating labor.....	\$588 00	\$452 76	77	\$135 24	23
Steam generated.....	5,293 00	1,587 90	30	3,705 10	70
Miscellaneous supplies and expenses.....	667 37	333 68	50	333 69	50
Maintenance equipment.....	40 86	13 48	33	27 38	67
Maintenance, buildings, fixtures and grounds.....	7 50	7 50	100	.....	.....
Total	\$6,596 73	\$2,395 32	36	\$4,201 41	66
DISTRIBUTION					
Operating labor.....	\$132 65	\$106 12	80	\$26 53	20
Supplies and expenses.....	1 17	94	80	23	20
Maintenance distributing system	47 13	47 13	100	.....	.....
Maintenance transformers.....	2 00	40	20	1 60	80
Maintenance meters.....	22 43	11 22	50	11 21	50
Total	\$205 38	\$165 81	.....	\$39 57	.....
CONSUMPTION					
Commercial lamp renewals.....	\$391 00	.....	.....	\$391 00	100
Customers' premises expenses..	264 00	264 00	100	.....	.....
Municipal lamp renewals.....	427 00	.....	.....	427 00	100
Total.....	\$1,082 00	\$264 00	.....	\$818 00	.....
Total direct.....	\$7,884 11	\$2,825 13	36	\$5,058 98	64
GENERAL					
General office salary.....	\$1,290 00	.....	.....	.....	.....
Miscellaneous general expense..	321 80	.....	.....	.....	.....
R. R. Commission expenses.....	17 75	.....	.....	.....	.....
Total.....	\$1,629 55	\$586 64	36	\$1,042 91	64
UNDISTRIBUTED					
Insurance.....	\$186 52	.....	.....	.....	.....
Stationery and printing.....	118 74	.....	.....	.....	.....
Maintenance buildings, fixtures and grounds.....	4 30	.....	.....	.....	.....
Total.....	\$309 56	\$111 44	36	\$198 12	64
Interest.....	\$1,957 63	.....	.....	.....	.....
Depreciation.....	2,282 40	.....	.....	.....	.....
Taxes.....	435 03	.....	.....	.....	.....
Total.....	\$4,675 06	\$1,683 02	36	\$2,992 04	64
Total of all expenses.....	\$14,498 28	\$5,206 23	.....	\$9,292 05	.....

Table III shows the apportionment of the electric capacity and output expenses over the different classes of service. The capacity expenses were apportioned on the basis of the demand made by each and the output expenses on the basis of current used by each.

TABLE III.
APPORTIONMENT OF ELECTRIC EXPENSES
TO THE DIFFERENT CLASSES OF SERVICE.

CLASSIFICATION.	ELECTRIC PUMPING.		COMMERCIAL LIGHTING.		COMMERCIAL POWER.		STREET LIGHTING.	
	Capacity.	Output.	Capacity.	Output.	Capacity.	Output.	Capacity.	Output.
ELECTRIC GENERATION:								
Operating labor.....								
Steam generated.....								
Miscellaneous supplies and expenses.....	7%	13%	62%	54%	10%	8%	21%	25%
Maintenance of equipment.....								
Maint. of buildings, fixtures and grounds.....								
Total.....	\$167 67	\$546 18	\$1,485 10	\$2,268 77	\$239 53	\$336 11	\$503 02	\$1,050 35
DISTRIBUTION:								
Operating labor.....								
Supplies and expenses.....								
Maintenance of distribution system.....			50%	50%	10%	10%	40%	40%
Maintenance of transformers.....								
Maintenance of meters.....								
Total.....			\$82 91	\$19 78	\$16 58	\$3 96	\$66 32	\$15 83
CONSUMPTION:								
Commercial lamp renewals.....				\$391 00				
Customer's premises expenses.....			\$250 80		\$13 20			
Municipal lamp renewals.....								\$427 00
Total.....			\$250 80	\$391 00	\$13 20			\$427 00
Total direct.....	\$167 67	\$546 18	\$1,818 81	\$2,679 55	\$269 31	\$340 07	\$569 34	\$1,493 18
GENERAL:								
General office salaries.....								
Miscellaneous general expenses.....	6%	10.8%	64.3%	53%	9.5%	6.7%	20.2%	29.5%
Railroad Commission expenses.....								
Total.....	\$35 20	\$112 63	\$377 21	\$552 74	\$55 73	\$69 88	\$118 50	\$307 66
UNDISTRIBUTED:								
Insurance.....								
Stationery and printing.....		10.8%	64.3%	53%		6.7%		29.5%
Maint. of buildings, fixtures and grounds.....								
Total.....	\$6 69	\$21 40	\$71 66	\$105 00	\$10 58	\$13 27	\$22 51	\$58 45
Interest.....								
Depreciation.....								
Taxes.....								
Total.....	\$72 37	\$128 66	\$1,112 48	\$1,977 74	\$127 91	\$227 39	\$370 26	\$658 25
Total all expenses.....	\$281 93	\$808 87	\$3,380 16	\$5,315 03	\$463 53	\$650 61	\$1,080 61	\$2,517 54

IN RE APPL. COLUMBUS W. & LT. COMM.

This table shows that of the \$5,206.23 total capacity cost \$281.93 is chargeable to electric pumping, \$3,380.16 to commercial lighting, \$463.53 to commercial power, and \$1,080.61 to street lighting. The total output expense of \$9,292.05 is assessed as follows: Electric pumping \$808.87, commercial lighting \$5,315.03, commercial power \$650.61, and street lighting \$2,517.54.

With the above apportionment of expenses the cost of service for each class is readily ascertained. The total operating expenses of commercial lighting is \$8,695.19, of which \$3,380.16 is capacity and \$5,315.03 output. The total current consumed by the commercial or incandescent lighting for the year ending June 30, 1912, was 99,294 kw-hr. Divide the output expense by the energy consumed and a unit output cost of 5.37 cts. per kw-hr. is obtained.

The connected load of the commercial lighting service is 426 kw., exclusive of appliances, which results in an active load of 225 kw., as shown later on in Table V. Dividing the capacity expenses by the active load, we get \$15.05 per kw. per year capacity cost, and further dividing this by 365, we get 4.12 cts. as the capacity cost per kw-hr. if the plant is operated only one hour each day.

Combining the above units, we get a table of costs for different hours daily operation as follows:

TABLE IV.
COST OF COMMERCIAL LIGHTING FOR DIFFERENT HOURS DAILY OPERATION OF PLANT.
In Cents.

Hours daily operation.	Capacity.	Output.	Total.
1.....	4.12	5.37	9.49
2.....	2.06	5.37	7.43
3.....	1.37	5.37	6.74
4.....	1.03	5.37	6.40
5.....	.82	5.37	6.19
6.....	.69	5.37	6.06
10.....	.41	5.37	5.78

The above table suggests the following rate for commercial lighting:

10 cts. per kw-hr. for the first 30 hours' use per month of active connected load.

8 cts. per kw-hr. for the next 60 hours' use per month of active connected load.

6 cts. per kw-hr. for all additional current consumed.

The total operating expense of commercial power is \$1,113.14 of which \$463.53 is capacity and \$650.61 output. The connected load of power consumers is 115 h. p. Dividing the capacity cost by the connected load a cost of \$4.03 per h. p. per year is obtained. During the last year 14,270 kw-hr. were sold to power users. The output cost divided by this figure gives a unit cost of 4.56 cts. per kw-hr. From this it seems that a rate of about 25 cts. per h. p. per month, plus 5 cts. per kw-hr. for all energy consumed, would be reasonable for this class of service.

The total expense of the street lighting, as shown in Table III, is \$3,598.15, of which \$1,080.61 is capacity and \$2,517.54 output. As already explained, the street lighting is composed of two series tungsten systems containing 160 100 watt lamps, and an ornamental tungsten system of 28 3 light and two 5 light standards and two sets of 4 light cross-arms placed on the regular distribution system poles. In this latter system there are 28 100 watt and 68 60 watt lamps. The series systems burn on an all night moonlight schedule. It is estimated that they will use about 46,310 kw-hr. during the year. The ornamental system burns from dusk to 10 p. m. every night and on this schedule will use about 10,921 kw-hr. per year. In view of the fact that there are two distinct classes of street lighting and that each operates on a different schedule, it is necessary to separate the expenses between the two. Accordingly the operating expenses, including the portion of the fixed charges of the station apportioned to street lighting, have been assessed to each on the basis of their respective demands and outputs; and interest, depreciation, and taxes on the street lighting systems have been assessed on the basis of investment in each. The result of this separation of street lighting expenses is that \$2,612.33, of which \$696.47 is capacity and \$1,915.86 output, is charged to the two series tungsten systems, and \$985.82, composed of \$384.14 capacity and \$601.68 output, is charged to the ornamental system.

The above figures indicate that \$16.50 per 100 watt lamp per year would be a reasonable rate for the series system and \$31.00 per standard per year for the ornamental system. As the burning period of the street lamps, however, is liable to considerable fluctuation, it would be more satisfactory to establish a rate composed of a fixed and a variable charge. A rate

of \$3.50 per 100 watt lamp per year plus 4.5 cts. per kw-hr. for all current consumed for the series system, and \$15.50 per standard per year plus 4.5 cts. per kw-hr. for energy used for the ornamental system would meet the required needs.

The total expense for electric pumping is \$1,090.80. It was estimated that this pump under present operating conditions would use 29,622 kw-hr. per year, which would mean an average cost of 3.68 cts. per kw-hr. The figure here obtained suggests a rate of 3.5 cts. as reasonable for this class of service.

The apportionment of expenses in this case is so intricate that it can not be claimed that the results obtained show the cost of the different classes of service with absolute accuracy. It therefore seems reasonable to make such slight alterations as experience and judgment show are advisable, as has been done above.

Table V shows an analysis of the installation and current used by the commercial lighting consumers:

TABLE V.
ANALYSIS OF INSTALLATION AND CURRENT SOLD TO COMMERCIAL LIGHTING CONSUMERS.
Year Ending June 30, 1912.

RATE CLASS.	CONSUMER CLASS.	INSTALLATION IN KILOWATTS. ¹			KILOWATT HOURS SOLD IN 1912.						TO-TAL.
		Con-nect-ed load.	Ac-tive load.	Per-cent ac-tive.	Primary.		Secondary.		Excess.		
					Am't.	Per-cent.	Am't.	Per-cent.	Am't.	Per-cent.	
A	Residences	245.3	109.6	44.7	25,520	70.4	9,810	27.1	908	2.5	36,238
B	Stores.....	58.8	41.2	70.	10,925	52.0	8,092	38.5	2,001	9.5	21,018
	Saloons.....	12.7	8.9	70.	3,044	23.9	5,113	40.2	4,571	35.9	12,728
	Offices.....	11.2	7.8	70.	2,089	31.7	2,304	35.0	2,189	33.0	6,582
	Banks.....	1.7	1.2	70.	402	65.3	213	34.7	.....	.....	615
	Halls.....	7.5	5.2	70.	1,137	31.0	1,503	41.0	1,026	28.0	3,666
	Theater.....	12.6	8.8	70.	1,563	89.1	191	10.9	.....	.....	1,754
	Curling rink.....	2.7	1.9	70.	42	100.0	.....	.....	.....	.....	42
	Total.....	107.2	75.0	70.	19,202	41.4	17,416	37.5	9,787	.....	46,405
C	Churches.....	15.6	8.6	55.	1,216	96.5	44	3.5	.....	.....	1,260
	Industrial.....	21.0	11.5	55.	2,238	71.3	720	23.0	181	5.8	3,139
	Livery.....	1.4	.8	55.	243	25.1	423	43.6	302	31.2	968
	Hotels.....	6.8	3.7	55.	1,288	33.2	1,793	46.2	804	20.7	3,885
	Schools.....	23.7	13.0	55.	1,973	39.7	1,118	22.5	1,875	37.8	4,966
	Hospitals.....	4.6	2.5	55.	893	36.7	1,140	46.9	400	16.4	2,433
	Total.....	73.1	40.1	55.	7,851	47.2	5,238	31.4	3,562	21.4	16,651
	Grand total.....	425.6	224.7	52.8	52,573	53.0	32,464	32.7	14,257	14.3	99,294

¹Does not include appliances.

With the aid of the above table it is possible to estimate what the probable revenue will be from commercial lighting. It will be noted that 52,573 kw-hr. were consumed in the primary group, that is, the first 30 hours' use of the active connected load; 32,464 kw-hr. in secondary, or next 60 hours' use; and 14,257 kw-hr. in the excess. If each group is multiplied by the corresponding rate as shown in the suggested schedule, namely 10 cts., 8 cts. and 6 cts., the following revenue will be obtained: Primary \$5,257.40; secondary, \$2,597.04; and excess, \$855.42; total, \$8,709.86.

In the commercial power class there is a connected load of 115 h. p., and a current consumption of 14,270 kw-hr. If the rate is placed at \$3.00 per h. p. per year plus 5 cts. per kw-hr. consumed, the revenue from this class would be \$1,058.50.

In the street lighting class there are 160 series lamps that consume 46,310 kw-hr. At a rate of \$3.50 per lamp per year plus 4.5 cts. per kw-hr. for current consumed, these will yield \$2,643.95 of revenue. There are also 32 standards in the ornamental system which consume 10,921 kw-hr. At \$15.50 per year per standard plus 4.5 cts. per kw-hr. these will yield \$987.44 of revenue.

The electric pump will probably consume about 29,622 kw-hr. which at 3.5 cts. per kw-hr. will yield \$1,036.77 of revenue.

The above estimates of revenue have been summarized as follows:

Commercial lighting	\$8,709.86
Commercial power	1,058.50
Street lighting	3,631.39
Electric pumping	1,036.77
Total	<u>\$14,436.52</u>

The total expense of the electric department, as shown in Table II, is \$14,498.28, which means that the revenue from the rates suggested will be \$61.76 less than the required amount. The present schedule of rates, however, provides a minimum yearly bill of \$6, which it seems advisable to change to 50 cts. per month. If this is done, more than enough revenue will be obtained from this source to make up the shortage.

WATER UTILITY.

The expenses of the water department, as shown below in Table VI, are the same as they appear in Table I, with the exception that the cost of electric pumping has been added. The apportionment of these expenses has been made upon lines followed in former decisions by this Commission, consequently it is not necessary to go into an explanation here.

TABLE VI.
APPORTIONMENT OF EXPENSES OF THE WATER DEPARTMENT.

CLASSIFICATION.	Total ex-penses.	CAPACITY.		OUTPUT.		Direct to consumers.	Direct to fire protection.
		Amount.	Per cent.	Amount.	Per cent.		
PUMPING							
Operating labor.....	\$252 00	\$176 40	70	\$75 60	30		
Steam generated.....	588 00	588 00	100				
Electric pumping.....	1,036 77			1,036 77	100		
Miscellaneous supplies and expenses.....	152 69	76 34	50	76 35	50		
Maintenance of equipment.....	12 69	5 08	40	7 61	60		
Maintenance of buildings, fixtures and grounds.....	62 03	62 03	100				
Total.....	\$2,104 18	\$907 85		\$1,196 33			
DISTRIBUTION							
Operating labor.....	\$18 01	\$18 01	100				
Maintenance of mains.....	19 12	15 30	80	\$3 82	20		
Maintenance of services.....	93 37					\$93 37	
Maintenance of hydrants.....	54 72						\$54 72
Maintenance of meters.....	35 60					35 60	
Maintenance of cisterns, etc.....	91					91	
Total.....	\$221 73	\$33 31		\$3 82		\$129 88	\$54 72
Total direct expenses.....	\$2,325 91	\$941 16		\$1,200 15		\$129 88	\$54 72
GENERAL							
General office salaries.....	\$210 00						
Miscellaneous general expenses.....	52 39						
R. R. Commission expenses.....	2 89						
Total.....	\$265 28	\$107 44		\$136 88		\$14 86	\$6 10
UNDISTRIBUTED							
Insurance.....	\$30 36						
Stationery and printing.....	19 33						
Maintenance of buildings, fixtures and grounds.....	70						
Total.....	\$50 39	\$20 41		\$26 00		\$2 82	\$1 16
Total foregoing.....	\$2,641 58	\$1,069 01		\$1,363 03		\$147 56	\$61 98
Interest.....	2,405 79	974 34		1,241 40		134 72	55 33
Depreciation.....	557 00	225 59		287 41		31 19	12 81
Taxes.....	534 62	216 52		275 86		29 94	12 30
Total all expenses.....	\$6,198 99	\$2,485 46		\$3,167 70		\$343 41	\$142 42

In order to show the costs for each class of service a further apportionment of the output and capacity expenses as shown above is necessary. Briefly stated, the capacity expenses other than interest, depreciation, and taxes have been apportioned on the basis of maximum demands. Output expenses, other than interest, depreciation, and taxes, have been apportioned on the basis of water used. Interest, depreciation, and taxes, both capacity and output, have been apportioned upon the basis of the investment for each branch of service.

Investigation by the engineering staff shows that 75 per cent of the maximum demand upon the pumping station may be exerted by the fire service and 25 per cent by all other service. Of the plant value 53 per cent was made necessary by the fire service and 47 per cent by all other service, as shown in the following table:

Classification.	Total.		Fire.		All others.	
	New.	Present.	New.	Present.	New.	Present.
A. Land	\$600	\$600	\$250	\$250	\$350	\$350
B. Transmission and distribution...	33,829	33,293	19,758	19,558	14,071	13,735
C. Building and miscellaneous structures.....	10,577	10,010	3,287	3,101	7,290	6,909
D. Plant equipment.....	4,262	3,459	2,079	2,417	1,283	1,042
E. General equipment	184	92	42	21	142	71
F. Paving						
Total.....	\$49,452	\$47,454	\$26,316	\$25,347	\$23,136	\$22,107
Add 12 per cent (see note).....	5,934	5,695	3,158	3,042	2,776	2,653
Total.....	\$55,386	\$53,149	\$29,474	\$28,389	\$25,912	\$24,760
H. Materials and supplies.....	547	547	216	216	331	331
Total.....	\$55,933	\$53,696	\$29,690	\$28,605	\$26,243	\$25,091
J. Non-operating.....						
Total.....	\$55,933	\$53,696	\$26,690	\$28,605	\$26,243	\$25,091

NOTE: Additional 12 per cent to cover engineering, superintendence, interest during construction, etc.

The apportionment of expenses between fire and all other service is shown in the following summary:

Classification.	All other.	Fire.
Capacity operating expenses.....	\$267.25	\$801.76
Output operating expenses.....	1,363.03	
Expenses apportioned directly.....	147.56	81.98
Int. dep. & taxes apportioned on basis of direct expenses.....	195.85	80.44
Capacity int., dep. and taxes.....	665.73	750.72
Output int., depreciation & taxes.....	848.20	956.47
Total.....	\$3,487.62	\$2,651.37

It will be noted that none of the output operating expenses have been assessed to fire service. The reason for this is that fires in Columbus seem to occur very seldom, and therefore the amount of water used is negligible.

The cost of the fire service is \$2,651.37 per year, or on the basis of 48 hydrants installed about \$55 per hydrant. Compared with the cost in other cities in the state this is not high. A more satisfactory comparison, however, is the cost per capita. Columbus has 2,523 inhabitants which would mean a cost of \$1.05 per inhabitant for fire protection. On this basis, also, Columbus shows a comparatively low cost for this service.

As fire service is supplied only to one consumer, it was not necessary to make a separation between capacity and output, but with regard to the other class of service this separation must be made, and is shown in the following summary:

COST OF GENERAL SERVICE.

	Capacity.	Output.
Operating expenses.....	\$267 25	\$1,363 03
Operating expenses apportioned directly.....	147 56	.....
Interest, depreciation and taxes.....	861 58	848 20
Total.....	\$1,276 39	\$2,211 23

The utility supplied data showing the amount of water consumed through meters for the one-half year ending December 31, 1912. There are 330 consumers, including schools, city hall, etc., and of these 204 are metered. The metered consumption for this period was 619,419 cubic feet, and the revenue from the same \$1,127.45. The revenue from the unmetered consumers was \$352.25, which seems to indicate that, as they are mostly residences, they are small. It is estimated that if these consumers were metered they would have used about 210,320 cubic feet. From this it would appear that about 1,650,000 cubic feet will be consumed when all takers are metered. In addition to this, however, there will be the amount of water used for street sprinkling. Part of the water used for this purpose was metered; the records show 117,210 cubic feet. A considerable amount, however, that was used was not metered; consequently it will have to be estimated. From data at hand for other cities of about this size it seems safe to assume that about 200,000 cubic

feet per year would be a fair amount for this service. The total consumption, then, will be about 1,850,000 cubic feet per year.

The capacity cost, based on 330 consumers, is \$3.85 per consumer per year. This represents an average cost for all consumers, the actual cost, however, varies considerably with the size of the consumer's service and meter. No attempt is made here to apportion the capacity expenses among the various consumers, as this has been done in a sufficiently large number of cases to permit such a schedule being made after the average cost has been ascertained. The following probably would not be very far from the results obtained from a detailed analysis, and it is believed will equitably deal with both the consumers and the utility:

Size of meter.	Yearly charge.
5/8 inch	\$3.00
3/4 inch	4.00
1 inch	6.00
1 1/2 inch	8.00
2 inch	12.00
3 inch	20.00
4 inch	40.00
6 inch	72.00

As all the users are not metered it is difficult to determine the number of each size of meter that will be used. From data at hand, however, it is estimated that the number of meters and the corresponding revenue will be about as shown in the following table:

Size of meter.	Number.	Yearly charge.	Prospective revenue.
1/2 inch	302	\$3.00	\$906.00
3/4 inch	18	4.00	72.00
1 inch	7	6.00	42.00
1 1/2 inch	1	8.00	8.00
2 inch	1	12.00	12.00
3 inch	1	20.00	20.00
Total	330	.....	\$1,060.00

If 1,850,000 cubic feet are delivered to consumers, the output cost of general service, which amounts to \$2,211.23, will be 12 cts. per 100 cubic feet. Adding the \$216.39 of the capacity cost, which the above schedule of service charges will not produce revenue to cover, the average output cost will be a little over 13 cts. per 100 cubic feet.

It is advisable that the output charge should vary somewhat with the quantity consumed. From the facts as they appear here, a rate of 15 cts. per 100 cubic feet for the first 1000 cubic feet per quarter, 12 cts. per 100 cubic feet for the next 4000 cubic feet, and 9 cts. per 100 cubic feet for all excess, will probably fit the needs in this case.

An analysis of the records of water consumed by the metered takers shows that 52.9 per cent of the water used would come under the first step of the above rate, 24.5 per cent under the second, and 22.6 per cent under the third.

As the intention of the utility seems to be to meter all the water used for street sprinkling, this service will have to be paid for under a meter rate. As this is in the nature of "off-peak" service, it would seem that an average rate of about 10 cts. per 100 cubic feet would be a reasonable charge for it.

The following table shows the prospective revenue from that part of the rate covering use of water only:

Cubic feet consumed.	Rate.	Revenue.
872,850	15	\$1,309 28
404,250	12	485 10
372,900	9	335 61
200,000 ¹	10	200 00
Total.....		\$2,329 99

¹Street sprinkling.

The total prospective revenue from all sources is summarized as follows:

Fire service	\$2,600.00.
Service charge	1,060.00
Charge for water.....	2,329.99
Total	\$5,989.99

The total expenses as shown in Table VI are \$6,138.99, or \$149.00 more than the prospective revenue. It will be noted further, however, that some \$51.37 is due to fire service. In view of the fact that the interest allowance for the water plant is quite liberal, it seems that the above revenue if obtained will be sufficient.

One of the complaints set forth in the application is that consumers supplied with water from dead ends are compelled to

draw much more water than is used, because the water in these dead ends is stale or stagnant, especially in hot weather, unless the tap is left open. At the hearing this question was considered and it was suggested that if the hydrants located on these dead ends were flushed periodically, matters would be helped considerably. We understand that this suggestion has been followed, and that the cause for complaint has been removed.

The utility in its application asks that the Commission determine the responsibility and rights of the city in cases where leaks occur in the service pipe between the main and the curb, between the curb and the meter, and beyond the meter. This Commission has held that the service pipe from the main to the curb is part of the equipment that the utility should own.

“The logical conclusion seems to be that the utility shall install and own services to the curb line * * * The service pipe from main to curb is as much a part of the utility’s distribution system as is the main itself. Both parts of the equipment have the same purpose, the delivery of water to consumer’s premises.

“It is not believed that the utility should be required to install and own such portion of the service as are on private property.” *City of Janesville v. Janesville W. Co.* 1911, 7 W. R. C. R. 628, 681.

This Commission has further held, *In re Invest. Hudson Water Works*, 1908, 3 W. R. C. R. 138, 141 that, “The law clearly contemplated that * * * all responsibility for the installation and maintenance of the whole of the equipment shall be centered exclusively in the management.”

From the foregoing quotations it seems clear that the utility must repair and maintain the service pipe to the curb. In view of the fact, however, that there is likely to be some of the service pipe between the curb and the meter it is advisable that the utility also maintain and repair the pipe up to the meter. The consumer ordinarily has no great interest in water wasted that does not go through his meter, and is reluctant to report leaks which cause such losses if he is compelled to pay for the repair. In order, therefore, to protect itself it seems advisable, as stated above, that the utility should maintain the pipe up to the meter. This cost will be a proper operating expense, and have its consequent effect on the rates paid for water.

There is one more question raised in the application, namely, as to the rates which a laundry should pay for current used by electric flat irons. The utility asks permission to establish a flat rate for this class of service. As a general proposition it is not advisable to establish flat rates except where the amount of energy used is so small as not to warrant the additional investment, or where a fixed installation is burned a certain number of hours. Of course, in the latter case the amount of energy used can be easily and definitely computed, hence a meter is not necessary. Coming back to this particular laundry, it seems that in view of the fact that its use of current for heating irons is mostly off-peak, it should be entitled to the power rate for this service.

IT IS THEREFORE ORDERED, That the city of Columbus discontinue its present rates for electricity and substitute therefor the following schedules of rates and charges:

ELECTRIC RATES.

Commercial Incandescent 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: 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 the active connected load.

Secondary rate: 8 cts. net or 9 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 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, $33\frac{1}{3}$ per cent of such a part of the total connected load over and above 500 watts shall be deemed active.

Class B includes stores, saloons, offices, banks, halls, theaters, curling rinks, and all others not herein otherwise specifically provided for. In this class 70 per cent of the connected load shall be deemed active.

Class C includes churches, industrial establishments, livery stables, hotels, schools, and hospitals. In this class 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 of 50 cts. 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 prompt payment. Utility's present regulation that discounts shall not be granted after the 15th day of the month following the last date of meter reading is deemed reasonable.

Free maintenance of lamps. Utility shall renew burned out or badly dimmed carbon filament lamps when returned to its office. When tungsten and other lamps are returned for renewal, the customer shall be allowed an amount equivalent to the price of a carbon lamp and shall be charged for the difference.

Reconnection of meters. 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, as measured by meters owned and installed by company, the rate shall be:

25 cts. net per month for the first horse power or fraction thereof and 25 cts. for each additional horse power of nominal rated capacity, plus

5 cts. net or 6 cts. gross per kilowatt hour for all current consumed.

The provisions for minimum bill, discount, and reconnection of meters as stated under the schedule for commercial incandescent lighting shall also apply to power.

Municipal Street Lighting.

The rate for municipal street lighting shall be as follows:

Series tungsten system: \$3.50 per 100 watt lamp per year, payable in equal monthly installments, plus

4.5 cts. per kilowatt-hour for all current consumed.

Ornamental system: \$15.50 per standard per year payable in equal monthly installments, plus

4.5 cts. per kilowatt hour for all current consumed.

Municipal Power.

For current used by the water department for pumping water, the rate shall be 3.5 cts. per kilowatt hour.

WATER RATES.

Meter rates payable quarterly.

I. Service charge.

Size of meter.				Quarterly charge.
5/8	inch,	one	consumer on meter.....	\$0.75
3/4	"	"	" " " "	1.00
1	"	"	" " " "	1.50
1 1/2	"	"	" " " "	2.00
2	"	"	" " " "	3.00
3	"	"	" " " "	5.00
4	"	"	" " " "	10.00
6	"	"	" " " "	18.00
Each additional consumer on the same meter.....				.50

Each dwelling, flat, suite, store, tenant, etc., shall be regarded as one consumer in determining the service charge.

II. Output charge.

15 cts. net or 17 cts. gross per 100 cubic feet for the first 1,000 cubic feet used per quarter.

12 cts. net or 14 cts. gross per 100 cubic feet for the next 4,000 cubic feet used per quarter.

9 cts. net or 11 cts. gross per 100 cubic feet for all in excess of 5,000 cubic feet used per quarter.

Discount. Utility shall bill all consumers at the gross rate and the difference between the gross and net rate, or 2 cts. per 100 cubic feet, shall constitute a discount for payment on or before the 15th day of the first month of the quarter.

Construction purposes.

Water used for construction purposes shall be charged for as follows:

- \$0.40 per 100 square yards for paving,
- \$0.005 per lineal foot for curb or gutter,
- \$0.12 per 100 square yards for plastering,
- \$0.08 per 1000 for laying brick,
- \$0.08 per cord for laying stone,
- \$0.05 per cubic yard for concrete walls.

Street Sprinkling.

The rate for street sprinkling shall be 10 cts. per 100 cubic feet of water used.

Fire Service.

The charge to the city for fire protection shall be \$2,600 per year.

IT IS FURTHER ORDERED, That the city of Columbus shall establish and maintain a depreciation reserve fund in accordance with sec. 1797m—15, ch. 499 laws of 1907. The rate of depreciation for the electric utility shall not be less than 5 per cent and for the water utility not less than one per cent.

STEVENS LUMBER COMPANY

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY,
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY
COMPANY.

Submitted Jan. 27, 1913. Decided Feb. 25, 1913.

Complaint was made that the switching charge exacted on shipments of lumber delivered by the C. & N. W. Ry. Co. from the C. M. & St. P. tracks to the petitioner's mill at Rhinelander, Wis., is unjustly discriminatory. The respondents maintain a joint log track in the city which serves all mills except that of the petitioner. Petition is made for the construction of a log track to petitioner's mill eliminating the switching charge.

Held: The switching charge is unjust and discriminatory. It is ordered that the respondents desist from exacting a charge on petitioner's shipments greater than that exacted for delivering like shipments to other consignees in the city.

The petitioner is a corporation engaged in manufacturing lumber in the city of Rhinelander, Wis. It alleges that for some sixteen years last past the respondents have maintained and operated a joint log track in the city of Rhinelander which serves all the sawmills in the city except that of petitioner, by means of which all logs coming in over either the Chicago & North Western or the Minneapolis, St. Paul & Sault Ste. Marie lines are delivered to these mills without the payment of switching charges; during all of such time the petitioner has been served by the Chicago & North Western Railway Company only and has been obliged to pay the Chicago & North Western Railway Company a switching charge of \$2 per car for all cars received from the Minneapolis, St. Paul & Sault Ste. Marie Railway Company; that to connect the joint log track with the log track of the petitioner will require the construction of approximately 360 feet of track; that the respondents have refused and do now refuse to make such connection, and that as a result a great injustice is done to the petitioner by placing the petitioner at a great disadvantage in competing with the other sawmills located in this city; that the petitioner is prepared and willing to do all the things necessary on its part in connection with the construction

of a log track as herein prayed for. Wherefore, petitioner prays that the respondents be required to construct, maintain and operate a joint log track such as is furnished to its competitors and for such other order and relief as the Commission may deem just and reasonable.

The respondent Chicago & North Western Railway Company, answering the petition, denies that any discrimination is practiced against the petitioner, as alleged in the petition, and alleges that the interchange of cars at Rhinelander between it and its co-respondent in connection with the plant of the petitioner is handled on the basis of a normal and reasonable switching charge, as set forth in the respondent's tariff on file with the Commission.

The respondent Minneapolis, St. Paul & Sault Ste. Marie Railway Company in its answer alleges that no discrimination is unduly or unjustly practiced against the petitioner by failure to provide joint track facilities to its mill, and that the construction by this respondent of such tracks, asked for by the petitioner, would necessitate passing the Robins and Brown mills, which would subject this respondent to serious fire liability; that this respondent has for over twenty-five years handled satisfactorily all the lumber moving in the city of Rhinelander and there is no justification for any change at the present time.

The matter came on for hearing on January 27, 1913. The petitioner was represented by *W. T. Stevens*, its president; the Chicago & North Western Railway Company by *C. A. Vilas*, its general attorney; and the Minneapolis St. Paul & Sault Ste. Marie Railway Company by *A. H. Lossow*, its commerce counsel.

Three sawmills are located within the city of Rhinelander, one belonging to Brown Bros., one to petitioner, and one to the Robins Lumber Company. The first two are situated on the tracks of the Chicago & North Western Railway Company, the other is situated on the tracks of the "Soo" railway company. The tracks of the two railway companies are connected. By mutual arrangement the Chicago & North Western Railway Company uses the tracks of the "Soo" company in serving the mill of the Robins Lumber Company and the "Soo" company uses the line of the Chicago & North Western Railway Company in serving the mill of Brown Bros. The petitioner's mill is not included in this arrangement.

The Chicago & North Western Railway Company was in error in its contention that the interchange of cars at Rhinelander between it and its co-respondent in serving the mills of Brown Bros. and the Robins Lumber Company is handled on the basis of a switching charge according to its published tariffs. The fact is, there is no tariff in effect providing such charge. No switching charge is or ever has been exacted by either of the respondents for hauling cars of logs to either of the mills subject to the arrangement mentioned. However, the petitioner is obliged to pay a switching charge to the Chicago & North Western Railway Company of \$2 per car for all logs delivered to its mill which are shipped in over the line of the "Soo" company. This charge has been paid by the petitioner for upwards of sixteen years, although during all such time Brown Bros. and the Robins Lumber Company have been exempted from the payment of any switching charges whatsoever.

It is unnecessary to review the testimony given upon the hearing which relates to the making of the agreement between the railway companies respecting the reciprocal use of their tracks for serving the mills of the Robins Lumber Company and Brown Bros. It is sufficient to say that no attempt was made and none could be made under the circumstances to justify the discrimination against the petitioner resulting from the agreement mentioned. It is surprising that no complaint was made earlier.

The railway companies made a feeble objection to serving the petitioner's mill on the same basis as that of its competitors because of the necessity of passing through the lumber yards of one of the competing mills, which might subject them to liability from loss occasioned by fire. This, however, can be readily obviated by connecting their tracks a short distance from petitioner's mill. It is a matter of indifference to the petitioner in what manner the railway companies obviate any operating or other difficulties encountered in serving its sawmill. It does matter, however, that it be not required to pay more freight upon the logs delivered to it in the city of Rhinelander than its competitors in the same place are obliged to pay for the same service. The discrimination practiced against the petitioner is unreasonable and unjust, and must be eliminated.

NOW, THEREFORE, IT IS ORDERED, That the Chicago & North Western Railway Company and the Minneapolis, St. Paul &

Sault Ste. Marie Railway Company cease and desist from charging or exacting from the Stevens Lumber Company a greater charge for delivering logs to its mill which arrive in the city of Rhineland on the line of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company than the said railway companies exact of the Robins Lumber Company or Brown Bros. for delivering like shipments to the mills of the last named companies.

HERBERT A. HOFFMAN ET AL.

vs.

WAUSAU TELEPHONE COMPANY.

Submitted Oct. 28, 1912. Decided Feb. 26, 1913.

The petitioner alleges that the service of the Wausau Tel. Co., Wausau, Wis., is inadequate. It appears that the chief causes of complaint are due to delays in clearing up trouble reports and to the action of the company in shutting off subscribers for non-payment of bills when bills have in fact been paid. It is further alleged that rates are excessive and that small business places cannot afford service at present rates.

Held: Patrons should not be shut off for nonpayment of bills without reasonable notice. A rule governing the matter is to be submitted to the Commission for approval and the respondent is ordered to keep a record in convenient form showing the financial relation of each subscriber with the company. The company is further ordered to make any change necessary to furnish efficient service and handle trouble reports promptly, and is directed to keep accurate and complete records of all trouble reported or detected.

The respondent is ordered to file a rate for party line business service, which rate is to be less than that charged for single party business service within the city of Wausau. All other rate matters involved are for the present dismissed.

Petition in this matter was dated July 12, 1912. Petitioners are twenty-five persons, firms and corporations of Wausau, Wis. Respondent is a telephone utility, engaged in the business of managing and operating a telephone exchange within the city of Wausau. The matters complained of relate both to service and to rates. The principal charges with regard to service are: First, that the service is inadequate because the system has not been kept properly in repair and as a consequence subscribers have been unable to secure service for periods of time which, according to the petition, have in some cases been as great as a week. Second, that the company has put its subscribers to trouble and inconvenience by shutting off its patrons without notice even when all bills for service were paid. With regard to the rates, petitioners allege that the rates as charged are exorbitant and discriminatory and that because of this condition and the inadequate service furnished, many of the smaller busi-

ness places have not been able to afford to install telephones and that as a consequence people of the city are not receiving the telephone service which they should have.

Hearing in this matter was held at Wausau, Wis., October 28, 1912. Appearances were as follows: For petitioners, *Riley & Ford*, by *James P. Riley*. For respondent, *Kreutzer, Bird, Rosenberry & Okoneski*, by *C. B. Bird* and *G. D. Jones*.

Matters taken up at the hearing related almost entirely to the quality of service rendered. As outlined in the petition in this matter, the principal causes of complaint in regard to service appear to have been due to delays in clearing up trouble reports and to the action of the company in shutting off subscribers for nonpayment of bills, even though bills had as an actual fact been paid. Considerable testimony was introduced to show that the delays in clearing trouble were unnecessarily long. It seems to have been clearly established that for some time during the spring and summer of 1912 there was considerable delay in clearing trouble. A number of witnesses, however, testified that for some time prior to the date of the hearing the service had been good. There is no evidence that tends to show that the company had willfully or deliberately caused any delay in clearing trouble or that it had not complied with requests for inspections and investigations of trouble with as much promptness as its force would permit. The issue seems to be, rather, whether the company had a sufficient force of employes to look after cases of trouble and to keep the system in shape to furnish reasonable service. On behalf of the respondent, it was pointed out that some of the cases of trouble arose from the fact that the company in the spring of 1912 moved its central office into a new building, where it is now located, and that during the summer of 1912 severe storms and floods caused considerable damage to its system which sometimes made it impossible for the utility to clear trouble reports promptly. From such testimony as was introduced, it seems that the service rendered for some time prior to the hearing of this case had been fairly satisfactory and that trouble reports were handled with considerable promptness. It does not appear to be necessary to attempt at this time to determine the degree to which the telephone utility is responsible for the delays during the spring and summer of 1912. Whatever may have been its degree of responsibility for these

delays, its duties with regard to the furnishing of adequate telephone service are not affected thereby. It is the duty of the utility to furnish a reasonably adequate telephone service to all of its subscribers and to do everything that may be reasonably required to furnish that service at all time and without unnecessary delay. This case is no exception to the general rule, and the telephone company must furnish adequate service to its subscribers in the city of Wausau and to such subscribers outside of the city as it undertakes to serve.

With regard to the second portion of the complaint relating to service, viz., that subscribers were cut off without notice even after their bills had been paid, it need only be said that if this condition exists, it constitutes inexcusable negligence on the part of the telephone utility. The utility must keep such records as will enable it to determine accurately which of its subscribers have paid their bills and which are delinquent, and there appears to be no reason why such a record should not be required in this case.

With regard to the rates, no very extended analysis appears to be necessary. According to the files of the Commission, the rates of the Wausau Telephone Company now in effect are as follows:

Business phones	\$3.00 per month
Residence phones	1.50 per month
Party line residence phones.....	1.00 per month
Booths at depots and hotels.....	.05 per call
Extension telephones .....	.50 per month
Answering telephones .....	.25 per month
Extra line telephones.....	1.00 per month

Outside of the city limits the business and residence telephone rates are \$3.50 and \$3.00 per month, respectively.

The report of the respondent for the year ended June 30, 1912, shows total operating revenues amounting to \$30,111.77. Operating expenses, including taxes, but not including any allowance for interest and depreciation, amount to \$16,149.05, so that the amount available for interest payments and for depreciation was only \$13,962.72. The valuation made by the Commission's engineering staff, as of October 1, 1912, showed the cost new of the property of the respondent to be \$228,477, and the present value \$184,541. The amount available for interest and depreciation during the year ended June 30, 1912, amounts to 6.1 per cent of

the cost new of the property, and about 7.6 per cent of the present value. The report of the utility, although it does not comply in all respects with the requirements of the uniform classification of accounts prescribed by the Commission, appears to be accurate so far as the reported total of operating revenues and operating expenses is concerned. It is evident that no general reduction of the rates can be ordered, as the amount available for interest and depreciation under the present schedule is less than 8 per cent upon the present value of the property. It is true that the rate schedule now in effect is defective in that it does not provide a rate for business telephones on party lines which is different from the rate for business telephones on single lines. The best development of the telephone business among the smaller business users of the city would probably be obtained by putting into effect a rate for party line business telephones substantially less than the single party rate. Owing to the fact that the operating conditions of the respondent do not warrant a general reduction of rates nor a complete review of the rate schedule at the present time, it does not seem that we need prescribe a rate for party line business telephones in this case. The utility should file such a rate, but its promulgation may be left in the first instance to the utility itself, subject to review by the Commission at the time of filing.

From what has been said in connection with the points raised in this case, therefore, it appears that it is the duty of the telephone company to clear trouble at the earliest time consistent with good management of its business and that at all times the utility should undertake to have a sufficient force of competent employes to handle reports of trouble or trouble detected at the central office within a very short time after such report or detection. It is the duty of the utility also to keep an accurate record of its relations with its patrons which will show the facts with regard to the indebtedness of any patron to the utility or of the utility to any patron, and that patrons should not be shut off for nonpayment of bills without reasonable notice. The company should formulate and submit to the Commission for approval a rule governing the matter. *Berend v. Wis. Tel. Co.* 1909, 4 W. R. C. R. 150.

IT IS THEREFORE ORDERED, That the respondent in this case, the Wausau Telephone Company, shall make such changes as

may be necessary to enable it to furnish efficient service to its subscribers and to handle trouble reports promptly and efficiently.

IT IS FURTHER ORDERED, That the respondent shall keep an accurate record in permanent form of all trouble reported and detected, which report shall show (1) the time of report or detection; (2) the telephone or telephones affected; (3) the nature of the trouble; (4) the time when trouble is cleared; and (5) what action was necessary to clear the trouble. Respondent shall also keep a record in convenient form which will show the status of the financial relations existing between the respondent and each of its subscribers, and no subscriber shall be cut off for non-payment of bills except after reasonable notice.

IT IS FURTHER ORDERED, That the respondent file a rate for party line business service, which rate shall be less than that charged for single party business service within the city of Wausau. All other matters involved in this case, relating to rates, are for the present dismissed.

IN RE APPLICATION OF THE MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COMPANY FOR AUTHORITY TO INCREASE SWITCHING RATES AT WAUPACA.

Submitted Dec. 6, 1912. Decided Feb. 28, 1913.

Application of the M. St. P. & S. S. M. Ry. Co. asks for an increase in the rate for switching cars to and from the line of the W.-G. B. Ry. Co. at Waupaca, Wis. The applicant receives cars from the W.-G. B. Ry. and spots them at warehouses on its various switching tracks and re-delivers them for a charge of \$2 per car. This charge, which is absorbed by the smaller road, the applicant desires to increase to \$4 per car. The applicant owns yard tracks in the city upon which the W.-G. B. line has joint trackage rights. The W.-G. B. Ry. Co. performs a switching service from certain shippers on these tracks to applicant's line, receiving a division of the through rate amounting to approximately \$9 per car. If a lower rate were made effective for this service, shippers financially interested in the W.-G. B. Ry. Co. would route their shipments by way of Scandinavia to be delivered to the G. B. & W. line, giving the W.-G. B. Ry. Co. the benefit of the rate for the line haul. The amount of the charge for delivering such shipments to the applicant, in excess of a switching rate, is a payment by the "Soo" line for the privilege to participate in the outbound traffic, and this charge is not comparable to the rate in question. The value of the W.-G. B. line in serving as a feeder to the applicant and in supplying cars, especially when potato traffic is heavy and cars are likely to be scarce, was considered. It is apparent that the W.-G. B. Ry. Co. is serving a real local need and any measure which would prejudice its interest would also be contrary to public good. Investigation shows that were the company required to pay the \$4 per car it could barely do so without entirely exhausting its reserve. However, there is little equity in making a large and prosperous road bear the burden of a small and struggling competitor.

Held: The switching rate, in this case, should be based on the cost of service, including in such cost a reasonable return upon the property used in performing the service. The applicant is authorized to charge \$2.75 per car for the switching service in question.

This proceeding arises out of a request upon the part of the applicant, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, for authority to increase its rates for switching cars to and from the line of the Waupaca-Green Bay Railway Company at Waupaca, Wis., from \$2 to \$4 per car. Objection was made to the granting of this application by the Waupaca-

Green Bay Railway Company and at the request of the applicant the matter was set for hearing.

At the hearings, which were held at Waupaca, November 21, 1912, and at Madison, December 6, 1912, the applicant was represented by *Kenneth Taylor*, and the Waupaca-Green Bay Railway Company by *Irving P. Lord*, its general counsel.

From the testimony and other evidence introduced at the hearings, the facts of the case may be summarized as follows:

The Waupaca-Green Bay Railway Company operates a line of railway about ten miles in length, from Waupaca to Scandinavia, Wis., connecting at the latter point with the Green Bay & Western line. Waupaca is the center of a large potato warehousing and shipping industry and the necessity for prompt loading and movement of potatoes was, it seems, the principal incentive to the building of the Waupaca-Green Bay line by residents of Waupaca and the surrounding territory at a time when car shortages and delayed movements caused much loss in the handling of this perishable commodity. The main line of the applicant Minneapolis, St. Paul & Sault Ste. Marie Railway Company between Chicago and the Twin Cities passes through Waupaca, and the various switching tracks of the applicant at the latter point reach a number of potato warehouses which are not reached by the line of the Waupaca-Green Bay Railway Company. The applicant receives cars from the respondent's line, spots them at these warehouses for loading and unloading and then re-delivers them to the Waupaca-Green Bay line for a charge of \$2 per car which is absorbed by the smaller line, and it is this charge which the applicant desires to increase to \$4 per car. The applicant also owns yard tracks in the city of Waupaca, upon which the Waupaca-Green Bay line has joint trackage rights, paying no rental, but one-half the maintenance charges. On these tracks are situated the potato warehouses of Penney & Olson, and the mill of A. G. Nelson, both of whom are financially interested in the Waupaca-Green Bay line. In the case of the shipments of potatoes from these warehouses billed via the "Soo" line, the Waupaca-Green Bay line, being in control of the initial routing of these cars due to its relation with the shippers, performs a switching service in hauling the cars from the Penney & Olson warehouse to the junction point with the applicant's tracks. For this service the Waupaca-Green Bay

gets a division of the through rate, amounting to approximately \$9 per car. The reason no switching rates are in effect for this short movement is that if the Waupaca-Green Bay line were to receive a smaller compensation for delivery to the "Soo" line than it would receive for delivering the shipments at Scandinavia to the Green Bay & Western line, the shippers, being interested in the Waupaca-Green Bay line, would route the shipments over the Green Bay & Western line, and the "Soo" line would lose the haul entirely. The movement to Scandinavia, about ten miles in length, would then be a line haul and the Waupaca-Green Bay line's division of the rate would be \$9. Thus the very short movement to the "Soo" line tracks in Waupaca is also treated as a line haul and the Waupaca-Green Bay line is given a division of \$9 per car. The applicant insists that this arrangement is unjust and that it is really entitled to charge the Waupaca-Green Bay line for switching service an amount proportionate to the charge exacted of the "Soo" line by the Waupaca-Green Bay line; but under the peculiar facts it seems that the "Soo" line must either pay the \$9 division to the Waupaca-Green Bay line on shipments originating on that line or lose the shipments entirely, and it would do no good to demand a lower switching rate from the Waupaca-Green Bay line, because if such lower rate were made effective, all its potato shipments would move via Scandinavia.

The excess of the \$9 charge over the respondent's switching charge, therefore, is, in effect, what the "Soo" line is paying for the privilege of participating in outbound business, and is hardly a just measure of what the "Soo" line should charge the Waupaca-Green Bay line.

The position of the Waupaca-Green Bay Railway Company is that it cannot afford to absorb any higher switching charge than \$2 per car. Its entire revenue on outbound shipments of potatoes is \$9 per car. Since the switching charge of \$2 per car is absorbed by the Waupaca-Green Bay line, and since, in addition, the applicant reclaims on that line for the exact number of days its cars are on the applicant's tracks, and this also is paid out of the respondent's earnings, the net revenue per car is reduced to approximately \$6. This net revenue is claimed to be inordinately low, especially in view of the large number of claims to be paid for loss or damage to shipments owing to the freezing

of the potatoes while in transit. It is further claimed that if the Waupaca-Green Bay road had to absorb the proposed increase of \$2 per car, it would be placed in serious financial jeopardy; and to attempt to make the shippers pay this increase would inevitably mean the loss of the very business the road is most dependent upon.

The applicant contends that the cost of operation justifies the proposed increase. The switching service performed for the Waupaca-Green Bay line, it is claimed, is particularly difficult. There being but little storage or sidetrack facilities it is often necessary, in order to spot an empty car in front of a warehouse door or to remove a loaded one, to pull away and respot an entire string of cars. One switching movement, therefore, may necessarily involve several others. These elements of extra care and difficulty of handling, however, are included in the cost figures submitted by the applicant. According to these figures the average cost per loaded car switched at Waupaca was \$2.58 for the month of October, 1912, and \$2.72 for the month of February, 1912. This cost in October was exactly equal to the reported cost per car of the switching in July, 1912, in the Shoreham yards on the applicant's line in Minnesota. According to the testimony, the switching at Shoreham is done under the most favorable conditions, including the use of a gravity hump. If this figure of \$2.58 per car can be taken as a correct one, the cost per car at Waupaca is no greater than under the most favorable conditions.

A further objection of the applicant to the present rate of \$2 per car is that it is in theory a reciprocal switching rate when none of the elements of reciprocity are present. In general, in order for a reciprocal rate to be granted, it is necessary that the industries and the volume of traffic originating from them be distributed fairly equally between the roads at the junction point. In the present case, however, the "Soo" line switched in one year a total of 737 cars, 627 of which were potato cars, from industries along its tracks to the Waupaca-Green Bay line at the rate of \$2 per car. In return it received from the Waupaca-Green Bay line from the warehouses of Penney & Olson, 147 cars of potatoes, on a 25 per cent division of the rate. Waiving the question of the equity of this division of the rate, in order to make the above arrangement reciprocal, the

Waupaca-Green Bay line would have to switch for the "Soo" line about 590 more cars in a year than it does switch. The testimony and other evidence indicates, however, that it would be impossible for the Waupaca-Green Bay line to offer an equal number of cars, even though it diverted all its available traffic to the "Soo" line.

The Waupaca-Green Bay line, in addition to its switching relations with the "Soo" line, is also to some extent a feeder for that line. The following is a statement of the carload shipments delivered to the "Soo" line for the year ending September 1, 1912, and the estimated "Soo" line revenues for the haul:

Commodity.	Number of cars.	"Soo" revenue.
Gravel.....	318	\$6,824.70
Potatoes.....	153	3,213.00
Wool.....	2	20.00
Logs.....	134	1,340.00
Total.....	607	\$11,397.70

In addition, the Waupaca-Green Bay road paid the "Soo" line \$1,474.00 for switching 737 cars of potatoes, bringing the total "Soo" line compensation up to \$12,871.70.

It will thus be seen that the applicant derives a very considerable revenue from its connection with the Waupaca-Green Bay line. It further appears convincingly from the testimony that the Waupaca-Green Bay line renders a real service to the shippers at Waupaca, and incidently to the "Soo" line itself, by increasing the car supply at times when the potato traffic is congested and when cars are likely to be scarce. A large proportion of the cars furnished to the Waupaca shippers by the Waupaca-Green Bay line are obtained from the Union Refrigerator Transit Company, and the testimony shows that the railway company has exercised more than ordinary diligence in procuring these cars and keeping them available for Waupaca shippers. The testimony shows that serious car shortages were frequently experienced in Waupaca prior to the advent of the Waupaca-Green Bay company, and that they have been very largely absent since that company was organized. In view of these facts it is apparent that the Waupaca-Green Bay Railway Company

is serving a real local need and that any measure which would unreasonably prejudice its interests would also be contrary to public good.

The question of the financial ability of the Waupaca-Green Bay road to conveniently absorb the additional \$2 per car, while not the determining factor, must nevertheless be considered in connection with all the other circumstances of the case. The Waupaca-Green Bay road has never declared dividends. Its accumulated surplus is so small that, were the company called upon to pay \$4 per car for switching on the basis of the yearly figure of 737 cars switched, it could barely do so without entirely exhausting its reserve. What the other connecting roads might do in the way of absorbing a portion of the increase in the rate is a matter of speculation and cannot be given any weight.

On the other hand, there is little equity in making a large and prosperous road shoulder the burden of a small and struggling competitor. The switching rate in this case should, therefore, be based upon the cost of service, including in such cost a reasonable return upon the property used in performing that service. This Commission has frequently had occasion to investigate the cost of switching on various roads, and it has again made an estimate of the average cost of switching on different roads for the period involved in this case. The latter figures closely substantiate the accuracy of the earlier cost figures.

For the switching service in question, the result of the Commission's investigation indicates that a charge of \$2.75 per car would be sufficient to cover all operating expenses, including a reasonable return upon the investment. Potatoes, the principal commodity in question, have a relatively high value and can afford to pay this rate. This charge, moreover, would seem to compare favorably with the charge made by the Chicago & North Western Railway Company at Oshkosh for "Soo" line switching, which varies, according to the testimony, from \$2 and \$3 up to \$3.75 per car. In these rates the reciprocal element is varied in part by consideration of the cost.

While this rate of \$2.75 per car is considerably lower than that asked for by the applicant, it represents a substantial increase over the present rate, especially when the financial con-

dition of the Waupaca-Green Bay line is considered. This rate, covering as it does the cost of performing the service together with a fair return on the property involved, is believed to be as high as the Commission is justified in authorizing at this time.

IT IS THEREFORE ORDERED, That the applicant, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, be and the same is hereby authorized to increase its switching rate on cars moving between warehouses and industries located on its tracks at Waupaca, Wis., and the tracks of the Waupaca-Green Bay Railway Company, from \$2 per car to \$2.75 per car.

BADGER BASKET AND VENEER COMPANY

vs.

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

Decided March 3, 1913.

The petitioner alleges that excessive charges were exacted on carload shipments of logs from Wisconsin points on the M. St. P. & S. S. M. Ry. Co. to Burlington, Wis. The cars furnished could not be loaded to the minimum weights provided in the tariff under which the shipments moved. The minimum weights applicable to the shipments in question have since been revised.

Three shipments moved more than one year prior to the filing of the petition and the power given the Commission to authorize refund (sec. 1797—37m) does not apply to these shipments.

Held: The charge exacted was excessive and refund is ordered on the basis of the minimum weights now in effect.

The petition in this case was filed with the Commission January 7, 1913. It sets forth that the petitioner is engaged in the manufacture of baskets and veneers at Burlington, Wis., that during the months of November and December, 1911, and January, February and March, 1912, the petitioner shipped seventeen carloads of logs from points on respondent's line to Burlington, Wis., on which the respondent assessed charges as published in its tariffs G. F. D. Nos. 13185 and 14555, that the minimum weights provided in these tariffs were excessive and unreasonable as it was not possible to load cars up to these minimums, and that respondent's supplement No. 1 to its G. F. D. No. 14824 made a change fixing the minimum weights equal to certain percentages of the marked capacity of cars, and it asks for a refund of all charges paid in excess of the charges that would have accrued based on the minimum weights provided in respondents tariff G. F. D. No. 14824 as amended by supplement No. 1, which it states amount to \$105.92. The original paid freight bills for the shipments complained of accompanied the petition as a part thereof.

Mr. T. E. Sands, general freight agent for the respondent, in a letter addressed to the Commission under date of January 6,

1913, states that the statements made in the foregoing petition are substantially correct and that the respondent is willing to refund the excessive charges if the Commission will so order.

Examination of respondents tariffs G. F. D. Nos. 13185 and 14555 shows that the rates and minimum weights provided therein applied to the shipments involved in this complaint, G. F. D. No. 13185 became effective June 1, 1911, and was superseded by G. F. D. No. 14555, effective January 26, 1912, which, in turn, was superseded by G. F. D. No. 14824, effective April 1, 1912. These tariffs provided a minimum weight of 90 per cent of the marked capacity of the car. Effective September 23, 1912, supplement No. 1 to G. F. D. No. 14824 changed this minimum to the following:

Cars of 40000 lb. capacity	10%	less than marked capacity.
“ “ 50000 “ “	20%	“ “ “ “
“ “ 60000 “ “	25%	“ “ “ “
Cars over 60000 “ “	30%	“ “ “ “

This change in the minimum was approved by the Commission and its approval No. A—1089 was issued to cover the same. No change has since been made in these minimums and they are therefore still in force. The respondent in its application for the Commission's approval of this change stated that the change was desired in view of shippers not being able to load the 90% of marked capacity of 100,000 capacity cars, etc., and that, while there was not much of this class of equipment in the log service, every now and then foreign cars are supplied on which it is impossible to load over 70,000 lb. of logs.

A statement made up by the Commission from the freight bills filed with the petition, showing the date of shipment, car initials and number, weight, charges, etc., for each shipment involved in the complaint, is given herewith:

							EXCESSIVE CHARGES			
							Based on tariff as amended Sept. 23, 1912.			
Date of way bill.	Car initials.	Car number.	Actual weight.	Weight charged.	Rate cts.	Charges paid.	Actual weight or minimum weight when more.	Rate cts.	Charge	Excessive charges.
TRIPOLI TO BURLINGTON.										
1911										
¹ Dec. 9...	P. M. C. K. & Y.....	13463	73,700	90,000	5.3	\$47 70	73,700	5.3	\$39 06	\$8 64
¹ Dec. 15..	B. & O.....	106498	72,300	90,000	5.3	47 70	72,300	5.3	38 32	19 38
1912										
Jan. 20..	L. & N.....	21099	68,700	72,000	5.3	38 16	68,700	5.3	36 41	1 75
Feb. 12..	C. R. I. & P.....	92668	62,700	90,000	5.3	47 70	70,000	5.3	37 10	10 60
" 19..	C. R. I. & P.....	92552	73,000	90,000	5.3	47 70	73,000	5.3	38 69	9 01
" 20..	C. R. I. & P.....	90319	66,200	72,000	5.3	38 16	66,200	5.3	35 09	3 07
" 26..	G. & S. I.....	1326	63,700	72,000	5.3	38 16	63,700	5.3	33 76	4 40
Mar. 15..	C. & A.....	24290	71,100	72,000	5.3	38 16	71,100	5.3	37 68	48
" 16..	N. P.....	65061	61,200	63,000	5.3	33 39	61,200	5.3	32 44	95
" 18..	N. Y. N. H. & H.....	41777	59,800	72,000	5.3	38 16	59,800	5.3	31 69	6 47
" 19..	N. Y. N. H. & H.....	3772	47,000	54,000	5.3	28 62	47,000	5.3	24 91	3 71
" 23..	C. R. I. & P.....	92958	68,400	90,000	5.3	47 70	70,000	5.3	37 10	10 60
" 23..	Penn.....	426138	65,900	90,000	5.3	47 70	70,000	5.3	37 10	10 60
Total.....				1,017,000	.....	\$539 01	866,700	.....	\$459 35	\$79 66
OGEMA TO BURLINGTON.										
Feb. 15..	G. R. I.....	969	76,200	90,000	4.8	\$43 20	76,200	4.8	\$36 53	\$6 62
" 23..	P. K. R.....	952364	82,600	90,000	4.8	43 20	82,600	4.8	39 65	3 55
Total.....				180,000	.....	\$86 40	158,800	.....	\$76 23	\$10 17
BUTTERNUT TO BURLINGTON.										
1911										
¹ Nov. 29..	W. C.....	(3173)	65,100	72,000	5.7	\$41 04	65,100	5 7	\$37 11	\$3 93
MELLEN TO BURLINGTON.										
1912										
Feb. 3..	Soo	50077	49,300	54,000	6.3	\$34 02	49,300	6.3	\$31 06	\$2 96
¹ Deduct.....										\$96 72 21 95
Amount of excess charges										\$74 77

¹ One year period elapsed before complaint was filed.

The weight for each car shown in the column headed "Weight charged" of the above table is 90 per cent of the marked capacity of the car. It will be noted that of the seventeen cars involved eight were 100,000 lb. capacity, six 80,000 lb., one 70,000 lb., and two 60,000 lb. capacity, and that fifteen are cars of other lines. It will also be noted that three shipments moved more than one year prior to the filing of the petition and that therefore the power given the Commission to authorize refund,

sec. 1797—37m, does not apply to these shipments. The amount of the excessive charges, exclusive of the claim upon shipments barred by the statute, computed on the basis set forth in the petition, is found to be \$74.77. There seems to be no good reason why a refund of this amount should not be authorized. The matter of minimum weights that cannot be loaded has been fully investigated and discussed by the Commission in former cases, and therefore it is unnecessary to discuss the matter again in the instant case. From the evidence at hand it appears that the cars involved were fully loaded and that it was impossible to load these to the prescribed minimum. As the minimum weight in force during the period in which the shipments in question moved has since been changed and there is no complaint against the minimum at present in force, the only thing involved is the matter of refund of excessive charges. The table given above shows excessive charges amounting to \$74.77. The Commission will authorize refund of this amount.

For the reasons assigned we find and determine that the charge exacted of the petitioner upon the shipments is unusual and exorbitant and that the reasonable charge therefor is that indicated in the foregoing statement.

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 Badger Basket and Veneer Company, the sum of \$74.77.

IN RE APPLICATION OF THE VILLAGE OF CLINTON FOR AUTHORITY TO INCREASE WATER RATES.

Submitted Feb. 7, 1913. Decided Mar. 11, 1913.

Application is made for authority to put into legal effect the schedule of water rates for the village of Clinton, Wis. The rates applied for have been charged for some time past, and changes have been made in the schedule filed with the Commission without application for authority, as required by the Public Utilities Law. The revenues and expenses were investigated.

Held: The rates applied for are not excessive and the applicant is authorized to put in effect the schedule as submitted.

Application in this matter was filed with the Commission on January 18, 1913. It shows that the village of Clinton is a public utility engaged in the management and operation of a water supply system and subject to the provisions of the Public Utilities Law of this state.

According to the application, the rates of the utility legally in effect are as follows:

<i>Meter Rates</i>	\$0.20 per M gals.
<i>Flat Rates:</i>	
Dwellings	\$4.00 per year
Barber shops, one chair.....	3.00 "
Drug stores	4.00 "
Hose for sprinkling automatically.....	3.00 "
Ice cream saloon, three tables or less.....	6.00 "
Photograph galleries	2.00 "
Private bath tub.....	2.00 "
Stores, 24 foot front, or less.....	4.00 "
Water closet, private, per bowl.....	2.00 "
Yard hydrants, family use.....	4.00 "

These do not agree with the rates which have been filed in this office by the utility but, according to the application, they are the rates which should have been filed with the Commission pursuant to the provisions of the Public Utilities Law. It appears that in 1908 changes were made in the schedule of water rates of the village without application to the Commission for authority to make such changes. The application in this case is for the purpose of having these rates legalized. As a matter of practice they

have been in effect for some time past. The rates which the utility seeks to have made the legal rates are as follows:

<i>Meter Rates</i>	\$0.30 per M gals.
<i>Flat Rates:</i>	
Dwellings	\$5.00 per year
Barber shops, one or two chairs.....	5.00 "
Drug stores	5.00 "
Hose for sprinkling lawn automatically.....	4.00 "
Ice cream saloon, three tables or less.....	4.00 "
Photograph galleries	4.00 "
Private bath tub.....	3.00 "
Stores, 24 foot front, or less.....	5.00 "
Water closets, private, per bowl.....	4.00 "
Yard hydrants for family use.....	5.00 "

These are the rates asked for in the formal application which was filed in this case. At the time of the hearing representatives of the applicant asked for a modification of the application so that the rate for ice cream saloons with three tables or less would be the same as the rate for dwellings, that is, \$5 per year.

Hearing was held at Madison, Wis., February 7, 1913. Appearances were *A. E. Monroe*, *C. C. Cleveland*, and *A. E. Peters*. No one appeared in opposition to the application. From the records which we have it appears that the operating revenues of the utility for the year ending June 30, 1912, were as follows:

Earnings from commercial sales.....	\$880.56
Earnings from industrial sales.....	80.00
Earnings from municipal hydrant rentals.....	900.00
Earnings from street sprinkling.....	25.60
Total operating revenues.....	\$1,886.16

The expenses were reported for the same period as follows:

Pumping	\$848.90
Distribution	439.90
General	30.65
Total operating expenses.....	\$1,319.45

The gross income for the year, according to this report, was \$566.71. At the hearing it was stated that the original cost of the plant was in the neighborhood of \$15,000, and that extensions had been made from time to time which have increased this cost considerably. The cost shown on the balance sheet of the utility as of June 30, 1912, is \$19,022.48. According to this report the gross income for the year was equivalent to practically 3 per cent of the cost of the plant. With adequate allowance made for de-

preciation, the return which the village earned during the year was not much, if any, in excess of 2 per cent of the value of the plant. It should be borne in mind that the earnings for the past year were the earnings from the application of the schedule which the village seeks to have legalized in this case. Although no detailed apportionment of the property has been made as between fire and general service, it appears that the provision which has been made for hydrant rentals is probably all that should be paid for this purpose. Consequently, the fact that the utility is earning only about 3 per cent upon the cost of the plant to provide for interest and depreciation indicates that the schedule of rates asked for is not excessive. There may be some question as to the distribution expenses of the utility reported for the past year. These appear to be somewhat higher than the normal expense for a plant such as the one under consideration. On the other hand, however, the charge made against the plant for general expense has been very light, and the expenses as reported do not appear, when taken in their entirety, to be at all excessive. Consequently, it is concluded that the rates which the utility seeks to have legalized are not excessive and may be put in effect.

Some objection has been raised informally to the meter rate as authorized in this decision, and it may be that further facts will be produced which will indicate that a revision of the meter rates should be made. For the present, however, it seems best to authorize the meter rate as outlined in this case. Whatever revision, if any, appears necessary after further investigation, can be made a matter for separate order.

IT IS THEREFORE ORDERED, That the applicant, the village of Clinton, may put in effect the following schedule of water rates:

<i>Meter Rates:</i>	\$0.30 per M gals.
<i>Flat Rates:</i>	
Dwellings	\$5.00 per year
Barber shops, one or two chairs.....	5.00 "
Drug stores	5.00 "
Hose for sprinkling lawn automatically.....	4.00 "
Ice cream saloons, three tables or less.....	5.00 "
Photograph galleries	4.00 "
Private bath tub.....	3.00 "
Stores, 24 foot front, or less	5.00 "
Water closets, private, per bowl.....	4.00 "
Yard hydrants for family use.....	5.00 "

IN RE APPLICATION OF THE PEOPLES TELEPHONE COMPANY
FOR AUTHORITY TO INCREASE RATES.

Submitted Nov. 29, 1912. Decided Mar. 11, 1913.

Application was made by the Peoples' Tel. Co. operating exchanges at Rio, Randolph, Fox Lake, Cambria, Fall River, and Wyocena, Wis., for the determination of adequate rates. A valuation made in a former proceeding (8 W. R. C. R. 92) and additional records of the company were considered. The revenues and expenses for the different exchanges were investigated. All rural subscribers are furnished service through two exchanges except those on metallic circuits. The practice with regard to local subscribers and to rural subscribers on metallic lines is not uniform. Randolph and Fox Lake have free exchange of service. It does not seem advisable or entirely equitable to continue this service as free exchange is not extended to other exchanges. The Wyocena exchange is to be discontinued and this service furnished from Rio.

Held: The company's accounting system is inadequate, making it impossible to determine the cost of service for each exchange with any accuracy, and it appears most equitable to fix a tentative schedule providing the same rates for all exchanges. Where one business phone and one residence phone are on a line, each is to be charged the two party rate for the class in which it belongs. Similarly, when three or four phones are on a line divided between business and residence, the three and four party rate for each class applies. The applicant is ordered to put in effect the schedule as approved. The rates for local service are to be considered as payment for service through one exchange only, except that Rio and Wyocena are to be considered as one exchange, and except in cases where there is free exchange of service with other companies.

The rates are to become effective at such time as the utility installs a system of accounts conforming to the classification prescribed by the Commission.

This application was filed with the Commission November 6, 1912. The applicant is a public utility engaged in the management and operation of telephone exchanges at Rio, Randolph, Fox Lake, Cambria, Fall River, and Wyocena, Wis., together with toll and rural lines in the surrounding territory. The lawful rates of the applicant, as set forth in its petition, are as follows:

\$1.00 per month for all telephones, business, residence, and rural, except:

1. Rural metallic summer service on Edmonds Island, \$12.50 for four months, and \$2.00 per month if continued longer,

2. Summer service on First Island, \$15.00 per year.
3. Metallic rural lines, \$15.00 per year.

Bills payable at the end of the quarter.

The petition states that under existing conditions the utility does not derive sufficient revenue to maintain reasonably adequate service to take care of depreciation and to pay a reasonable return on the property.

No mention is made of revision of the toll rates and it appears to have been the intent of the applicant that only the rates for exchange service should be revised. Applicant asks that rates be fixed so that an adequate return may be obtained.

Hearing was held at Madison, November 29, 1912. Appearances were: For applicant, *North & Crowns*, by *Mr. North*. In opposition, *J. M. Bushnell*.

Hearing dealt largely with matters pertaining to the financial history of the applicant. It was shown that there has been considerable laxity in the accounting methods employed by the applicant and that, because of this, it has not been practicable to ascertain the exact condition of the business during past years. This made it necessary for the Commission to make an examination of the records of the applicant to learn, as nearly as possible, the actual financial condition resulting from the operation of the plant. Such an examination was made for the calendar year 1912. Owing to the fact that the methods employed by the applicant for recording its transactions have not been in accord with the classification of accounts prescribed by the Commission, it was difficult to prepare an accurate report of operating revenues and expenses, properly classified, and distinct from renewals and extensions of the plant and equipment. As nearly as it has been possible to prepare an accurate statement of revenues and expenses, the following table shows the results obtained by examination of the books:

STATEMENT OF REVENUES AND EXPENSES.

For the Year Ending Jan. 1, 1913.

Italic figures denote deficits.

	Ran- dolph.	Rio.	Fox Lake.	Cam- bria.	Fall River.	Wyo- cena.	Total of all ex- changes.
REVENUES:							
Exchange telephone earn- ings.....	\$4,125.79	\$2,974.90	\$2,899.30	\$2,566.55	\$1,362.65	\$505.50	\$14,434.69
Earnings from connecting lines.....	103.52	102.83	206.66	29.84	39.31	13.25	495.41
Misc. exchange system earnings.....		150.00					150.00
Total of above.....	\$4,229.31	\$3,227.73	\$3,105.96	\$2,596.39	\$1,401.96	\$518.75	\$15,080.10
Toll system earnings.....	815.75	188.80	27.81	252.55	34.15	39.65	1,358.71
Total oper. revenues.....	\$5,045.06	\$3,416.53	\$3,133.77	\$2,848.94	\$1,436.11	\$558.40	\$16,438.81
EXPENSES:							
Central office.....	\$1,164.36	\$824.57	\$880.77	\$677.50	\$657.63	\$260.45	\$4,465.28
Wire Plant.....	1,016.44	387.93	407.55	358.98	161.41	96.35	2,428.66
Substation.....	446.16	429.04	498.29	429.08	325.91	119.24	2,247.72
Commercial.....	7.33	3.20	24.06	10.97	9.90	1.00	56.46
General.....	881.01	546.73	605.56	493.81	386.23	159.54	3,072.88
Total of above.....	\$3,515.30	\$2,191.47	\$2,416.23	\$1,970.34	\$1,541.08	\$636.58	\$12,271.00
Taxes.....	125.06	106.41	84.14	19.72	38.21	19.60	452.54
Total oper. expenses..	\$3,640.36	\$2,297.88	\$2,500.37	\$2,049.46	\$1,579.29	\$656.18	\$12,723.54
Net operating revenue or deficit.....	\$1,404.70	\$1,118.65	\$633.40	\$799.48	\$143.18	\$97.78	\$3,715.27

It will be noted that the two smallest exchanges at Fall River and Wyocena show a deficit for the year. The net operating revenue of the utility as a whole was \$3,715.27.

A valuation of applicant's property was made in connection with a case decided by this Commission November 7, 1911 (8 W. R. C. R. 92). In that valuation the six exchanges were shown separately and the rural lines were valued as a distinct portion of the plant. In connection with the case mentioned, apportionments of the value of the rural lines among the various local exchanges were made on several bases. The two bases which seemed reasonably accurate were those of the number of rural subscribers connected to each exchange, and the book values as shown by the company's records. We do not have a complete record of additions since the time of the Commission's valuation, but the records which are available are probably sufficient for the purposes of this case. With provision made for such extensions as are a matter of record, the valuation of local and rural equipment of the various exchanges is as shown below, on the two bases indicated. The toll system is shown separately.

	BASIS OF NUMBER OF RURAL SUBSCRIBERS.		BASIS OF REPORTED BOOK VALUE.	
	Cost new.	Pres. val.	Cost new.	Pres. val.
Randolph.....	\$18,439	\$10,231	\$18,439	\$10,231
Rio.....	13,639	7,958	13,847	8,061
Fox Lake.....	9,726	5,357	11,974	6,467
Cambria.....	12,483	6,375	10,360	5,326
Fall River.....	6,647	4,018	6,563	3,977
Wycocena.....	2,634	1,313	2,385	1,190
Toll.....	1,844	1,040	1,844	1,040
Total.....	\$65,412	\$36,292	\$65,412	\$36,292

The cost of plant and equipment, as stated in the 1912 report of the applicant, is the present value among the various exchanges on the basis of the book value from which the apportionment of valuation was made in connection with the decision of November 1911, and as shown in the last column of the foregoing table.

Before making any computations to show what the schedule of rates should be, it may be well to call attention to some features of the operation of the utility which have a bearing upon the basis which should be employed in charging for service. The utility operates six exchanges and a toll system, as shown above. All rural subscribers are furnished service through two exchanges, with the exception of those on metallic circuits. Each rural subscriber on grounded lines is allowed to choose one exchange with which he shall have unlimited service, in addition to the exchange with which his line is directly connected. In a few instances rural lines are connected to two switchboards.

The practice with regard to local subscribers and to rural subscribers on metallic lines is not uniform. At Randolph and Fox Lake local subscribers receive unlimited service through both exchanges. The manager of the utility stated that at the time the exchanges were installed it was the intention to give a free exchange of service between these exchanges until such time as a toll line should be constructed. When the toll line was built, the Public Utilities Law had become effective and the utility continued the free exchange of service instead of asking at that time for authority to establish a toll rate.

Local patrons of the Cambria exchange have free connections with the exchange of the Kingston Telephone Company at Kings-

ton. At Wyocena local subscribers have unlimited exchange of service with the Pardeeville Telephone Company. They can also call subscribers of the Rio exchange free of charge, but local patrons of the Rio exchange are required to pay toll rates for all calls going outside of the exchange. Local subscribers at Fall River have only the local and rural service which can be obtained directly through the Fall River central, except that a limited number of Fall River subscribers are given unlimited service to Columbus by paying \$3 per year, which is an addition to the regular exchange rates, to the Wisconsin Telephone Company.

The utility asks that the free exchange of service between Randolph and Fox Lake be discontinued. The manager of the utility expressed some doubt as to the best means to be taken to handle the business now handled through the Wyocena central. This is a very small exchange, as shown by the statistics in a later part of this decision. As a result it has not been considered practicable to maintain an operating force to be continually at the switchboard. The work of the switchboard operator has been handled in connection with other duties performed by the operator who has not been devoting her entire time to the service of the company. As a result, service has been slow and relatively unsatisfactory.

In order to overcome this condition, it was proposed by the manager that the exchange at Wyocena be discontinued and the lines of Wyocena subscribers carried to the switchboard at Rio, a distance of about five miles, and that service should thereafter be furnished through the Rio central. This seems to be a more efficient method of dealing with the Wyocena business than that followed at present. For practical purposes the existing systems at Rio and Wyocena may be considered, in this case, as constituting one operating system, as will be the case when the proposed changes are made.

There seems to be no reason why Randolph and Fox Lake should have free exchange of service, especially as such free exchange is not extended to other exchanges. Although it is permissible for a telephone utility to furnish such service free of charge, there is no obligation that the utility shall do so. In this case, it seems that free exchange for Randolph and Fox Lake is not advisable nor entirely equitable.

According to the facts which we have before us in this case,

therefore, it will be best to consider that the applicant's system, apart from the toll lines, consists of five operating units, Rio and Wyocena being handled as one unit. On the basis of the results obtained from the Commission's inspection of the financial records, the net operating revenue or deficit of the five units are as follows:

Rio-Wyocena	\$1,020.87
Randolph	1,404.70
Fox Lake	633.40
Cambria	799.48
Fall River	143.18 (deficit)

Total net operating revenue..... \$3,715.27

This includes the toll earnings, amounting to \$1,358.71, and the earnings from connecting lines, amounting to \$645.41, of which \$150.00 is the amount received for switching service performed by the Rio exchange.

Although no definite schedule of rates was asked for in the application, a schedule was outlined on behalf of the utility, at the time of the hearing, which schedule is as follows:

LOCAL RATES:

Business	\$2.00 per month
Single party residence	1.50 " "
Two " "	1.25 " "
Four " "	1.00 " "

RURAL RATES:

Metallie circuits	\$1.25 per month
Grounded lines	1.00 " "

These rural rates are the same as at present, but it was proposed by the representative of the utility that rural patrons should be furnished service at these rates through only one exchange, and be subject to the regular toll rates for other service.

Following is a statement of the number of phones of each class in each of the five operating systems to be considered:

	Rio-Wyocena.	Randolph.	Fox Lake.	Cambria.	Fall River.
1 party business.....	33	25	23	21	16
2 " "	26	9	11	11	4
3 & 4 " "	2	2	4	.....	2
1 " residence.....	57	48	48	17	11
2 " "	12	23	33	5	12
3 & 4 " "	7	28	22	.....	4
Grounded rural.....	162	219	91	175	75
Metallie	2	.....	.....	.....	2
Part year users.....	.....	7	14	.....	.....
Total.....	301	361	246	229	126

No careful record has been kept of the number of telephones using each class of service, but for purposes of this case the foregoing data, representing the most accurate record available, will be used. Of the total of 1,263 telephones listed in the directory of January 1, 1913, it appears that 1,236 would pay \$12 each per year under the present rates; 8 would pay \$25 each per year; 3 would pay \$18; 11 would pay \$15; 3 would pay \$12.50; and 2 would pay \$10 each per year, so that the total exchange earnings would be \$15,308.50, as compared with actual exchange system earnings of \$14,434.69 for the past year.

Total operating expenses, including taxes but not including any allowance for depreciation or interest, amount to \$12,723.54, or a little over \$10 per telephone per year. By comparison with reported expenses of other telephone companies, similarly situated, these appear rather high, even with allowance made for the inclusion of toll expenses, and consideration should be given to this condition in fixing a schedule of rates.

With depreciation computed at 6½ per cent of the cost of reproduction of the property, and interest at 7 per cent of the present value, the total allowance for these items would be \$6,792.22, or a little more than \$3,000 more than the amount available for those purposes during the past year.

With the rates suggested by the applicant the increase in exchange earnings for the five operating units would be as follows:

	Rio—Wyo- cena.	Randolph	Fox Lake.	Fall River.	Cambria.	Total.
Business phones.	\$732	\$432	\$456	\$264	\$384	\$2,268
1 party residence	342	288	288	66	102	1,086
2	36	69	99	33	15	255
Total.....	\$1,110	\$789	\$843	\$366	\$501	\$3,609

Although the cost of service is not the same for each of the exchanges, the situation is such that it may be most equitable to establish substantially the same rates for all exchanges. This does not mean that the cost of furnishing service to each exchange should not, in the final determination of rates, be a governing factor. In this case, however, the records of the utility have not been such as to make it possible to ascertain, with any certainty, what are the normal costs of the exchange business of

each of the exchanges. The accounting system of the applicant has been entirely inadequate for the purposes of an accurate distribution of expenses. Also, the available facts are not sufficient to enable us to make a separation of the cost of the toll business from that of the exchange business. Because of these conditions it is hardly to be expected that the adjustment of rates as made in this decision can be considered final. It is altogether probable that at some later time, when the necessary records are available, a readjustment of rates may be made which will eliminate any defects that may exist in the tentative schedule authorized at this time.

If the rates as suggested by the applicant are authorized, except that the rate for business phones is changed to \$1.75 per month for single party phones, \$1.50 per month for two party, and \$1.40 per month for three and four party phones, the estimated increase in revenues will amount to \$2,817 instead of \$3,609. Such a schedule of rates appears to be reasonable.

Where one business phone and one residence phone are on a line, each should be charged the two party for the class in which it belongs. Similarly, when there are three or four phones on a line, divided between business and residence, the three and four party rate for each class should apply.

“* * * so-called combined rate for a business telephone and a residence telephone which is less than the sum of the regularly published residence and business rates, is unlawful.” *In re Free and Reduced Rate Telephone Service*, 1908, 2 W. R. C. R. 521, 544.

The Commission will furnish assistance to enable the utility to comply with that portion of this order which concerns accounting practice.

IT IS THEREFORE ORDERED :

1. That the applicant is authorized to discontinue its present rate for local business and residence service and to substitute therefor the following rates:

	1 party business service,	\$1.75	per month		
	2 “ “ “	1.50	“ “		
3 & 4	“ “ “	1.40	“ “		
	1 party residence	1.50	“ “		
	2 “ “ “	1.25	“ “		
3 & 4	“ “ “	1.00	“ “		

There shall be a penalty of 15 cts. per month, applicable to all classes of service for failure to pay bills within twenty days after they become due.

2. That the rates for local service shall be considered as payment for service through one exchange only, except that Rio and Wyocena shall be considered as one exchange, and except in cases where there is free exchange of service with other companies.

3. That the rates hereby authorized shall become effective at such time as the utility installs a system of accounts conforming to the classification prescribed by the Commission.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF
MINIMUM WEIGHTS, CLASSIFICATIONS AND RATES ON
AGRICULTURAL IMPLEMENTS.

Decided March 13, 1913.

Upon informal complaint of Wisconsin agricultural implement dealers, the Commission, on its own motion, investigated certain provisions of western classification 51. Similar complaints resulted in a hearing before the interstate commerce commission and orders were issued suspending the classification for a time. Subsequently the carriers voluntarily suspended its enforcement pending complete investigation.

Classification 51 removed binder twine from its former listing (in number 50) under agricultural implements and placed it under cordage. This change increases the minimum from 24,000 lb. to 30,000 lb., deprives it of the privileges of stopping in transit and of mixing with agricultural implements, and also deprives it of the benefit of certain commodity ratings. If the privilege of stopping in transit is removed the small dealers could not make joint shipments, and the loss of the privilege of mixing with agricultural implements would, in many instances, force both the twine and implements to move in less than carload lots. The higher less than carload ratings and the longer time required for such shipments would be a great disadvantage to dealers and consumers. The official and southern classifications place binder twine in the cordage list with a minimum of 30,000 lb., and it was urged that the change to the same provisions in the western classification was made to secure uniformity. In the eastern and southern territories the movement is largely from manufacturer to wholesaler and in general a carload movement. In the western territory, the heaviest consumer of binder twine, the movement is in smaller quantities from wholesaler to retailer. If uniformity is desired the traffic conditions in the territory of greatest consumption should be of first consideration. The complainants contend that the listing with agricultural implements is reasonable, and if the former listing is granted, all the other privileges are automatically restored.

Held: The contention that, being similar to rope and made by the manufacturers of rope, it should be placed with cordage, is not tenable. Binder twine is an essential part of an agricultural implement, handled by the same wholesale houses and retail dealers and going to the same ultimate consumers. It is ordered that common carriers, parties to western classification 51, operating railway lines in whole or in part in Wisconsin, restore binder twine to its former listing under agricultural implements at a carload rating class A, taking the minimum on agricultural implements when moving in mixed carloads, and a minimum of 24,000 lb. when moving in straight carloads.

Complainants allege that the agricultural implement minimum is excessive. Western classification 50 increased the minimum from 20,000 lb. to 24,000 lb. and this minimum is retained in classification 51. Statistics of the average loading per car show that it is possible to load this minimum, but commercial conditions affecting the shipments must be taken into consideration as well as the physical capacity. Usually local dealers are carried on credit and restrict their orders to the immediate demand from the locality. The high cost and irregular shape of the articles prevents the wholesaler from supplementing the order with additional units to make up the carload. The large per cent of the cars loaded below the minimum would indicate that the present minimum is too high. The fact that this minimum is used in the official classification is not an indication of its reasonableness, as the movement in the eastern territory is between factory and wholesaler and different commercial conditions control.

Held: The present minimum is excessive and it is ordered that a minimum of 20,000 lb. for a standard car of 36 feet in length be provided for agricultural implements.

The effect of rule 6B is extended by classification 51 to cover many new items, including agricultural implements. According to this rule the tariff minimum on a given commodity becomes the initial minimum of a sliding scale. For every foot in length in excess of 36 feet, 3 per cent is to be added to the minimum and for every foot below, 3 per cent is deducted, with a minimum of 91 per cent. Presumably a larger car is of more value to the shipper and the carrier is entitled to compensation for the more expensive equipment furnished. The rule is right in principle, but the reasonableness of the rule depends on proper choice of the initial minimum, the standard car, and the per cent of increase, and upon the propriety of using only the length of the car as the basis of gradation. A large number of the cars in use are above the standard length, so that the matter of increase in minimum is one of considerable importance. Actual per cent of increase in length for each foot above the standard length of 36 feet figures out to be 2.8 per cent, and this is probably the basis of the 3 per cent increase adopted by the railroads. However, it would seem that the cubic capacity of the cars is a better basis for adjusting minima than length alone. A number of elements affecting the value of the service to the shipper, such as his financial capacity, the value of the article, competition, the status of the market, need of dispatch in shipment, and the amount of cartage necessary, are not considered in the 3 per cent scale. While some increases in cost to the carriers, such as interest, depreciation, and cost of hauling the load, are due directly to the size of the car, there are other expenses, such as terminal, office and switching, which depend on the number of cars rather than size, and other expenses which vary according as the shipment is way or through. Carriers are urged to reconstruct the scale so as to give more equitable consideration to all the elements affecting the value to the shipper and the cost to the carrier.

Complaints relating to the classification of disc harrows, potato planters, farm and logging trucks and one type of feed cooker, were investigated and the necessary adjustments provided.

Classification 50 defined a "nest" as consisting of two or more like articles fitting one within another. Classification 51 requires three to be so inclosed to form a "nest." The former specification is restored.

Complaint was made against rule 16, fixing the minimum charge on less than carload shipments. It is ordered that the rule be revised so as to provide a minimum charge on single shipments l. c. l. based on 100 lb. at the class or rate to which the commodity belongs, but in no case to be less than 25 cts.

Complainants ask that the privilege of mixture with agricultural implements be extended to include certain articles, all of which are in general use on farms and are manufactured and sold by the manufacturers and wholesalers of other agricultural implements. When mixtures are eliminated or restricted more commodities move in less than carload lots. Considering the loading per car, or the proportion of dead weight to pay weight, the terminal costs, the cost of handling, the amount of supervision in transportation, the cost of billing and recording, and the number of cars and storage facilities, the cost of the less than carload shipments is found to be much more than for carload traffic. The former are less profitable to the carrier as the higher rates on such shipments are more than offset by the greater cost. Less than carload shipments subject the dealer to higher rates, liability to damage, and delay in shipment.

Held: As carload mixtures and stoppage in transit rules would materially increase the proportion of carload to less than carload shipments, they are advantageous to the carrier as well as to the shipper and consumer. It is ordered that the mixture privilege be extended so as to permit mixture with agricultural implements of cattle stanchions, litter carriers, feed cookers, tank heaters, wheel barrows, scrapers, grindstones, rope, galvanized iron tanks, pump jacks, iron pipes, hand agricultural implements, and cream separators.

This is an investigation, on the Commission's own motion, of certain portions of western classification 51. This classification was filed with the interstate commerce commission on December 28, 1911, by the carriers in the western classification territory. It was to become effective February 15, 1912. Complaints made to the interstate commerce commission resulted in a hearing before that body at Chicago on January 29, 1912. Following this hearing, on February 8, 1912, the interstate commerce commission issued an order suspending the classification for a period of 120 days for the purpose of investigation. By a second order issued on May 17, 1912, the classification was suspended up to December 14, 1912. Since that time, the classification has been withheld from enforcement by voluntary suspension by the carriers themselves, in order that complete investigation might be made of the disputed issues.

The matters in question were first brought to the attention of the Wisconsin Railroad Commission through an informal complaint filed by Lindsay Bros., wholesale agricultural implement dealers, of Milwaukee, January 10, 1912. Additional complaints were informally filed on February 6, by F. R. Sebenthal of Eau

Claire, representing the Wisconsin Retail Implement and Vehicle Dealers' Association. In both instances exceptions were taken to classification 51 and certain features of it were objected to as being unreasonable. A hearing before the Commission was requested in order that such relief might be granted as should appear just.

Pursuant to these requests, a conference was held at Madison on March 29, 1912, at which the following appearances were made: *R. C. Fyfe*, chairman the western classification committee; *H. A. Lindsay*, of Lindsay Brothers, Milwaukee, Wis.; *W. J. Evans*, freight traffic manager, National Implement & Vehicle Association of the United States of America; *J. B. Blake*, of *Miller Mack & Fairchild*, on behalf of Lindsay Brothers of Milwaukee; *F. R. Sebnthal*, on behalf of Wisconsin Retail Implement Dealers Association, vice president of the National Federation of Implement Dealers; *H. H. Holcomb*, asst. gen. frt. agt. C. B. & Q. R. R.; *B. J. Rowe*, asst. gen. frt. agt. I. C. R. R.; *Albion M. Fenton*, asst. gen. frt. agt. C. St. P. M. & O. Ry.; *Edward J. Seymour*, asst. gen. frt. agt. C. & N. W. Ry.; *P. M. Ames*, of Baker Manufacturing Co. of Evansville, Wis.; *S. D. Snow*, commerce counsel, International Harvester Co.

From the testimony taken at the hearing and from numerous informal complaints and memoranda submitted to this Commission, it appears that agricultural implement dealers of the state have the following complaints to make against the disposition of binder twine in western classification 51:

Complaints Relating to Binder Twine.

1. Classification 51 has removed binder twine from its former listing (in number 50) under the heading of agricultural implements with a minimum carload weight of 24,000 lb. and has placed it under cordage with a minimum carload weight of 30,000 lb.

2. The change in classification of binder twine automatically deprives it of the privilege of stopping in transit to finish loading or to partly unload, as well as the privilege of storage in transit, which privileges were enjoyed under classification 50.

3. The change also deprives binder twine of commodity ratings provided in Commodity Tariffs, Exceptions to Classification, etc., which were enjoyed under the listing in number 50.

4. Classification 51 destroys the privilege of mixing without restriction with agricultural implements other than hand, which privilege was granted in number 50 and has been enjoyed for about twenty-five years.

5. The cordage minimum of 30,000 lb. is unreasonably high.

6. In short, classification 51 changes the basis for treating binder twine which has been in use and recognized as a trade necessity by agricultural implement manufacturers and jobbers, and by farming communities as an absolute necessity in the harvesting of crops.

Additional complaints are offered as follows:

1. *Agricultural Minimum of 24,000 lb.*

It is contended that the carload minimum of 24,000 lb. for agricultural implements is too high.

2. *Application of Rule 6B.*

The minimum weights on carloads of agricultural implements as shown on pages from 72 forward in classification 51 are raised by the application of rule 6B which previously did not apply to agricultural implement carloads.

3. *Alleged Unreasonable Changes in Specific Items.*

(1) *Disc Harrows.* Item 4, page 75, raises the classification on disc harrows from third to second class unless the discs are crated or boxed. Objection is also raised against the requirements to be met in crating discs in order to secure the third class rate.

(2) *Potato Planters.* Item 11, page 76. The third class rating in number 50 on potato planters "taken apart" has been eliminated and only a first class rating provided.

(3) *Iron Pumps.* Item 4, page 254, raises the classification from third class to first class.

(4) *Farm Trucks.* Item 5, page 296, raises the classification on farm trucks K. D. from third class to first class, making the rating the same as for farm wagons.

(5) *Feed Cookers.* Item 20, page 121, raises the classification on feed cookers from third to first class.

4. *Rule 10*—"Nesting Rule."

This rule provides that the term "nested" shall apply only when three or more articles of the same kind are nested together, whereas the previous classification only required two articles to be enclosed one within the other.

5. *Rule 16*—*Minimum Charge on Single L. C. L. Shipment.*

This rule establishes a minimum charge of 100 lb. at first class instead of 100 lb. at third, as was the practice under western tariffs.

6. *Mixtures with Agricultural Implements.*

It is maintained that the classifications now in effect and as proposed in classification 51 insofar as they relate to mixed car load shipments are too restricted and should be extended to include the following commodities: cattle stanchions, litter carriers, feed cookers, tank heaters, wheel barrows, scrapers, grindstones, rope, galvanized iron tanks, pump jacks, iron pipe, hand implements, and cream separators.

The above sections set forth the items in classification 51 that are complained against. The specific reasons for complaint and the arguments on the disputed points will now be considered item by item.

BINDER TWINE.

The principal issues here hinge upon the classification itself. That is to say, the main contention of the complainants is not merely that binder twine should have certain privileges which are commonly accorded to agricultural implements, but that it should be listed under the heading of agricultural implements where it formerly stood. It is, of course, apparent that if such a listing is provided for, all the other privileges asked for are automatically restored. To justify the classifying of binder twine as an agricultural implement, a comprehensive description of the characteristics of the twine was introduced into the testimony by Mr. Lindsay.

"The classification of binding twine as an agricultural implement is logical and reasonable. Binding twine is a vital

working part of grain binding agricultural implements. A ball of twine in a grain binder is just as essential a part of that machine as any piece of wood, iron or other material used in the construction of that machine. Without the twine, the rest of the machine is incomplete and worthless, and not capable of accomplishing the purpose for which it is constructed. Neither is binding twine a valuable commercial article for any other purpose than as a part of grain binding machinery. It is manufactured for this one purpose only, and used for that purpose only. Because of its place as an integral part of an agricultural implement, it has always been an important factor in the agricultural implement trade, being handled by the same wholesaling houses, by the same retail dealers, and going to the same ultimate consumer."

These claims, in the opinion of this Commission, are both logical and reasonable. Binder twine is as much a part of the binder and as necessary to its operation as is any iron or steel part or any tool accessory to the use of the machine. The only characteristic of binder twine that makes it any different from other agricultural implement parts is the fact that it is not made of wood or steel. Since classification 51 provides for the mixture of parts and accessories with the agricultural implements, it should, to be consistent, at least grant a mixture of binder twine with agricultural implements. Complainants contend, however, that the granting of the mixing privilege alone will not prove satisfactory to shippers, but that the listing must be restored to its former place under agricultural implements. This position in the western classification has been occupied since 1887, and there seems to be no adequate reason for removing it.

The chairman of the western classification committee makes defense of his position in placing binder twine under cordage on the grounds that it is made by the manufacturers of rope and contains some of the ingredients of rope. This defense of the committee is shown to be untenable, for if the same reasoning were to be applied all implements made of iron would have to be classified under "Iron and steel articles".

If the listing under cordage were permitted to stand there would result a number of injustices to agricultural implement dealers. First of all, the 30,000 lb. minimum for cordage articles would work a hardship upon shippers of implements and twine.

This minimum represents a 50 per cent increase over the 20,000 lb. minimum permitted by western tariff rules. Testimony was offered by Mr. Lindsay showing the effect the increased minimum would have on his business. From an analysis of the 1911 contract orders received by him from agricultural retail implement dealers, he determined that out of a total of 1,326 orders representing altogether 9,703,350 lb., 92 per cent were for less than 30,000 lb. The average order was computed to be 7,318 lb. The effect would be that 92 per cent of these retail implement dealers in the territory analyzed would be deprived of the carload rate of freight on twine and their shipments would have to take less than carload rates. Mr. Sebenthal, in his complaint to this Commission on behalf of The Wisconsin Retail Implement and Vehicle Dealers Association, estimates that only 4 per cent of the implement dealers could handle a car of 30,000 lb. of the binder twine. This fact would, in his opinion, tend to centralize and monopolize the sale of binder twine by placing it in the hands of but few who would be able to purchase a carload of 30,000 lb. The small dealer, not having use for 30,000 lb., would be compelled to ship his twine at less than carload rates which would mean a higher cost to himself and to the farmer who buys from him. Similar statements were made by Mr. Evans, who testified to the effect that many dealers would not be able to purchase binder twine in straight carload lots of 30,000 lb., their credit being inadequate and their storage facilities not large enough to justify such large orders.

Another injury that would result from the change in classification of binder twine is the loss of privilege of stopping in transit. It appears that the privilege of stopping in transit is not a general one under the western classification as it is under the official classification. Binder twine is, therefore, entirely dependent on its position under agricultural implements in order to secure this privilege. The importance of retaining this privilege is emphasized by the fact that shipments of binder twine move frequently from wholesale dealers to small retail dealers. These small dealers at different points along the carrier's line often combine on a carload order of twine and implements. If the privilege of stopping to partly unload were removed, the small dealer would be unable to come in on joint orders of twine and could not afford, or

their business would not warrant their giving individual orders of full 30,000 lb.

That the new classification takes away the agricultural commodity rating as applied to binder twine is apparent. This change, together with the more frequent necessity of less than carload movements of twine, will place an additional expense upon the retail dealers and the farmers and will be a hardship upon both. In this connection, the point was made by Mr. Evans that for many years binder twine was accorded commodity ratings far below those applying upon agricultural implements. As an illustration he cited the binder twine rate to St. Paul of 18 cts., as against the agricultural implement rate of 20 cts. About the year 1909, these commodity rates were raised to the level of agricultural implement commodity rates. Complainants argue that binder twine should not now be subjected to the further increase which classification 51 would effect. A definite computation of the increased expenses from changes in commodity ratings was made by Mr. Lindsay and introduced into the testimony. His estimate was based upon an analysis of the 1,326 orders for binder twine received by him in 1911 from dealers in five western states. Of these orders, 8 per cent figured 30,000 lb. or over. On these, the increase in cost of transportation would be represented by the difference between the agricultural implement commodity rate and class A. On most of the remaining 92 per cent of the orders which did not come up to 30,000 lb. the increase would be represented by the difference between the agricultural implement commodity rate, and the less than carload rate. Mr. Lindsay estimates that this difference in most cases would amount to 100 per cent, and on these particular orders in 1911 the increase in dollars and cents would figure \$17,820. To this amount he adds \$2,600 as an increased cost of the shipments moving from Minneapolis, making \$20,420, the total estimated increase which retail dealers buying from him in 1911 would have been obliged to bear.

Increased expense to retail dealers would also result from the elimination of binder twine from cars of agricultural implements and vehicles. That is to say, retail dealers will not only be subjected to an increase in charges on shipments of binder twine because of receiving the shipments in less than

carload lots, but the same dealers, also, in receiving shipments of agricultural implements would be likely to suffer an increase on account of the loading in the car being lessened through the absence of binder twine. This increase would be the difference between the agricultural implement commodity rate and the third class rate. On this point Mr. Lindsay testified that there would be an increase of substantially 300 per cent on implements like potato planters which take first class; that the increase on crated vehicles would be represented by the difference between the agricultural implement commodity rate and one and one-half times the first class rate or substantially 450 per cent. Mr. Lindsay's conclusion is that where cars of agricultural implements and vehicles were forced into less than carload movement on account of the elimination of the twine, the effect of the increase in the cost of the transportation would be even larger than the increase in the cost of the transportation of the twine itself.

The evidence which has just been cited to show the injury to retail dealers resulting from more frequent less than carload movement is also evidence of the great importance of the privilege of mixing binder twine with agricultural implements. As has already been pointed out, the removal of this privilege would force, in many instances, both the shipments of binder twine and of agricultural implements to move in less than carloads. Less than carload rating, being higher than the carload ratings attained under a mixture, would be a burden upon the retail dealers. The less than carload shipments would also prove a disadvantage to the farming communities because of the greater length of time taken by less than carload shipments. Binder twine is needed at a season in the year when promptness of delivery is important, and delay may seriously hamper the harvesting of crops. Further discussion on mixtures is taken up elsewhere in this decision.

A compromise on the binder twine controversy was offered by Mr. Fyfe, by which binder twine would retain its listing in classification 51 under cordage but would also be placed in a list of agricultural implement parts shown in item 1, page 78. This list, being subject to rule 21 B, is permitted to mix with agricultural implements up to 8,000 lb. The compromise suggested does not meet the approval of complainants because it is restricted to a

definite amount and because the privileges of agricultural implement commodity rates and of stopping in transit would still be lacking.

Uniformity of Classification as Applied to Binder Twine.

The changes in the classification of binder twine are justified by the western classification committee on the grounds that they have been made to further uniformity of classification. The chairman of the committee defends his position by the argument that both the official and southern classifications place it in the cordage list with a minimum of 30,000 lb. This defense is objected to principally because commercial conditions in the western territory differ from those in the eastern and southern. In the latter, the movement of binder twine is largely from the factory to the wholesaler and hence more generally a carload movement. On the other hand, the movement in the western territory takes place chiefly from wholesale dealer to retail dealer, and consequently the needs of mixed shipments are much more pressing. It is contended that if uniformity is desired, the portions of the country in which the binder twine traffic is heaviest should be the standard. The western territory being the great grain district is logically the heaviest consumer of binder twine, and the needs of its people should furnish the standard to which the others should conform.

Even if it were proper to make the minimum carload in the western territory correspond to that in the eastern, the western classification still fails to establish uniformity with respect to mixtures of binder twine. The official classification allows mixture with agricultural implements by rule 10, which provides for carload ratings at the highest rate specified for any article included in the mixture. In the southern classification, likewise, a mixture is permitted, in this instance by special note providing for mixture of binder twine with harvesting machinery.

It is thus apparent that the purposes of uniformity are not served by the proposed change in the western classification, and that, as a matter of fact, if mixture of binder twine with agricultural machinery is eliminated from the western classification the western classification territory will be the only territory in the United States where the mixture is not permitted by the very terms of classification itself.

AGRICULTURAL MINIMUM.

The entire question of the minimum on agricultural implements has been reopened in this investigation. Both classification 50 and classification 51 fix the carload minimum on agricultural implements at 24,000 lb. Prior to November 1, 1908, this minimum was 20,000 lb. and the increase which was then made by the western classification committee was the subject of much protest from shippers of agricultural implements. The increase made in 1908 is still believed to result in an excessive minimum and the request has been made that this Commission, in its inquiry into western classification 51, inquire into the reasonableness of the minimum.

In support of this complaint on the 24,000 lb. minimum, Lindsay Bros. submitted a statement of 135 cars loaded by them in 1911 on which they had prepaid charges. The cars were arranged by size and weight of loading, showing the following results:

Cars Containing Implements and Vehicles.

No. of cars	Length	Average weight
2	33	19,675
2	34	25,500
18	36	21,643
1	38	26,300
33	40	22,923
10	41	24,618
1	42	25,058
7	46	22,063
20	50	24,744

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These figures summarized further indicate that out of these 94 cars, 62 or about two-thirds fell below the 24,000 lb. minimum. A similar analysis by Mr. Lindsay of cars containing implements only, showed the following results:

No. of cars	Length	Average weight
3	33	20,887
7	34	22,602
15	36	22,738
8	40	22,552
2	41	24,774
6	50	34,817

In order to determine the average or normal conditions as to loading of agricultural implements, the Commission made inquiry into three sets of statistics, (a) from the International Harvester Company of America covering all shipments made by the company during the season of 1911, (b) from Deere & Co., and Deere & Mansur Company, both of Moline, Ill., covering all shipments to local dealers from January 2 to January 24, 1912; also all shipments made between February 14 and March 15, 1912, and (c) from Lindsay Bros., of Milwaukee, covering all prepaid shipments to local dealers during 1911.

These compilations showed that for the International Harvester Company, 25,122 lb. represented the average shipment to local dealers and 26,504 lb. the average to general agencies, with an average for all their shipments of 25,698 lb. The statistics of the Deere people showed an average for all shipments amounting to 27,221 lb. Lindsay Bros. of Milwaukee offered statistics showing for shipments from Milwaukee of agricultural implements only an average of 22,912 lb. per car, and for agricultural implements and vehicles an average weight of 23,245 lb. The entire compilation of weights produced an average loading of 25,313 lb. per car.

The effect of these statistics goes to prove from the point of view of *physical* capacity the reasonableness of the 24,000 lb. minimum. In fact, Mr. Lindsay, in a statement read by him at the Commission's hearing, said:

"It is not our contention that it is absolutely impossible to load some mixed cars of agricultural implements to a weight of 24,000 lb. in a 36 foot car, but we do contend and the facts and evidence support our statements that it is impossible in a reasonably large proportion of mixed agricultural cars."

The question is rather whether the conditions surrounding actual loading make 24,000 lb. a fair minimum requirement. To throw some light on this, the Commission made further analysis of statistics of Deere and Co. and Lindsay Bros. showing the number of cars loading below 24,000 lb. These statistics cover the same periods as those for total average loading. The figures are given in the table below:

NUMBER AND PER CENT OF CARS LOADING BELOW 24,000 Lb.

	Total cars		Number		Weight	
	No.	Aggregate weight	No.	Per cent of total	Amount	Per cent of total
1. To local dealers only:						
Deere & Co.....	360	9,940,365	100	27.78	2,160,005	21.79
Lindsay Bros.....	46	1,053,955	29	63.04	589,512	55.93
Total.....	406	10,994,320	129	31.77	2,749,517	25.01
2. To branch houses & local dealers:						
Deere & Co.....	631	17,169,209	196	31.06	4,211,189	24.53
Deere & Mansur Co....	266	7,107,013	92	34.59	1,914,785	26.94
Total.....	897	24,276,222	288	32.11	6,125,974	25.23
Total shipments.....	1,303	35,270,542	417	32.00	8,875,491	25.16

The resulting conclusion from this table is that about 32 out of 100 cars are loaded under the minimum. This percentage is rather high and would seem to be prima facie evidence that the present minimum carload weight is excessive.

Aside from the circumstances affecting the mere physical loading of agricultural implement cars, there are certain commercial conditions that have an important bearing. Shipments of agricultural implements are made by wholesale houses to retail dealers and also by manufacturing plants to branch houses and retail dealers. As regards the retail dealer's business, it may be said that his requirements for a given season are pretty definitely measured by the extent of tributary agricultural territory and the farming methods and habits of the residents of that territory. On the basis of his experience and his general knowledge of the agricultural situation in his region, the local implement dealer places his order with the wholesalers. The needs of his community may not enable him to order a shipment that will come to a 24,000 lb. minimum. In some lines of industries, where the products are uniform in character, a regular customer's order, which is not large enough to fill a car to the minimum may easily be supplemented by the consignor with sufficient extra units of the product to make a minimum carload. This, as a rule, is not practicable with agricultural implements. Such commodities as these are not uniform in style or pattern so as to enable the consignor to fill out the cars with additional units. Then, too, the agricultural implements are sufficiently expensive so that

the supplementing of the shipment with enough weight of implements to make out a carload would very likely be more than the retail dealer could meet.

Still another factor which tends to keep down the size of the shipments to retailers is the terms on which the implements are sold. Agricultural implements are sold principally on credit extending over four or five months. The small retail implement dealer is not able to advance the payment for his purchases but must wait until he has collected from the individual farmers to whom he sells. This means that the wholesaler carries the retailer on credit extending over the spring and summer months. The significance of this credit system is that the retailer does not care to buy more implements than he is sure of selling, as he will not care to have advancement made to him by the wholesaler beyond his absolute requirements. His buying only in such quantities as will anticipate his immediate business, means that shipments to him will come in less than carload lots.

The agricultural implement wholesaler or manufacturer then, in general, in his dealings with local retailers is restricted to the amount of goods ordered, and if the order does not fill the car to 24,000 lb. the freight charges will be paid in part upon a weight not actually carried. The frequent result of this condition is a higher freight charge than would be paid if the minimum were low enough so that the shipper could load it in filling the retailer's order, and this increase in charges is ultimately borne by the farmer who uses the implements.

These peculiar commercial conditions should be recognized by carriers in fixing a minimum weight. Commercial conditions of a territory have always had an important influence in the making of commodity rates, issuing of exception sheets, etc. It is just as proper that the same consideration should be given to such local problems in the fixing of a minimum so long as the carrier is protected from carrying at carload rates loads which should properly go as less than carload.

The importance of recognizing commercial conditions is emphasized by the interstate commerce commission in opinion No. 2110, *In re Suspension of Western Classification* 51, 1912, 25 I. C. C. R. 442, 482-483. In that opinion we find the following statement:

“The physical minimum is that minimum which represents the weight or bulk quantities which can be loaded into a car

from the point of view of space or the theoretical number of packages capable of being loaded into a car * * *. The commercial minimum is that minimum which represents the unit of purchase and sales of the commodity in question as established by custom and the conditions existing in that trade and in the territory in which it governs at the time the minimum was established. The physical minimum would consider only physical loading capacity, while the commercial minimum would consider, in addition, trade requirements, conditions of manufacture, distribution and consumption.

“It is our conclusion, therefore, that carriers should take into consideration both the physical minimum and the commercial minimum in deciding upon a classification minimum to govern carload shipments”.

The evidence presented in this case and the very nature of the agricultural implement business point to the excessiveness of the present minimum of 24,000 lb. In adjusting this minimum the needs of the movement between wholesaler and retailer should control. A different state of things is met with in the case of the movement from factory to wholesaler, because there a heavier loading is practicable. As far as binder twine is concerned, it has already been pointed out, elsewhere, that the bulk of the movement in the western classification territory is between wholesaler and retailer, so that this movement deserves first consideration. On the whole, it is safe to assume that if the minimum were adjusted to meet the needs of the retailer, no injustice would be done to the manufacturer, whereas, if the reverse process were followed, considerable harm would be done to the smaller dealer.

The western classification committee justifies the retention of a 24,000 lb. agricultural implement minimum largely because that is the minimum adopted by the official classification. We have already presented arguments showing that it is not fair to base an element in a freight classification upon the classification of another territory where traffic conditions may be very different. The main point is that in “official” territory the prevailing movement is from manufacturer to wholesaler and a 24,000 lb. minimum is very probably equitable. That such a minimum does not meet the needs of the western territory seems to have been recognized in the western trunk line rules which for a number of years back have established a minimum of 20,000 lb. The

interstate commerce commission in opinion No. 2110, in speaking of the western trunk line minimum, has this to say:

“Only one construction can be placed upon this action of the western trunk line carriers, namely, that in their judgment the minimum provided by the western classification was too high and that under the conditions prevailing in the various territories which the western carriers serve, 20,000 lb. was the proper minimum.”

The interstate commerce commission goes on to the conclusion that 20,000 lb. is a proper minimum on agricultural implements for a 36 foot car.

We are of the opinion that the evidence offered before this Commission clearly demonstrates that commercial conditions in the western territory do not warrant a 24,000 lb. minimum on agricultural implements and that a 20,000 lb. minimum would be more equitable.

THE APPLICATION OF RULE 6 B.

Rule 6 B of western classification 51 is the same in wording as it was in number 50, its only difference being that number 51 makes the rule applicable to over 250 additional items, including agricultural implements. According to this rule the minimum of 24,000 lb. prescribed for agricultural implements becomes the initial minimum of a sliding scale. That is to say, 24,000 lb. is fixed as the minimum for the standard car of 36 feet length. For every foot in length in excess of 36 feet, 3 per cent is to be added to the minimum and for every foot under 36 feet in length, 3 per cent is to be deducted, with a minimum of 91 per cent.

The general principle on which this rule is founded is sound. This principle is that a car of greater than standard length should earn more for the carrier than a car of standard or less than standard length. The general idea is that it costs more to haul a long car than a short one and a shipper has no right to make use of the more expensive equipment unless the carrier is assured of a minimum revenue somewhat commensurate with the character of the equipment furnished. Presumably a larger car has greater value to the shipper by virtue of the fact that it enables a larger loading, and at the same time because of its great weight costs the carrier more to haul.

The rule is applied only to light and bulky articles. Where the commodity carried in the car takes up much space without contributing a proportionately large weight, so that an addition to the size of the car does not result in a proportionate addition to the weight of the load, the railway company should be compensated for the use of the expensive additional car space.

No objection to the sliding scale features of rule 6 B is raised by the complainants. Their contention apparently concerns the initial minimum of 24,000 lb. which would apply to agricultural implements. Complainants contend that the agricultural minimum of 24,000 lb. is in itself excessive and that when rule 6 B is enforced against shipments of agricultural implements the effect is to raise the minimum to a still more unreasonable point. They further believe and contend that a proper basis for the sliding scale, as far as agricultural implements are concerned, would be 20,000 lb.

The principles of rule 6 B are pretty well understood in the freight traffic business and are generally approved of. But, when the principle back of rule 6 B is approved, there remain three factors entering into that rule as it is now constituted, which may or may not be reasonable. These three elements are (1) the size of car that is fixed as a standard, (2) the use of the length of the car as the sole basis for increase in minimum weight, and (3) the fixing of 3 per cent per foot as the amount to be added to a minimum on cars longer than the standard.

The Standard Car.

From the Official Railway Equipment Register an analysis has been made of the lengths of cars in use on nine western lines with the following summary results:

PERCENTAGE OF CARS 36 FEET AND UNDER ON NINE WESTERN LINES.
(All Box, Furniture, and Vehicle Cars).

Length.	C. & N. W.	C. M. & St. P.	M. St. P. & S. S. M.	Rock Island.	Great Western.	A. T. & S. F.	Union Pacific.	Northern Pacific.	Omaha.	TOTAL	
										No. of cars.	Per cent.
36 feet and under..	82.47	68.05	94.43	37.20	62.88	86.33	40.84	40.68	85.10	123,578	67.29
Over 36 feet.....	17.53	31.95	5.57	62.80	37.12	13.62	59.16	59.32	14.90	60,086	32.71
Total.....	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	183,664	100.00

This table shows that cars 36 feet or less in length constitute

67.29 per cent of all the box, furniture and vehicle cars in use on the nine lines of railway. On none of the roads given do these 36 feet or smaller cars constitute less than 40 per cent of the entire equipment and on one line they run as high as 94 per cent. All those cars that fall below the standard of 36 feet, of course, would not be injured by the application of rule 6 B. These statistics, however, do not give an indication of the average size of car used in agricultural shipments. Some indication of this is supplied by statistics of Lindsay Bros. which have already been referred to under the subject of average carload weights. These statistics were based upon 1911 shipments which were prepaid by them. Out of 94 cars containing implements and vehicles, 33 were 40 foot cars and this was the highest number of any one given length. There were 62 cars that were above the standard in length. Similar statistics from Lindsay Bros. for cars containing implements only show out of 41 cars 15 that were 36 feet long and the next highest number were 8 cars 40 feet long. Sixteen cars exceeded the standard length. These figures demonstrate that there are a considerable number of cars above the standard length used by this wholesaler in shipping agricultural implements. On all such cars, by rule 6 B, the minimum is raised 3 per cent for every foot above 36 feet. The same statistics also show a preponderance of the 40 foot car in mixed agricultural implement shipments. In view of these facts care must be taken that the increased minima do not impose a burden out of proportion to the value to the shipper and the expense to the carrier.

Length of Car as Basis for Increase in Minimum.

The shippers who have brought up this case for investigation make no complaint against the practice of increasing the minimum according to the added length of the car, but it would be well to inquire into the reasonableness of the practice. There are a number of fallacies in this method of varying the minimum which seem very clear. Presumably the increases in minimum are made partly because the extra length has added a certain cubic capacity to the car and hence has added to the value to the shipper. The error consists in neglecting to take into consideration the varying dimensions for cars of the same length. The sliding scale of minimum weights is also intended

to cover the extra costs to the carrier of hauling the larger car with its greater weight. Here, too, the system fails to consider that increase in weight comes from variations in all three dimensions of the car.

A third fallacy is due to the fact that commodities may be of such a bulk or size that the addition of a foot in length to the car will not enable any more loading.

These weaknesses in the operation of rule 6B seem to point to the variation in cubic capacity of the cars as a better basis of adjusting the minimum than mere length alone.

The 3 Per Cent Increase.

This basis of establishing the sliding scale of minimum seems to have followed approximately the per cent of actual increase in lengths over the standard 36 foot car. The exact percentage of increase of length figures out to be uniformly 2.8 per cent, so that this plan has not been strictly followed. At any rate, the effort seems to have been to fix the percentage according to the increase in length. This procedure is open to criticism because it ignores the many other factors which enter into both the value of the service to the shipper and the increased cost of hauling to the carrier.

There are a number of elements which enter into the value of the service to the shipper, such as his financial capacity, conditions of competition, the value of the article, the status of the market, the need of dispatch in shipment, the amount of cartage necessary, the size of the car, etc. The size of the car is only one of the various elements and should not control the scale entirely.

As regards the cost to the carrier, criticism can be made here, too, that there are elements which the 3 per cent scale does not consider. There are some increases due directly to the size of the car, such as interest and depreciation on the larger equipment, extra cost of hauling a heavier load, etc. At the same time there are certain terminal expenses, office expenses, switching expenses, etc., which depend on the number of the cars rather than the size. Then, too, there are expenses which will vary according as the shipment is way or through.

This discussion is aimed to point out the deficiencies of the present scale of minima rather than to establish a basis for ordering a change. Even if 3 per cent is a proper per cent to

represent the increase in capacity of one car over another (this percentage is not believed to be quite representative) still it is not proper to make this the sole basis of fixing the scale of minimum weights. The carriers are strongly urged to reconstruct this scale so as to give more equitable consideration to all the elements that are involved.

ALLEGED UNREASONABLE CHANGES IN SPECIFIC ITEMS.

Disc Harrows. Both classifications provided for disc harrows S. U. 1½. Classification 50 had besides this a third class rating for harrows "with weight boxes attached, in sections, levers, irons, and seats removed and tied in bundles." Classification 51 fixes a second class for harrows K. D. with disc sections loose and a third class for harrows K. D. with disc sections in crates. The classification committee explains that its motive in this change was to secure protection to employes and to other goods from the cutting edges of the discs. This position is somewhat inconsistent as long as uncrated discs are permitted at all. Shippers enter complaint on the ground that the crating would require an additional expense of 50 cts. a harrow and that the crated discs would require more labor in loading and unloading.

The interstate commerce commission in opinion 2110 disapproves of the changes saying—"there is nothing in this record to show that the degree of the increased risk and danger is proportionate to the amount of the proposed advance." This Commission is of the same opinion. The classification under number 50 should be restored.

Potato Planters. Classification 51 has removed the third class rating under number 50 for potato planters "taken apart." Inasmuch as evidence was introduced by shippers to show that these planters can be K. D., the change is not warranted. It is understood that the carriers will provide a third class rating for potato planters K. D. This should be done without fail.

Iron Pumps. Classification 50 had only the third class rate for iron pumps. Number 51 makes three distinctions: "S. U. l. c. 1—1; K. D. wired in bundles l. c. 1,—3; in barrels, boxes or crates l. c. l. —3." The difficulty here seems to be that shippers are afraid they will be unable to retain the privilege of shipping pumps at third class. In order to do this, the pumps must either

be K. D. or crated. The shippers do not want to crate the pumps and object to the phrase "pumps K. D." as being obscure. Because of the difference in extent of detachable parts in different makes of pumps, it does not seem practicable to define "K. D." A reasonable interpretation should be put upon K. D. by the classification committee, and the agents and inspectors instructed accordingly. It does not seem advisable to order any change in classification 51 with respect to pumps. This section of number 51 has also been approved by the interstate commerce commission.

Farm Trucks. Number 50 provided a rating of third class l. c. l. for farm trucks, "without boxes and without extension boards, K. D." Numbr 51 advances the rate from third to first class, or in other words places farm trucks on a par with farm wagons. The arguments of the shippers supporting the distinction are based principally upon the great difference in value of the two articles and in the greater liability of damage to farm wagons. According to the testimony of Mr. Evans, farm trucks average in price from \$12.50 to \$37.00, while farm wagons average about \$85.00 According to Mr. Sebenthal, the average price of farm trucks ranges between \$15 and \$20, while farm wagons are about \$50 without the box and \$60 complete. This makes a difference in wholesale prices of about 300 per cent. It would seem proper to give consideration to this difference in value in fixing the ratings. The greater liability to damage to a farm wagon also argues for a higher rate on farm wagons. No distinction between the two is recognized by the interstate commerce commission in its opinion, but in the light of the testimony before this Commission, we are of the belief that farm trucks should be restored to their rating under classification 50.

Feed Cookers. Classification 50 handled these under "Stoves" at a third class rate, whereas number 51 provides a special section for "cookers, or steamers, stock feed, in boxes or crates—1." The difficulty seems to have arisen from the fact that there are several types of feed cookers, one of which the complainants claim is more properly classed with stoves or furnaces than with feed cookers. This type consists of a cast iron base on which rests a heavy cast iron caldron kettle in which the food is cooked from the direct heat of the fire. This type, it is maintained, is as much a stove as a feed cooker and deserves a third class rat-

ing. The simplest remedy would seem to be to place under item 20, page 121, of classification 51 a note to this effect:

“NOTE:—Cookers made with a cast iron base and having a cast iron caldron kettle for cooking feed by direct heat are classified in item 22, page 278, under “Stoves, not otherwise indexed by name, including brewer’s stoves, l. c. 1.—3.”

RULE 10—NESTING RULE.

Classification 50 defined a “nest” as consisting of “two or more like articles fitting one within another.” Classification 51 requires three articles to be so inclosed in order to make a “nest.” Carriers justify this rule on two grounds—one is to insure a heavy loading, and the other is to prevent unreasonable nesting. Shippers offered illustrations to show that to secure nests on some articles would require the retailer and consumer to be put to considerable additional expense. It was also shown that unreasonable nesting would still be possible. The interstate commerce commission does not approve of the nesting rule of three and we do not see that the carriers have justified it. Two articles inclosed one within another should constitute a nest.

RULE 16.

This rule provides that the minimum charge on a single shipment of l. c. l. freight will be 100 lb. at first class rate, but in no case less than 25 cts. This minimum charge was formerly assessed under western tariffs at third class. This rule is approved by the interstate commerce commission providing it is changed so as to make the charge based upon 100 lb. at the class to which the commodity belongs, but in no case less than 25 cts. This would seem to dispose of any complaint on rule 16.

MIXTURES.

Complainants ask that the privilege of mixture with agricultural implements be extended so as to apply to the following: cattle stanchions, litter carriers, feed cookers, tank heater, wheelbarrows, scrapers, grindstones, rope, galvanized iron tanks, pump jacks, iron pipe, hand implements, and cream separators. As far as binder twine is concerned, the privilege of mixing it with

agricultural implements is automatically allowed as soon as its former listing is restored.

This question of mixtures was taken up before the interstate commerce commission along with the other points at issue. While that body did not order the specific mixtures asked for, it did deplore the restriction of mixtures in classification 51 in the following terms:

“Considering the facts of record and giving due weight to the arguments on both sides, we express the view that the somewhat general restriction and elimination of mixtures in No. 51 was a mistake and contrary to the best interests of the carriers themselves as well as of the public. In many former proceedings our attention has been forcefully directed to expensive terminals which carriers are obliged to maintain, especially in large cities. A great proportion of such terminal properties is devoted to freight service. Great warehouses and correspondingly expensive loading platforms and accessory facilities are given up to less than carload shipments. Every consolidation of these individual packages, or groups of packages, into carload quantities saves not only storage and handling facilities but also car space. The latter is especially important during times of car shortage. The committee which worked out No. 51, even though it nowhere expresses it in so many words, was obviously aiming constantly at a better utilization of car space. A liberalization of mixtures in the classification and the resulting consolidation of small shipments into carload lots will tend directly to a better utilization of car space and the saving of investments in railway terminals and their operation.”

As this paragraph quoted from the interstate commerce commission's opinion 2110 states, there are advantages both to the shipper and to the carrier that may be derived from liberal mixtures. The injury done by the elimination of mixtures came primarily from the increase in less than carload shipments. When mixtures are eliminated or restricted, more and more commodities are forced to move in less than carload lots. It is this less than carload movement that puts a burden on both the retailer and the carrier.

The Effect of L. C. L. Freight Upon the Carrier.

First let us consider the extra cost to the carrier of less than carload freight. The reasons why less than carload freight is the more costly to handle are mainly found in its light loading

per car, in the way it must be handled at the terminals, and in other conditions. It is doubtful whether the average loading of it reaches 6 tons per car while for the carload traffic the average is at least 17 tons. This causes the proportion of dead weight that must be carried to become exceedingly heavy and the cost per unit of pay weight to be relatively great. This handling of the less than carload freight at the terminals requires large forces of men, and at one end of the haul alone it often costs over 40 cts. per ton. It is also more costly to bill and record. It requires large freight houses for handling and storage purposes, the interest and maintenance charges of which should be borne by this class of freight. It is subject to much more in the way of losses and damages than carload freight. It further requires more supervision while in transit and relatively several times as many cars for its transportation.

Carload freight, on the other hand, moves in carload lots that, on the average, are several times as large as less than carload shipments. The dead weight in proportion to the pay weight is, therefore, relatively small, and this materially reduces the cost per unit of moving the former. It is loaded and unloaded by the shippers. Outside of the clerical work about the only terminal service it needs is the switching. There are also other economies connected with it. It is apparent from this that the cost per unit must be much less for handling the carload than the less than carload traffic. In fact, this would seem to be so plain that it is hardly necessary to produce facts in its support.

While it is thus almost self-evident that the costs per unit to the carriers are much less for carload than for less than carload traffic, a few illustrations may throw further light thereon. On one of the principal carriers in the western classification territory the average terminal cost per cwt. amounts to about 2.3 cts. when the loading amounts to 17 tons per car and to almost 5.8 cts. when the loading amounts to 7 tons per car, while the average cost of moving the freight between the stations amounts to about 0.26 mills per cwt. when the car is loaded with 17 tons and to about 0.44 mills per cwt. when it is loaded with 7 tons of freight. On these bases, for a haul of two hundred miles, there is a difference in the cost in favor of the carload traffic that amounts to about 7 cts. per cwt.

Not only is the less than carload freight movement more expensive to the carrier than carload freight, but the higher less than carload charges are not sufficient to overcome the increased cost. We feel quite justified in saying that the less than carload traffic is relatively less profitable to the carriers than the carload traffic and that the higher rates for the former are more than offset by the greater cost of handling it. The conclusion to be drawn from this is that, other things being equal, any rule which will tend to increase the carload proportion of the total traffic will also tend to increase the net earnings to the carriers. It is at any rate certain that such a change would not of itself tend to decrease such net earnings. As carload mixtures and stoppage in transit rules or privileges would materially increase the proportion of carload to less than carload shipments, it would also seem to be clear that they are advantageous to the carriers rather than otherwise from a financial point of view. In addition to this, they are also likely to have a tendency to reduce the steadily growing demand for more and better terminal facilities for handling the less than carload traffic. This fact alone is of the greatest importance, especially in view of the constantly increasing costs of such facilities.

That these conclusions apply as much, or nearly so, to stoppage in transit rules as to carload mixture rules is quite clear. Both tend to increase the proportion of the carload traffic as well as to increase the loading per car. Both also operate as offsets to high minimum weight requirements and the great differences between carload and less than carload rates. It is, of course, a fact that the extra cost of stopping cars tends to reduce the importance of this privilege to the shippers. But even when reasonable charges are allowed for such cost this privilege would still seem to be of much value to all concerned.

The Effect of L. C. L. Freight Upon The Retailer.

Anything which tends to deprive the retail dealer of carload privileges is a hardship upon him because of the higher rates for less than carload shipments. Where mixtures are allowed, and stop-over privileges are granted, it has been the practice for small dealers to combine on a carload shipment at a considerable saving. If mixtures are restricted such economies are largely prevented and if stop-over privileges are curtailed, such

a combination of dealers along the line is impossible. By discouraging mixed shipments the carriers fail to give proper consideration to local commercial conditions. In many instances, the financial capacity of the small dealer, or the nature of the agricultural community that he supplies will not enable him to buy in straight carloads. By the aid of mixtures with his implements, however, he may be able to get the carload rate.

Other disadvantages to the retailer from less than carload shipments are greater liability to damage and loss because of poor station facilities and general lack of care in handling mixed shipments, and the probability of delay. Less than carload shipments are more subject to delay and in the agricultural business the element of time is very important. All of these points cause additional expense and inconvenience to the retail dealer and the consumer without bringing an advantage to the carrier to warrant them.

The specific articles for which a mixture with agricultural implements is asked are all articles of general use on farms. Some of them, such as cattle stanchions, litter carriers, feed cookers, tank heaters, water tanks, cream separators, and hand implements may be said to be confined almost altogether to farm or dairying uses. Several of them very clearly should come under mixtures with agricultural implements by the very terms of Mr. Fyfe's definition, according to which a mixture should be permitted if (1) the article is manufactured and sold by the manufacturer and wholesalers of other agricultural implements, (2) if they are used in the same line of work and have the same general purpose as other agricultural implements, and (3) if they are generally used or employed by the same consignee who uses other agricultural implements. Cattle stanchions and litter carriers, for example, answer these three points. All of the thirteen articles are handled by agricultural implement wholesalers.

The first argument, then, and the strongest one in favor of permitting the mixtures, is the fact that the articles are all in general use on farms and are either in themselves essential farm implements or else are attachments or auxiliaries indispensable to the operation of a farm. Then there is the additional argument that for none of these articles is there a carload demand. To compel their shipment in less than carloads is a cause of much additional expense to the retailer and consumer. The fact that

the official classification permits for practically all of these articles a mixture by rule 10 is also reason for broadening classification 51.

In view of these facts, and more particularly in consideration of the advantages to both carrier and shipper from a liberal mixture, it seems proper that the mixtures asked for be allowed.

We believe that we have made clear our position on those features of classification 51 that have been submitted for action. The changes made by the western classification committee in many instances do not seem for the best interests of both carriers and shippers and the requests of the shippers on the whole appear fair and reasonable.

ORDER OF THE COMMISSION.

THEREFORE, IT IS ORDERED, That the Chicago & North Western Railway Company, the Chicago, Milwaukee and St. Paul Railway Company, the Minneapolis, St. Paul and Sault Ste. Marie Railroad Company, the Chicago, St. Paul, Minneapolis and Omaha Railway Company, the Illinois Central Railroad Company, the Chicago, Burlington and Quincy Railroad Company, the Green Bay and Western Railroad Company, the Northern Pacific Railway Company, the Duluth, South Shore and Atlantic Railway Company, and all other common carriers parties to western classification No. 51 and operating railway lines in whole or in part in Wisconsin, insofar as their intrastate business is concerned, shall so alter and revise western classification 51 as to incorporate the following:

1. Binder twine shall be restored to its former listing under agricultural implements at a carload rating class A, taking a minimum of 20,000 lb. when moving in mixed carload with agricultural implements and a minimum of 24,000 lb. when moving in straight carloads.
2. The agricultural implement minimum shall be made 20,000 lb. for a standard car of 36 feet in length.
3. The classification of disc harrows as it stood in western classification 50 shall be restored.
4. There shall be established a third class rating for potato planters K. D.
5. Farm and logging trucks shall be restored to their rating

under classification 50 which provided third class "l. c. l. for farm trucks, without boxes and without extension boards, K. D."

6. There shall be inserted in western classification 51 under item 20, page 121, a note to this effect,—“cookers made with a cast iron base and having a cast iron caldron kettle for cooking feed by direct heat are classified in item 22, page 278, under ‘Stoves, not otherwise indexed by name, including brewers’ stoves, l. c. l. 3.’”

7. Rule 10 of classification 51 shall be revised so two or more like articles fitting one within another may constitute a nest.

8. Rule 16 of classification 51 shall be revised so as to provide a minimum charge on single shipments l. c. l. based on 100 lb. at the class or rate to which the commodity belongs, but in no case to be less than 25 cts.

9. The mixture privilege shall be extended so as to permit mixture with agricultural implements of the following articles: cattle stanchions, litter carriers, feed cookers, tank heaters, wheel barrows, scrapers, grindstones, rope, galvanized iron tanks, pump jacks, iron pipes, hand agricultural implements, and cream separators.

BARKER & STEWART LUMBER COMPANY

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Jan. 9, 1913. Decided March 14, 1913.

Complaint was made that the charge exacted on shipments of tanbark was unreasonable. Shipments were made over the C. M. & St. P. Ry. from Teddy, McInnis, Scott's Landing, and Boehm to Milwaukee, Wis., and joint shipments over this line and the C. & N. W. Ry. from Bunkers, Scotts, Algonac, and Boehms to Sheboygan, Wis., and from Scotts to Kenosha, Wis. The actual weight in cars apparently loaded to full capacity was less than the minimum weights applicable.

Under the present tariff provisions for tanbark, cars having the same length, but very different loading capacities, are subject to the same minimum weight. It appears that minimum weights based on the cubic capacity of the car would be more equitable and data from actual shipments show that the general average weight is 9 lb. per cu. ft. of loading space. A rule was applicable to the shipment in question providing for the use of two cars for light and bulky articles when one car cannot be furnished to accommodate the minimum weight, charge to be assessed on basis of the lowest rate and highest minimum weight of the car ordered. (W. T. L. rule No. 2820, circular No. 1-I.)

Held: It seems advisable for carriers to either apply this rule in connection with shipments of tanbark in box and stock cars or provide minimum weights not to exceed 9 lb. per cu. ft. of car space. The railway companies are to file tariffs providing specifically such minima.

The rate exacted was unreasonable and refund is ordered on the basis of the rate applied to the actual weight of the shipments. The C. & N. W. Ry. is not a party to the proceeding but the refund on shipments involving the two lines is estimated and the refund may be made without further authority from the Commission.

The petitioner is a corporation engaged in logging and the manufacture of lumber, lath and shingles, with offices at Wausau, Wis. It alleges that between November 30, 1910, and April 15, 1911, it shipped thirty-five cars of tanbark over respondent's lines; that cars furnished would not hold the minimum rated capacity, so that when petitioners loaded cars to their full capacity the actual weight of bark therein was less than the mini-

imum capacity of the car; that petitioner repeatedly requested cars of sufficient capacity to hold the minimum weight, but such were not supplied; that petitioner was compelled to pay freight charges on the full minimum provided for each car instead of upon the actual weight of bark shipped; that it has been overcharged in the sum of \$87.86 and asks that respondent be ordered to refund this amount together with interest from May 29, 1911.

Respondent, answering the petitioner, states that from the information furnished by petitioner it is unable to find that petitioner made any shipments over its lines or that it has been overcharged in the amount of \$87.86, or that any claim has been filed with respondent covering overcharges set forth in the petition, and prays that the petition be dismissed.

The hearing was held January 9, 1912, at which the petitioner was not represented. The respondent was represented by *O. W. Dynes*, its commerce counsel, and by *W. R. Prendergast*, its assistant general freight agent.

Mr. Prendergast testified, in substance, that he had compiled a tabulation of the cubic capacity and weights of cars complained of, with the exception of two Dowd cars the dimensions of which could not be obtained; that the weight of oak and hemlock tanbark, upon the findings of the Western Railway Weighing Association and Inspection Bureau, was 2,240 lb. per cord, or $17\frac{1}{2}$ lb. per cubic foot on the average, and that, based on this weight and the cubic space capacity of the cars involved in the petition, the tabulation shows that each car could be loaded to the prescribed minimum leaving a good margin of space over, and that if tanbark was thrown into cars without regard to the space occupied the minimum could not be loaded.

The tabulation is as follows:

	Dimensions.			Cubic ft. capacity.	Wt. tan- bark. lb. per cu. ft.	Loading capacity in lb.
	L.	W.	H.			
<i>C. M. & St. P.</i>						
1061	36'11"	x 8'63"	x 7'24"	2,225	174	38,938
1251						
1887						
2017						
1443						
2575	36'24"	x 8'63"	x 7'24"	2,228	"	38,990
2881						
8891						
10003						
10299						
10553	36'24"	x 8'74"	x 7'2"	2,246	"	39,305
10973						
10903						
11803						
12275						
12275	36'24"	x 8'63"	x 7'24"	2,211	"	38,693
<i>C. M. & P. S.</i>						
100788	36'14"	x 8'63"	x 7'54"	2,293	"	40,128
100997						
101027						
101028						
101348						
101490						
101477						
101615						
101758						
101911						
102062						
102052						
102244						
102271						
102390						
<i>S. W. S. C. L.</i>						
3275	36'	x 8'4"	x 7'2"	2,150	"	37,625
6371	36'	x 7'8"	x 7'9"	2,139	"	37,433
6560	36'	x 8'6"	x 7'5"	2,261	"	39,508

Following the hearing in the case the Commission, as is its custom when deemed necessary in order to arrive at a full understanding of the matters involved in a case, made an independent investigation that included a tabulation of the shipments complained of and certain calculations based thereon, personal investigation by one of its representatives of the loading, weighing, etc., of tanbark, and reports of various corporations, firms and individuals believed to be competent to furnish reliable information of the particular kind sought. This investigation resulted in the accumulation of a large amount of tabulations, correspondence, etc., which has been instructive though not entirely probative. *Int. Com. Comm. v. Louis. & Nash. R. R.* 1913, 227 U. S. 88, 93. Such parts only as seem to be necessary to a full exposition of the issue involved will be given and discussed. The tabulation of the shipments in question is given herewith:

LOCALLY VIA C. M. & ST. P. RY.

Date of way bill.	Car initials.	Car number.	CHARGES PAID.			Actual weight.	Capacity of car in cu. ft.	Average weight per cu. ft. of tanbark per loading capacity of car.
			Weight.	Rate.	Amount.			
<i>From Teddy to Milwaukee.</i>								
1910 Nov. 24	C. M. & St. P.	8891	24,000	10	\$24 00	21,940	2,325	9.43 lb.
<i>From Teddy to Chestnut St., Milwaukee.</i>								
Dec. 1	"	1251	24,000	10	\$24 00	22,700	2,225	10.20 lb.
" 1	D. S. C. Co.	638	24,000	10	24 00	19,950	} Dimensions not given in official register.	
" 1	"	1629	24,000	10	24 00	21,450		
" 1	S. W. S. C. L.	6371	24,000	10	24 00	22,840	2,139	10.67 "
" 3	C. M. & P. S.	101490	24,000	10	24 00	20,170	2,293	8.79 "
" 6	"	101615	24,000	10	24 00	18,710	2,293	8.15 "
" 9	S. W. S. C. L.	3275	24,000	10	24 00	23,520	2,150	19.93 "
" 9	C. M. & P. S.	102271	24,000	10	24 00	23,830	2,293	10.39 "
" 11	"	101348	24,000	10	24 00	23,130	2,233	10.08 "
" 11	"	101027	24,000	10	24 00	23,290	2,293	10.15 "
" 13	"	102244	24,000	10	24 00	20,600	2,293	8.98 "
" 13	"	10553	24,000	10	24 00	23,200	2,246	10.33 "
<i>From McInnis to Milwaukee.</i>								
" 13	"	100788	24,000	10	\$24 00	19,700	2,293	8.59 lb.
" 1	"	102052	24,000	10	24 00	17,660	2,293	7.70 "
<i>From McInnis to Chestnut St., Milwaukee.</i>								
" 1	C. M. & St. P.	10299	24,000	10	\$24 00	15,580	2,332	6.68 lb.
" 1	"	1061	24,000	10	24 00	17,050	2,225	7.66 "
" 2	C. M. & P. S.	101028	24,000	10	24 00	17,800	2,293	7.76 "
" 6	C. M. & St. P.	1887	24,000	10	24 00	19,470	2,235	8.75 "
" 7	C. M. & P. S.	101911	24,000	10	24 00	19,210	2,293	8.37 "
" 7	C. M. & St. P.	2881	24,000	10	24 00	17,070	2,228	7.66 "
" 16	"	10973	24,000	10	24 00	20,000	2,246	8.90 "
<i>From Scotts Landing to Chestnut St., Milwaukee.</i>								
Nov. 30	C. M. & St. P.	1443	24,000	10	\$24 00	22,550	2,225	10.13 lb.
Dec. 19	S. W. S. C. L.	6560	24,000	10	24 00	23,240	2,269	10.24 "
<i>From Boehms to Chestnut St., Milwaukee.</i>								
" 14	C. M. & P. S.	101477	24,000	10	\$24 00	20,520	2,293	8.94 lb.
" 18	C. M. & St. P.	2067	24,000	10	24 00	21,900	2,017	9.84 "
Total		26 cars			\$924 00	537,080		

Excessive charges \$36.92.

JOINTLY VIA C. M. & ST. P. AND C. & N. W. RYS.

<i>From Bunkers to Sheboygan.</i>								
Dec. 20	C. M. & P. S.	102390	24,000	8.5	\$20 40	17,900	2,293	7.54 lb.
" 22	"	102062	24,000	8.5	20 40	19,300	2,293	8.41 "
<i>From Scotts to Sheboygan.</i>								
" 27	C. M. & St. P.	2575	24,000	8.5	\$20 40	23,800	2,225	10.69 "
<i>From Algonac to Sheboygan.</i>								
" 18	"	11805	24,000	8.5	\$20 40	20,400	2,200	9.27 "
<i>From Boehms to Sheboygan.</i>								
" 18	"	10003	24,000	8.5	\$20 40	21,400	1,973	10.84 "
Total		5 cars			\$102 00	102,200		

Excessive charges \$15.13.

Date of way bill,	Car initials.	Car number.	CHARGES PAID.			Actual weight.	Capacity of car in cu. ft.	Average weight per cu. ft. of tanbark per loading capacity of car.
			Weight.	Rate.	Amount.			
<i>From Scotts to Kenosha.</i>								
1911								
Jan. 17	C. M. & St. P.	10903	24,000	10	\$24 00	23,800	2,200	10.81 lb.
Mar. 20	C. M. & P. S.	100997	24,000	10	24 00	23,200	2,293	10.11 "
" 20	C. M. & St. P.	12275	24,000	10	24 00	21,500	2,228	9.65 "
Apr. 4	C. M. & P. S.	101758	24,000	10	24 00	21,000	2,293	9.15 "
Total		4 cars	.....	.....	\$96 00	89,500	.....	9.8 "

Excessive charges \$6.50.

A. B. Caswell, manager of the Milwaukee Tanners' Freight Bureau, on behalf of Pfister & Vogel Leather Co. and Albert Trostel & Sons Co., advises that the business in hemlock bark shipped by rail is almost exclusively done on a basis of 2,240 lb. per cord, railroad weight, conditioned upon the bark being in merchantable condition at the time of weighing. The practice of buying hemlock bark shipped by train on cubic measure basis has long since been abandoned. The weight of 128 cu. ft. of hemlock bark correctly piled may vary 1,000 lb. between the maximum and minimum, according to the condition of the bark and the difference in quality and thickness. An average of 2,400 lb. would be a fair estimate for an average year's run of bark. The loss of space when loading thin bark in stock or box cars also depends upon the condition of the bark. Good, heavy, solid bark can be piled into a car compactly, whereas this is not the case with thin, light bark or so-called curly bark. In the case of the former, the loss of cubic space equal to about 15 per cent would have to be taken into consideration, whereas in the case of the latter the loss of cubic space might run up to as high as 35 per cent. These estimates are made as the result of general observations.

The American Hide & Leather Co. reports that one of the largest shippers in the country states that he finds from actual experience that a box car is not as desirable for the shipment of hemlock bark as an open car, because it is more expensive to load a box car and to grind the bark out at the tanner's bark mill, and that therefore he never uses box cars except in occasional instances when he is obliged to on account of a shortage

of open cars. He further states that when it is necessary to use box cars he finds that, on account of there being a top on the car and no opportunity of treading the bark down after it is loaded, the amount of bark put in a car will settle down to about three-fourths full after the car has traveled some distance. Something over one-fourth of the cubic contents of each car is thereby wasted and cannot be utilized in bark shipments. Bark is not absolutely flat like boards and cannot be packed solid when first placed in the car. Even in loading open cars, where there is an opportunity of treading the bark down, the load will settle about one-eighth of the bark. There is quite a variation per cord, running between 2,000 lb. and 2,300 lb. per cord of 128 cu. ft., depending upon the condition of the bark. It has been generally agreed that an average standard cord consists of 2,240 lb. for 128 cu. ft. of bark in flat, cured, dry condition, and piled compactly. Thin bark from small trees and curled in curing would weigh probably less than 2,200 lb. per cord.

N. R. Allens' Sons Co. of Kenosha expresses the opinion that item 840 western trunk line circular No. 1—G., which calls for a minimum of 20,000 lb. in box or stock cars 34' and under in length, 24,000 lb. in box or stock cars over 34', and 30,000 lb. in open cars, is a fair classification, except perhaps in a very few cases where box or stock cars are extremely small in cubic dimensions, but where the cubic dimensions of the car will not admit of the car being loaded to the minimum the transportation lines should in justice to the shipper demand payment for only such amount as can be loaded into the car. The allowance made for waste space that cannot be utilized is very small when the car is first loaded, but after the bark is loaded and in transit it will settle, and upon reaching destination it seems to the casual observer that more space could have been utilized in loading, but such is not the case, because of the inability to tread the bark in box cars.

The representative of the Commission made an extensive investigation of the weight of tanbark and the amount of it that can be loaded into box and stock cars. From his reports it appears that an examination of a carload of tanbark at destination may be misleading for the reason that the load settles more or less in transit, depending on the kind of bark and the manner in which loaded, as bark from old and large trees is thicker,

heavier and flatter than bark from young, small trees, and can be piled more compactly. A car fully loaded at point of origin may, therefore, show more or less unoccupied space at destination, and the weight, according to space occupied, may vary also according to the amount of each kind of bark contained in a car. He reports that he examined the loading of twelve cars near Antigo, in which the bark loaded was mostly of the heavy, flat variety, that it was well loaded and packed (treaded) in the cars, that cars were loaded to full space capacity and that there was considerable rain while the cars were being loaded. He personally weighed these cars at Antigo. The destination weights taken on them at Sheboygan were also obtained. He also reports that he examined the loading of twelve box and stock cars near Westboro with tanbark of about the same variety as that loaded at Antigo; that this bark was loaded in the same manner as that at Antigo except that it was not packed (treaded) in the cars; that the weather was dry and consequently this bark, naturally, would be some lighter than that loaded at Antigo, and that he examined these loads on their arrival at Milwaukee. Tables showing the essential features of these investigations are as follows:

TANBARK LOADED IN BOX OR STOCK CARS NEAR ANTIGO
DURING THE WEEK ENDING APRIL 18, 1912, AND SHIPPED TO SHEBOYGAN.

Car initial.	Car number.	Net weight of tanbark as weighed at Antigo.	Actual net weight of tanbark as weighed at Sheboygan.	Capacity of car in cubic feet.	Average weight per cubic foot of tanbark per loading capacity of car based on Sheboygan net weight.
P. R. R.	15582	26,850	26,600	2,448	10.8
	17047	26,600	26,700	2,448	10.9
C. & N. W. ...	74032	23,600	22,400	2,168	10.3
	96406	24,850	23,500	2,168	10.3
Penn.	64076	26,690	26,400	2,150	12.2
C. R. I. & P. .	58595	58,600	28,400	2,725	10.4
B. & O.	79419	23,000	22,900	2,236	10.2
C. P.	55612	26,250	27,000	2,448	11.0
C. & N. W. ...	3728	19,250	19,400	1,976	9.8
N. C. R.	8152	19,950	20,200	1,921	10.5
Big Four.	9362	23,350	22,800	2,203	10.3
C.S.P.M.&O.	15866	21,000	21,000	1,860	11.3
		289,990	287,300	26,751	10.7

TANBARK LOADED IN BOX OR STOCK CARS AT WESTBORO, WIS.,
DURING THE WEEK ENDING MARCH 1, 1913, AND SHIPPED TO MILWAUKEE, WIS.

Car initial.	Car number.	Dimensions and cubical capacity of car.						Weight of tanbark.		
		Length.		Width.		Height.		Space cu. ft.	Net weight at Westboro, lb.	Per cubic foot, lb.
		Feet.	Inches.	Feet.	Inches.	Feet.	Inches.			
Soo.....	104016	34	.....	8	3	7	2	2,010	18,200	9
".....	103102	34	.....	3	3	7	2	2,010	15,960	7.9
".....	24498	34	4	8	4	8	.....	2,288	18,800	8.2
".....	29080	36	.....	8	9.5	7	5	2,347	20,020	8.5
".....	10120	33	.....	8	2	7	1	2,909	17,140	9
".....	29164	36	.....	8	9.5	7	5	2,347	19,500	8.3
".....	25203	34	4	8	4	7	2	2,150	20,120	9.3
".....	31816	34	4	8	4	8	.....	2,288	22,120	9.7
".....	29236	36	.....	8	9.5	7	5	2,347	17,500	7.4
".....	2 184	36	.....	8	9.5	7	5	2,347	20,180	8.5
".....	29252	36	.....	8	9.5	7	5	2,347	19,500	8.3
".....	5838	36	6	8	5	7	4	2,208	20,100	9.1
Total space and weight and average per cu. ft.....								26,598	229,140	8.6

¹ 4 to 6 inches of refuse on bottom of car.

² 3 to 4 inches of refuse on bottom of car.

³ About 15 inches of refuse on bottom of car.

⁴ Some (not much) refuse on bottom of car.

SHRINKAGE OF LOADS SHOWN ABOVE IN TRANSIT.
SPACE OCCUPIED BY LOAD—TOP OF LOAD TO ROOF OF CAR.

Car initial.	Car number.	At loading point.		At destination.	
		Ends of car.	Center of car.	Ends of car.	Center of car.
		Inches.	Inches.	Inches.	Inches.
Soo.....	104016	8	8	15 to 18	15 to 18
".....	103102	5 to 6	5 to 6	20 to 24	20 to 24
".....	24498	15	15	24	18
".....	29080	4 to 6	4 to 6	15 to 24	15 to 24
".....	10120	3 to 4	3 to 4	6 to 8	24
".....	29164	4 to 5	10	8 to 10	20 to 24
".....	25206	3 to 4	3 to 4	8 to 10	8 to 10
".....	31816	None.....	None.....	8 to 10	8 to 10
".....	29236	".....	".....	15 to 20	24
".....	29184	".....	".....	12 to 15	15
".....	29252	".....	".....	15	15
".....	5838	".....	".....	10 to 12	10 to 12

The foregoing shows quite clearly that the average weight of a cubic foot of tanbark loaded in box or stock cars varies from about 7 to 12 lb. per cu. ft. of loading space of car and that the general average is probably less than 9 lb. The average weight

of 17½ lb. used by the respondent cannot, therefore, be considered reliable.

The minimum weight on tanbark, applicable generally on Wisconsin lines, including the respondent line, is as follows:

In stock or box cars 34 ft. and under in length.....	20,000 lb.
In stock or box cars over 34 ft. in length.....	24,000 lb.
On open cars	30,000 lb.

The minimum weight for box or stock cars is based altogether on the length of the car and takes no account of the loading space, although it is quite apparent that the loading space is the important factor to shippers. There could be no objection to this basis if the other dimensions, the height and width, of box and stock cars were uniform. As a matter of fact, however, the height and width of box and stock cars of the same length are not uniform. The space capacity of respondent's box and stock cars 34 ft. and under in length runs from about 1,600 to 2,200 cu. ft., and of its box and stock cars over 34 ft. in length from about 2,200 to 4,000 cu. ft. Variations of this kind in the cubic space capacity of cars taking the same minimum weights must result in discrimination between shipments of any commodity that requires the maximum amount of space in order to load to minimum weight. Rule No. 2820 of W. T. L. circular No. 1—I, as understood by the Commission, was properly applicable to the shipments complained of in this case and is properly applicable in connection with rates on tanbark generally throughout western trunk line territory, including practically all Wisconsin lines.

This rule reads as follows:

*“Light and Bulky Articles: Use of two cars for one.—*When one car cannot be furnished to accommodate the minimum weight of light and bulky articles, on which carload ratings are provided in tariffs, two cars may be furnished, charge to be assessed on basis of lowest rate and highest minimum weight for the one car ordered. Any excess above the minimum weight to be charged on basis of carload rate. (See Exceptions.)

“This rule will not apply unless size of the car ordered is one that is in general service.

“This rule will not apply where the combined length of the two cars furnished is in excess of 80 ft. (See Exceptions.)

“Notations should be made on way-bill covering such shipments, ‘Two cars for One, as per Tariff No.’ Agents will insert tariff number of their own company on this publication.

*EXCEPTIONS:

“(4) The restriction as to length will not apply on shipments via C. & A. R. R., C. & E. I. R. R., C. B. & Q. R. R., C. G. W. R. R., C. M. & G. Ry., C. R. I. & P. Ry., Ill. Cen. R. R. or K. C. S. Ry.

“(5) When via C. & N. W. Ry., C. B. & Q. R. R., C. M. & St. P. Ry., or M. & St. L. R. R., will not apply where the combined length of the two cars furnished is in excess of 83 ft.

“(6) Will not apply via C. & N. W. Ry. or T. P. & W. Ry. on shipments stopped in transit to finish loading under Rule 2040.

“(7) Will not apply via the C. & N. W. Ry., C. M. & St. P. Ry., or C. St. P. M. & O. Ry. on shipments of hay, straw or flax tow.”

The facts at hand do not indicate why the above rule was not applied to the shipments complained of. It seems, however, that it is ignored generally insofar as its application to shipments of tanbark is concerned and that its provisions are of no service to shippers of that commodity. Under this condition it would seem to be advisable for carriers to either apply this rule in connection with shipments of tanbark in box and stock cars, or provide specific minimum weights on this commodity that will not exceed 9 lb. per cubic foot of car space.

The shipments complained of were entitled to the privileges of W. T. L. rule No. 2820 quoted above. It is hardly possible at this time to adjust the charges on these shipments on the two cars for one basis provided in this rule. This should have been arranged on or about the time of shipment. Had it been so arranged, each of these shipments would have been charged at actual weight. Twenty-six of these shipments moved from Teddy, McInnis, Scott's Landing, and Boehms to Milwaukee locally via respondent's line and charges were paid on them at 24,000 lb. each, at 10 cts. per cwt., amounting to \$624 on the twenty-six cars. The total actual weight of these shipments was 537,080 lb. The charges on 537,080 lb. at 10 cts. per cwt. amounts to \$537.08. The difference between these amounts, \$86.92, is excessive and should be refunded by the respondent.

*Exceptions 1, 2 and 3 are not shown above as they have no bearing on the case at issue.

The remaining shipments of nine cars moved over the respondent's line and that of the Chicago & North Western Railway Company. Five of the latter shipments were from Bunkers, Scotts, Algonac, and Boehms to Sheboygan, and charges were exacted thereon on the basis of 24,000 lb. each, at $8\frac{1}{2}$ cts. per cwt., amounting to \$102. The total actual weight of such shipments was 102,200 lb., which, at the rate of $8\frac{1}{2}$ cts. per cwt., amounts to \$86.87. The other four cars were from Scotts to Kenosha and charges were paid on them on the basis of 24,000 lb. each, at 10 cts. per cwt., amounting to \$96. The actual weight of these four shipments was 89,500 lb., which at the rate of 10 cts. per cwt. amounts to \$89.50. Total charges actually paid on the nine joint shipments were \$198. Total charges on same at actual weight amount to \$176.37. The difference, \$21.63, should be refunded by the respondent in connection with the Chicago & North Western Railway Company, but as the latter carrier is not a party to this proceeding, no finding herein made will be effective as to the joint transportation. Nevertheless, as the claim was filed within the statutory period a valid finding could be made as to such joint transportation in a subsequent proceeding against both carriers. Under the circumstances both carriers will be permitted to make reparation without further proceedings.

In order to obviate difficulties in the future, the railway companies shall file tariffs providing specifically minima as hereinbefore considered reasonable.

We find and determine that the charge of \$624, exacted by the respondent railway company from the petitioner for the shipment of twenty-six cars of tanbark from Teddy to McInnis, Scott's Landing, and Boehms to Milwaukee, was unreasonable and exorbitant, and that the reasonable charge for such service is \$537.08.

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 sum of \$86.92.

The respondent railway company and the Chicago & North Western Railway Company are authorized to make the refund of \$21.63 to the petitioner without any further authority from the Commission.

IN RE APPLICATION OF THE VILLAGE OF OREGON FOR AUTHORITY TO INCREASE RATES.

Submitted Feb. 18, 1913. Decided March 15, 1913.

Application is made by the village of Oregon, Wis., for authority to increase the water rates. The village was notified that rates had not been filed with the Commission in accordance with the Public Utilities Law. The rates subsequently filed show certain increases in rates which, in order to be legally in effect, require the formal approval of the Commission.

The village has never paid hydrant rental. In a municipally owned utility, the same as in a privately owned utility, the cost of fire protection is to be paid by the taxpayers as distinguished from the general consumers.

Held: The increase appears to be reasonable and the objectionable flat rate schedule will be eliminated by the installation of meters. It is recommended that motors be placed upon a meter basis as rapidly as possible. The applicant is authorized to put in effect the schedule as submitted.

Application in this matter was dated January 20, 1913. It shows that the village of Oregon is a public utility engaged in the management and operation of a water plant for furnishing service in the village, and that the lawful rates of the applicant now in effect are as follows:

FLAT RATES.

Bakeries	\$8.00
Barber shops, 1 chair.....	3.00
Each additional chair in use.....	1.00
Billiard rooms (each table)	2.00
Bathing tubs in barber shops.....	4.00
Blacksmith shops, 1 fire.....	3.50
Each additional fire.....	3.00
Boarding and lodging houses per room.....	1.00
Building purposes, 1000 brick.....	.10
100 yds. plastering.....	.15
Stone per cord.....	.15
Butcher shops	6.00
Cisterns filled, 100 bbls. or less, exclusive of labor.....	2.00
Churches free by paying for service pipes, cocks, etc., except motors for which special charges will be made.	
Cigar factories, per hand.....	.50
Drug stores.....	6.00
Wash sinks, each faucet.....	1.00
Dental offices	3.00

Eating houses or restaurants.....	\$6.00
Fountain one-sixteenth jet per season from Apr. 1st to Nov. 1st, not to exceed six hours per day.....	10.00
Fountain one-eighth jet per season.....	15.00
Each family	6.00
Sprinkling streets, washing and sprinkling sidewalks, per lineal foot for business houses.....	.10
Same as foregoing, private houses.....	.05
Ice cream saloons, 3 tables or less.....	6.00
Each additional table.....	.50
Livery, sale and feed stables, single stalls, including washing carriages	10.00
Each additional stall.....	.50
Photograph galleries.....	5.00
Private stable, 1 horse or cow, and washing carriage.....	2.00
Each additional horse or cow.....	.75
Printing offices.....	5.00
Private bath tubs.....	1.00
Public bath tubs.....	4.00
Saloons	10.00
Laundry	12.00
Steam engine, each horse power, \$2. Each horse power, 24 hrs	4.00
Soda fountain	5.00
Water carts per 100 gallons.....	.05
Work shops, 10 persons, \$3.00. Each additional person.....	.25
Water closets, private, \$2.50; public, each bowl.....	5.00
Yard sprinkling with hose, per front foot.....	.05
Wash sinks per faucet in stores or offices.....	1.00
Stores not exceeding 25 ft. inside purposes (each floor).....	2.50
Each additional foot over 25.....	.15
Urinals, public \$6.00; saloons, hotels, \$3.00; stores, banks and offices, each, \$1.50; private houses.....	2.00
Wash basins, first in private houses free, all others each.....	1.00
Hotels	10.00
Lodges or societies.....	1.00
Yard hydrants, meter rates.	

METER RATES.

300 gals. per day, per 100 gals.....	.05
400 to 1000 gals. per day, per 100 gals.....	.03
1000 to 5000 gals. per day, per 100 gals.....	.02

The application states that the rates legally in effect have been found to be unfair and inadequate on account of the amount of water used, and the village asks for authority to make the changes in its schedule as outlined below:

Increase barber shops, for one chair to.....	\$4.00
Billiard rooms.....	5.00
Building purposes, concrete, per 100 yds.....	.15
Increase butcher shops to.....	8.00
Increase rental offices to.....	4.00
Increase restaurants to.....	8.00
Motors for private houses.....	3.00
Same for public buildings or business houses.....	4.00
Increase saloons to.....	12.00
Increase laundry to.....	14.00

To establish the following meter rates:

First 300 gals. per day.....	50 cts. per 1000
Next 700 gals. per day.....	30 cts. per 1000
Next 4000 gals. per day.....	20 cts. per 1000

This matter was set for hearing February 18, 1913, at the office of the Railroad Commission at Madison, Wis. The following appearances were entered for the applicant: *F. R. Cowdrey*, president of the village of Oregon; *H. E. G. Kemp*, water superintendent.

The applicant in this case has never made a report to the Commission. Some time prior to the filing of the application in this case the village was notified that it should file its rates with the Commission in accordance with the provisions of the Public Utilities Law. When the rates were filed, it was noted that certain increases had been made on January 20, 1913, which increases to be effective required the formal approval of the Commission. The utility was advised to file a formal application for increase of rates, and the application in this case resulted. Because of the fact that the utility has never filed a report with the Commission up to this time, the financial and operating statistics available in this case are very incomplete, but such facts as were presented at the hearing will probably throw some light upon the reasonableness of the application. The testimony indicates that the cost of the water plant has been about \$13,000. During the past year testimony shows that the receipts of the plant were about \$736, and the expenses, exclusive of the cost of repairs and of any provision for interest, taxes, and depreciation, were about \$368. With proper accounting methods which would show the cost of maintenance as distinguished from the cost of operation, expenses would probably be considerably more than this figure. The village appears to have retired the greater portion of the bonds which were issued for the construction of the plant, so that bond interest during the past year amounted to only \$210. An allowance of 6 per cent of the cost of the plant for interest, taxes, and depreciation would amount to about \$900 per year, so that total expenses which the village is entitled to meet under normal conditions from the operating revenues of its water works are probably not very far from \$1,600 per year.

The testimony shows that the village has never paid anything for hydrant rental up to the present time. As outlined in other

decisions of the Commission, this is an expense which should be borne by the taxpayers for service rendered to them as distinguished from service rendered to general consumers. Although in this case, because of the limited information at hand, it has not been practicable to determine exactly the cost of fire protection as distinguished from the cost of general service, it does not appear from such examination as can be made that the increases which the applicant asks for authority to put in effect are in any way unreasonable.

The testimony shows that the policy of the village is to place consumers upon a meter basis as rapidly as practicable and that the village puts in the service pipe from main to curb and owns the meters.

The flat rate schedule now in effect and the schedule as it will be with the modifications proposed by the utility is subject to the same defects which are found in flat rate schedules generally, that it does not, and from the nature of the schedule can not, secure payment from individual consumers strictly in accordance with the use made of the service by the consumers. With the adoption of a policy of furnishing meters, however, this objection will be eliminated, and from the testimony introduced at the hearing it appears that the village is proceeding in the right manner to overcome the objections which are inseparable from any schedule of flat rates. No objection to the proposed increase appears to have been offered by consumers, and so far as it is possible to determine the equitableness of any flat rate schedule the changes which are proposed appear to be reasonable. Attention should be called, perhaps, to the provision of the proposed amendment providing a flat rate for motors. Because of the difficulty in estimating the amount of water which may be used by motors it is particularly important that these be placed upon a meter basis as rapidly as possible, and the village will undoubtedly find that this case is no exception to the general rule.

From such examination as we have made, therefore, it appears that the proposed amendments may be authorized, and

IT IS ORDERED, That the applicant in this case, the village of Oregon, may amend its schedule of water rates now lawfully in effect by putting in effect the amended schedule as asked for in this application.

IN RE APPLICATION OF THE FOX RIVER MILLING AND POWER
COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE
AND NECESSITY IN THE TOWN OF WYOCENA.

Submitted Jan. 15, 1913. Decided March 19, 1913.

The Fox River Milling & P. Co. applied for a certificate of public convenience and necessity authorizing it to furnish electric light and power in the town of Wyocena, Columbia county, Wis., over a line extending from the south line of the corporate limits of Pardeeville, formerly used by the Columbia Co. El. Lt. & P. Co.

Held: It appears that residents along the proposed line have no other means of securing service and that the line would not compete with any other line furnishing light and power. The certificate is granted.

Under date of October 22, 1912, the Fox River Milling and Power Company applied to the Commission for a certificate of public convenience and necessity authorizing it to operate an electric light and power utility in the town of Wyocena, Columbia county, Wis., over a line described as follows: Beginning on the south line of the corporate limits of Pardeeville, in the town of Wyocena, on the south line of the northwest quarter of the northwest quarter of sec. 10; thence southwesterly along the highway to the west quarter post of sec. 10; thence south along the highway on the west line of sec. 10 to the south line thereof.

The applicant alleges that it is a public utility corporation engaged in furnishing light and power produced by its plant in the village of Pardeeville, which is located wholly within the town of Wyocena.

It sets forth that the Columbia County Electric Light and Power Company, which is also engaged in furnishing light and power in the town of Wyocena, formerly operated the line described above, but abandoned it on August 3, 1912. The applicant further asserts that residents along the proposed line have no other means of securing service, and that this line would not come into competition with any other line furnishing light and power. Under date of November 6, 1912, the board of super-

visors of the town of Wyocena joined in the petition, averring that there is no line for light and power that will come into competition with the proposed line.

A hearing was held on January 15, 1913, in the office of the Commission, Madison, Wis. *Joseph Chandler* appeared for the Fox River Milling and Power Company and no person appeared in opposition to the application.

It appears from the testimony that on August 3, 1912, the directors of the Columbia County Electric Light and Power Company officially determined to abandon or sell its Pardeeville line. Pursuant to this determination the greater part of the material and equipment was sold to the treasurer and manager of the applicant, who bought it unofficially but with the expectation that the applicant would take over the property should that action be approved by the Commission. Our engineer reports that the applicant is now furnishing service over this line. The testimony shows that the line in question serves only about four families, and that these patrons desire that the service be continued and have no access to other service.

In view of the fact that the line in question has been abandoned by the utility by which it was formerly operated, and the further fact that the patrons of this line desire to have the service continued and do not have access to the service of any other line, we believe that the applicant should be allowed to extend its service as outlined in the application. A certificate of public convenience and necessity will therefore be granted as prayed for.

CITY OF LADYSMITH

vs.

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

Submitted Feb. 22, 1913. Decided March 20, 1913.

The respondent asks that the former order (11 W. R. C. R. 325), providing for the protection by flagmen of four crossings at Ladysmith, Wis., be modified to permit the substitution of electrical devices at two of the crossings.

Held: The proposed change affords adequate protection. The respondent is ordered to install and maintain at Second street West electrically operated gates with an electric gong, under the control of the flagman stationed at Second street East, from 6:30 a. m. to 6:30 p. m. daily, and similarly at Miner ave., gates under the control of the flagmen stationed at Lake ave., during the same hours. The gates are to be provided with aprons to prevent persons from crawling under and wing fences are to be constructed to protect the sidewalks. Plans for installation are to be submitted for approval. The respondent is to maintain a flagman at each of the four crossings until the protection ordered is in operation.

An order in this matter was issued on January 17, 1913, requiring the Minneapolis, St. Paul & Sault Ste. Marie Railway Company to station at each of the four grade crossings of its tracks with Second street East, Second street West, Miner avenue, and Lake avenue in the city of Ladysmith a flagman, whose duty it shall be to warn travelers on the highway of the approach of trains between the hours of 6:30 a. m. and 6:30 p. m. (*City of Ladysmith v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 325). On February 6, 1913, the respondent filed a petition asking for a modification of this order, permitting it to substitute certain electrical devices in lieu of the protection ordered by the Commission.

A rehearing was granted and the matter heard on February 22, 1913, at Ladysmith, Wis. *Charles Kirwan* appeared for the city of Ladysmith, and *Albert H. Lossow* for the respondent.

The proposal of the respondent, as developed in the testimony, is to station flagmen at two of the crossings, who shall not only

guard the crossings at which they are on duty, but also guard the other two crossings by means of electrically controlled gongs, or by both gongs and gates. It was pointed out that a device of this nature is in successful operation at Oshkosh, Wis. City officials in their testimony expressed the opinion that if the plan proposed by the respondent is regarded as feasible by the Commission, both gongs and gates should be provided at the crossings not guarded in person by the flagmen.

We do not regard the substitution of gongs for flagmen at two of the crossings as equivalent protection. The sound of the bell may be drowned by the noise of traffic. It is not a sufficient warning for deaf persons or for persons whose ears are covered in winter weather. Moreover, children may not heed the warning of the bell. The installation of electrically operated gates in connection with gongs at two of the crossings, under the control of the flagman stationed on the other crossings, will, we believe prove a satisfactory substitute for the flagmen. Our engineer has examined a similar device at Oshkosh and reports that the proposed installation will afford adequate protection at Ladysmith. It appears from the testimony of the city officials and from our engineers' report, that flagmen should be retained at Second street East, and Lake avenue.

NOW, THEREFORE, OUR FORMER ORDER IS HEREBY MODIFIED, and the respondent, the Minneapolis, St. Paul and Sault Ste. Marie Railway Company, IS ORDERED :

1. To station a flagman at Second street East from 6:30 a. m. to 6:30 p. m. daily.

2. To install, maintain, and operate at Second street West electrically operated gates with an electric gong, under the control of the flagman stationed at Second street East.

3. To station a flagman at Lake avenue from 6:30 a. m. to 6:30 p. m. daily.

4. To install, maintain, and operate at Miner avenue electrically operated gates with an electric gong, under the control of the flagman stationed at Lake avenue.

5. To maintain a flagman on each of the four crossings until the installations ordered herein are placed in operation.

6. To equip the gates ordered herein with aprons to prevent persons from crawling under them, and to construct wing fences

at the ends of the gate-arms protecting the sidewalks, to prevent persons from walking around the gates.

7. To submit plans for the installations ordered herein to the Commission for approval.

June 1, 1913, is considered a reasonable date at which the installation ordered herein shall be in operation.

TOWN OF PLEASANT PRAIRIE

vs.

CHICAGO AND MILWAUKEE ELECTRIC RAILWAY COMPANY.

Submitted Oct. 23, 1912. Decided March 20, 1913.

The petitioner alleges that the crossing of the Chi. & Mil. El. Ry. with the Spring Brook road near the Bain station in the town of Pleasant Prairie, Kenosha county, Wis., requires protection.

Held: The crossing is dangerous and the respondent is ordered to install and maintain an electric bell and illuminated sign, plans for track circuits to be submitted for approval. The board wing fences are to be replaced by woven wire fences.

The petitioner, a regularly organized town in Kenosha county, Wis., alleges in substance that the highway crossing of the respondent's line with the Spring Brook road (Bain road) in the town of Pleasant Prairie is dangerous to public travel. The Commission is therefore asked to require the respondent to adequately safeguard this crossing.

No answer was filed by the respondent.

A hearing was held on October 23, 1912, at the city hall, Kenosha, Wis. *P. H. Tobin* appeared for the petitioner, and *Bull & Johnson*, by *F. W. Bull*, for the respondent.

It appears from the testimony that the Spring Brook road runs northeast and southwest, intersecting the respondent's north and south line at an acute angle. From the southwest highway approach the view of the tracks to the north is obstructed by a farm house and an orchard, and the view to the south by the banks of a cut. From the northeast approach the view to the north is not seriously obstructed, but the view to the south is limited by a grove of trees and by the banks of a cut. The report of the Commission's engineer shows that this cut begins about one hundred feet south of the crossing where it is five feet deep, and reaches a depth of ten feet at a point three hundred feet south of the crossing. The limits of vision to the south from points on the highway are reported by our engineer as follows:

Distance of point of observation in highway from tracks	Clear view to south.	View of top of car to south.	Distance of point of observation in highway from tracks.	Clear view to south.	View of top of car to south.
Southwest 50 ft.	100 ft.	400 ft.	Northeast 50 ft.	200 ft.	350 ft.
" 75 "	400 "	" 100 "	150 "	350 "
" 100 "	400 "	" 200 "	100 "	250 "
" 150 "	1700 "	" 300 "	.....	200 "
" 200 "	1500 "	" 400 "	.....	200 "

It was pointed out by a witness that should corn or grain be grown in the field adjacent to the tracks in the southwest angle of the crossing it would much curtail the already limited view to be had of northbound cars from the southwest highway approach. Strawberries are at present grown in this field.

The limits of vision to the north from points on the southwest highway approach are reported by our engineer as follows:

Distance of point of observation in highway from tracks.	Clear view to north.	Partial view through trees to north.
Southwest 50 ft.	1500 feet	.....
" 75 "	1500 "	.....
" 100 "	600 "	1500 feet
" 150 "	300 "	1000 "
" 200 "	.....	400 "
" 300 "	.....	300 "
" 400 "	.....	100 "

The testimony shows that the Spring Brook road is an important highway into which several roads leading from Kenosha converge. It is used chiefly by farmers hauling to and from Kenosha. The daily traffic, including automobiles, was estimated by a witness to be about thirty or forty movements. Another witness testified that on Saturdays and Sundays as many as fifty or seventy-five automobiles use this crossing in favorable weather. Pedestrian traffic was also said to be considerable. The respondent's time folder shows that thirty-four local cars and eight limited cars are scheduled to pass this crossing. The limited cars do not stop at the Bain station, nor do local cars, except to receive or discharge passengers. The fact that a majority of the cars do stop at Bain station, which is immediately north of the highway, was said by witnesses to make the crossing less dangerous than it would otherwise be. The testimony

shows that several accidents have been narrowly averted at this crossing.

The Commission's engineer has made a careful investigation of the conditions at this crossing, on the basis of which he recommends that the board wing fences on the respondent's right of way be replaced by woven wire fences, and that bell protection be installed.

From an examination of the testimony and of our engineer's report, we find that the crossing under consideration is more than ordinarily dangerous and that some additional protection is necessary. The improvements suggested by our engineers will, we believe, afford adequate protection for the public under existing traffic conditions.

IT IS THEREFORE ORDERED, That the respondent, the Chicago and Milwaukee Electric Railway Company, install and maintain at the crossing of its track with the Spring Brook road at the Bain station in the town of Pleasant Prairie, Kenosha 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 the respondent replace the present board wing fences on its right of way at the crossing described above with woven wire fences.

Ninety days is considered a reasonable time within which to comply with this order.

CITY OF KENOSHA

vs.

CHICAGO AND MILWAUKEE ELECTRIC RAILWAY COMPANY.

Submitted Oct. 22, 1912. Decided March 20, 1913.

Complaint is made that a crossing at the intersection of the Chi. & Mil. El. Ry. and Prairie ave. Kenosha, Wis., requires additional protection.

Held: The crossing is dangerous. The respondent is ordered to install and maintain gates, operated by a man stationed at the crossing or operated electrically from the interlocking tower. The gates are to be equipped with aprons to prevent persons dodging under the wing fences, which are to be built at the end of the gate-arms to protect the walk. If the gates are operated from the tower a bell is to give warning when the gates are lowered. Plans for installations are to be submitted for approval.

The petitioner, a regularly organized municipal corporation in Kenosha county, alleges in substance that a highway crossing at the intersection of the respondent's line and Prairie avenue in the city of Kenosha is dangerous to public travel on account of the surrounding physical conditions. It further alleges that the bell maintained by the respondent at this crossing is defective and provides insufficient protection, that the petitioner instructed the respondent in July, 1912, to either provide gates or station a flagman at Prairie avenue, but that the respondent has neglected to do so. The Commission is therefore asked to require the respondent to adequately safeguard this crossing.

No answer was filed by the respondent.

A hearing was held on October 22, 1912, at the city hall, Kenosha, Wis. *John C. Slater* appeared for the petitioner and *Bull & Johnson*, by *W. M. Johnson*, for the respondent.

It appears from the testimony of witnesses for the petitioner that Prairie avenue runs east and west and the respondent's tracks north and south. From the east highway approach the view of cars to the north is obstructed by a ten foot board fence which surrounds an automobile shop. This fence extends to the

edge of the right of way, about fifty feet from the center of the tracks. To the south, the view is partially obstructed by an express office located only about twelve feet from the track, by a railroad shed, and by a few trees. The respondent's engineer testified that from a point in the highway seventy-five feet east of the tracks, the top of a car approaching from the north can be seen one hundred feet from the crossing, and that a car approaching from the south can be seen as far as the depot, a distance of about nine hundred feet. From a point one hundred feet east of the tracks, according to his testimony, a car can be seen seventy-five feet to the north and as far as the depot to the south. He stated that at the east line of the right of way an unobstructed view in both directions may be had. The testimony introduced by petitioner shows that from the west highway approach the view to the north is obstructed by trees and by the row of trolley poles, and to the south by a dwelling house, the interlocking tower, located about one hundred and fifty feet south of the crossing, by trees growing along the highway, and by the row of trolley poles. The respondent's engineer testified that from a point seventy-five feet west of the tracks a view to the south of about four hundred feet can be had, and that when one hundred feet west of the tracks, a traveler can see about three hundred feet south. He stated that from a point in the highway ten feet within the right of way, or about forty feet west of the center of the tracks, a view of one thousand feet south is afforded, and that from the west line of the right of way a clear view to the north is afforded.

The testimony makes it clear that Prairie avenue is a heavily traveled street in the city of Kenosha, and one of three main arteries of travel from the country districts into the city. It was pointed out that it is used by the residents of an important village which is soon to be embraced within the city limits. The traffic was said to be especially heavy early in the morning, about noon, and late in the afternoon. A witness estimated the vehicular traffic at ten or twelve per hour. Automobile traffic was estimated at from ten to sixty per day, varying with the season. A school building is located about two blocks west of the crossing and a number of the children go to and from school along Prairie avenue. It was stated that two cars an hour are regularly scheduled over the respondent's line, and that

extras are run during the summer. Southbound cars are said to attain a speed of twenty-five miles an hour at the crossing and northbound cars a speed of from twenty to twenty-five miles an hour.

The testimony shows that motormen do not always whistle for the crossing. Two fatal accidents have occurred at Prairie avenue, one some five or six years ago and one in July, 1912. At the time of the latter accident two other persons were seriously injured.

It was developed at the hearing that after the fatal accident in July, 1912, the respondent placed a watchman at the crossing for about a week and then installed a bell with a light for night indication. The testimony shows that this bell has failed to work from time to time. Witnesses expressed the opinion that bell protection is insufficient, and pointed out that the C. & N. W. Ry. Co. maintains a flagman at its crossing with Prairie avenue not far distant from the crossing under consideration.

After a careful consideration of the testimony and of our engineer's report, we find that the crossing in question is more than ordinarily dangerous, and that the bell protection now provided by the respondent is insufficient to render the crossing reasonably safe. With regard to methods of additional protection our engineer reports as follows:

“This crossing can be satisfactorily protected by a flagman, or by gates operated by a man stationed at the crossing, but it appears that the most economical method, and perhaps the most efficient method of protecting the crossing, is to install electrically operated gates controlled from the interlocking tower, located south of the crossing. The crossing can thus be protected by gates operated twenty-four hours daily without any additional expenditure by the railway company for labor. The electrically operated gate is considered to be more reliable than the pneumatic, pipe connected or wire connected gates.

“During the summer when trees are in leaf, it will be difficult for the man in the interlocking tower to see traffic approaching the crossing from the west. For this reason it is considered necessary to install an electric bell at the crossing which is controlled by a manual switch in the interlocking tower. Furthermore, the current for ringing the crossing bell should be transmitted through a wire circuit, in preference to depending upon track circuits.”

NOW, THEREFORE, IT IS ORDERED:

1. That the respondent, the Chicago & Milwaukee Electric Railway Company, install and maintain at the crossing on its line at Prairie avenue in the city of Kenosha, Kenosha county, Wis., gates operated by a man stationed at the crossing, or operated electrically and controlled from the interlocking tower. These gates are to be equipped with aprons to prevent persons dodging under the gates, and wing fences are to be constructed at the end of the gate-arms protecting the walks to prevent persons from walking around the gates.

2. That, in case the gates are operated from the tower house, the respondent install and maintain at the Prairie avenue crossing an electric bell connected with the interlocking tower by an overhead wire circuit, and controlled by a manually operated switch in the interlocking tower, for the purpose of warning travelers that the gates are about to be lowered.

3. That the respondent submit plans for the installations ordered herein for the approval of the Commission.

July 1, 1913 is considered a reasonable date at which the installations ordered herein shall be in operation.

TOWN OF CALEDONIA

vs.

CHICAGO AND MILWAUKEE ELECTRIC RAILWAY COMPANY.

Submitted Oct. 11, 1912. Decided March 20, 1913.

Complaint is made that the crossings on the Chi. & Mil. El. Ry. at the Three Mile road and Franksville road in the town of Caledonia, Racine county, Wis., require protection.

Held: The crossings are dangerous and the respondent is ordered to protect the crossing at the Three Mile road by flaring the cut to the north. The respondent is to widen the driveway to a width of twenty-four feet and to replace the board wing fences by woven wire fences. The respondent is further ordered to install and maintain a bell and illuminated sign at the crossing at the Franksville road, plans for track circuits to be submitted to the Commission.

The petitioner, a regularly organized town in Racine county, Wis., alleges in substance that the two highway crossings on the respondent's line at the Three Mile road and the Franksville road in the town of Caledonia are dangerous to public travel on account of the surrounding physical conditions. The Commission is therefore asked to require the respondent to properly safeguard these crossings.

No answer was filed by the respondent.

A hearing was held on October 11, 1912, at the city hall, Racine, Wis. *E. R. Burgess* appeared for the petitioner, and *E. U. Schroeter* for the respondent.

Three Mile Road Crossing.

The testimony shows that at the crossing in question the highway runs east and west and the respondent's line north and south. The chief point of danger is from cars approaching the crossing from the north, which are hidden from view by the banks of a cut. A witness stated that this cut begins about thirty feet from the crossing and extends northward. The east bank reaches a height of about seven feet, and the west bank a height

of eleven feet. From the testimony, it appears that from the east highway approach a clear view of cars to the north cannot be had until the traveler is within about fifteen feet of the tracks, at which point a view of from 250 feet to 350 feet is afforded. On the west approach of the highway the traveler must be within about twelve feet of the tracks before he can see clearly cars to the north. At this point a view may be had for 150 feet north. It was stated that the view to the south is not seriously obstructed from either approach.

The report of the Commission's engineer shows that the limits of vision to the north from various points on the highway are as follows:

Distance of point of observation on highway from the nearest rail.	Clear view to north.	View of top of car to north.	Distance of point of observation on highway from the nearest rail.	Clear view to north.	View of top of car to north.
East 25 ft.	600 ft.	.....	West 25 ft.	2000 ft.	.....
.. 50	75 ..	350 ft.	.. 50	100 ..	.....
.. 100	100 ..	275 ..	.. 100 .. .....	.....	150 ft.
.. 150	100 ..	200 ..	.. 150 .. .....	.....	150 ..
.. 200	75 ..	200 ..	.. 200 .. .....	.....	150 ..
.. 300	75 ..	150 ..	.. 300 .. .....	.....	100 ..

It was developed at the hearing that the Three Mile road is not an important highway. It connects two other roads of greater importance, however, and is used to a considerable extent by farmers. A witness estimated that about ten farmers have occasion to cross the tracks daily. It was stated that cars sometimes pass the crossing without whistling. The present roadway over the right of way is eighteen feet wide.

The suggestion was made by a witness that conditions at this crossing could be improved by cutting back the banks of the cut to the north on the right of way for three or four hundred feet from the crossing. Our engineer comments on this suggestion as follows:

“By flaring the cut back from the fence corner at the northwest corner of the crossing and also the corresponding northeast fence corner to a point 500 feet north of the crossing, the view would be made such that at a point 75 feet east a clear view could be had for 750 feet to the north, and from a point 75 feet west a clear view of 650 feet. The view at other distances would also be extended, the eastern approach securing the greatest bene-

fit. Owing to the knoll on the private land west of the right of way the view from the west would be restricted, no matter how far north the flaring be extended. It is believed that flaring out the cut is the best protection for this crossing and with proper flaring a bell is not considered necessary."

Franksville Road Crossing.

It appears from the testimony that the angle of this crossing is acute, the highway running north and south and the respondent's tracks northwest and southeast. The chief point of danger is from cars approaching from the northwest. The view in this direction from both highway approaches is obscured by the banks of a cut. This cut begins about two hundred feet from the crossing where it is about six feet deep, and becomes deeper farther from the highway. One witness stated that on the north highway approach fifty feet from the tracks a car can be seen four hundred feet to the northwest. Another witness testified that on this approach the traveler must be within fifteen feet of the tracks to obtain a clear view to the northwest. It was pointed out that the danger on the north approach is greater because of the acuteness of the angle of crossing which makes it necessary for a traveler to turn around or to put his head out of a closed vehicle in order to see a car approaching from the northwest. From the southeast approach the view is further obscured because of the ascending grade of the highway to the tracks. To the southeast the vision is comparatively unobstructed.

Measurements taken by the Commission's engineering staff show that the limits of vision to the northwest from points in the highway are as follows:

Distance of point of observation on the highway from nearest rail		Clear view to northwest	View of top of car to northwest	Distance of point of observation on the highway from nearest rail		Clear view to northwest	View of top of car to northwest
North	50 ft	2000 ft	.....	South	50 ft	2000 ft	.....
"	100 "	300 "	900 ft	"	100 "	150 "	500 ft
"	150 "	150 "	500 "	"	150 "	150 "	450 "
"	200 "	200 "	400 "	"	200 "	150 "	450 "
"	300 "	100 "	400 "	"	300 "	150 "	350 "
"	400 "	100 "	300 "	"	400 "	100 "	250 "

The testimony shows that another source of danger at this crossing is a ditch on the right of way about four or five feet deep and within six feet of the wheel tracks in the highway. The presence of this ditch makes more difficult the control of frightened teams, if obliged to wait for a train to pass while close to the crossing. It was also stated that cars occasionally fail to whistle for this crossing. The Franksville road is an important highway connecting with a much traveled road to Milwaukee. At the hearing witnesses estimated the average traffic to be about thirty or forty teams and fifteen or twenty automobiles daily. Several narrow escapes from accident were reported.

After a careful consideration of the testimony and of our engineer's report, we find that both of the crossings in question are more than ordinarily dangerous and require some additional protection. The situation at the Three Mile road crossing can be materially improved by flaring the cut to the north and by widening the highway approaches. It also appears to be desirable to replace the present board wing fences by woven wire fences. These improvements will, we believe, render this crossing reasonably safe under existing traffic conditions. A somewhat different situation obtains at the Franksville road crossing. The traffic is heavier and the view of approaching trains cannot be made satisfactory by grading or otherwise altering the physical conditions. Some improvement could be made, however, by flaring the cut for a short distance to the north, and by substituting woven wire fences for the present board wing fences. These improvements, while desirable, cannot be regarded as necessary in addition to bell protection. The latter, we think, is required by the conditions at the crossing.

NOW, THEREFORE, IT IS ORDERED:

1. That the respondent, the Chicago & Milwaukee Electric Railway Company, protect the highway crossing of its line with the Three Mile road in the town of Caledonia by flaring the cut to the north, the flaring to be the full width of the right of way at the north highway fence and to taper out at a point five hundred feet north of the crossing.

2. That the respondent widen the driveway over its right of way at the Three Mile road crossing to a width of twenty-four feet between the ditches.

3. That the respondent replace the board wing fences on its right of way at the Three Mile road crossing by woven wire fences.

4. That the respondent install and maintain at the crossing of its line with the Franksville road in the town of Caledonia 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.

GEORGE W. OVERMEYER ET AL.

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted July 26, 1912. Decided March 27, 1913.

Complaint is made that the passenger service on the Mineral Point div. of the C. M. & St. P. Ry. Co. is inadequate. It is alleged that there is urgent demand for a passenger train leaving Janesville early in the morning and leaving Mineral Point on the return trip in the latter part of the afternoon. The time for the present passenger trains is fixed by the Chicago, Milwaukee and Madison connections and cannot be altered. The cost of an additional train and the resulting increase in revenue was investigated. It appears that the new service would not be self-supporting, especially if branch line connections were provided.

Held: Additional service is required. The respondent is ordered to attach a passenger coach to the time freights designated as Nos. 165 and 166 in time table No. 135 of this division, furnishing such service and with such maintenance of the schedule between Janesville and Mineral Point as is reasonably consistent with the main functions these trains were planned to fulfill.

The petition in this proceeding sets forth that by reason of respondent's passenger schedule on its Mineral Point division the train service is inadequate; that it is now impossible to travel from points east of Calamine to Calamine, Mineral Point, Belmont, or Platteville, and return the same day by passenger train; and that, for those having business of any length to transact, it is likewise impossible to travel to Monroe, Shullsburg, or Darlington, and intermediate points from localities east thereof, and return by passenger train the same day; that there is an urgent demand for a passenger train leaving Janesville early in the morning, and leaving Mineral Point on its return trip in the latter part of the afternoon. Wherefore, petitioners request an order from the Commission requiring respondent railroad company to add a passenger train on this branch to run approximately as follows: Leave Janesville about 7:30 a. m., arriving at Mineral Point about 10:30 a. m.; and returning, to leave Mineral Point about 5:00 p. m., arriving at Janesville about 8 p. m.

The answer of the respondent railroad company alleges that the passenger train service afforded on the division is entirely adequate, submits an exhibit showing the cost of an additional train with and without branch connections, also views of the general superintendent of this division, and the local agents to the effect that there is no strong demand for additional passenger service, and that it would not be self-supporting or lead to new business. Wherefore, respondent prays that the petition be dismissed.

The hearing was held July 26, 1912, at the office of the Commission in Madison. The following appearances were entered: *M. J. Cleary* for petitioners, and *C. E. Blake* and *P. C. Eldredge* for respondent.

The division in question extends from the village of Milton, nine miles northeast of Janesville, to Mineral Point. As far as this case is concerned, it may be said to commence at Janesville. So taken, the branch, with its spurs, is one hundred and thirty-two miles in length, and serves some twenty cities and villages. The following are the spurs, naming the towns on the main division first: Brodhead to New Glarus, Gratiot to Warren, Ill., Gratiot to Shullsburg, and Calamine to Platteville. The distance from Janesville to Mineral Point is eighty-one miles, and the passenger runs take from three to three hours and twenty minutes, depending on the train. Distances of the spurs are as follows: Brodhead to New Glarus 22.6 miles, Gratiot to Shullsburg 11.5 miles and Calamine to Platteville 16.9 miles.

The population of the towns and villages served by this division, according to the 1910 census, is as follows:

<i>Main Line.</i>		<i>Branches.</i>	
Janesville	13,894	Albany	669
Hanover	175	Monticello	671
Orfordville	449	New Glarus	708
Brodhead	1,517	Dunbarton	48
Juda	307	Shullsburg	1,063
Monroe	4,410	Belmont	532
Browntown	222	Platteville	4,452
S. Wayne	475		
Gratiot	368		8,143
Darlington	1,808		26,658
Calamine	108		
Mineral Point	2,925		
		Total	34,801
	26,658		

Some of these towns are also on other branch lines of respondent company or of other companies. Janesville is on the Milwaukee-Chicago branch of both the Chicago & North Western and the Chicago, Milwaukee & St. Paul Railway. Monroe and Monticello are also on the Freeport-Madison branch of the Illinois Central Railroad. Platteville is on a branch of the North Western Railway running between Montfort Junction and Galena, Ill.; and Mineral Point is also served by the Mineral Point & Northern Railway, giving such town connections with the Madison-Lancaster division of the Chicago & North Western Railway at Whitson Junction.

To serve the needs of this district the company operates two passenger trains, one way freight and one time freight each way daily. The schedule is as follows:

Janesville—Mineral Point.

Mineral Point—Janesville.

Way freight	Time freight	Pass. No. 21	Pass. No. 4		Pass. No. 8	Pass. No. 6	Time freight	Way freight
a. m.	a. m.	a. m.	p. m.		a. m.	p. m.	p. m.	p. m.
8:15	5:30	10:55	7:10	Janesville.....	10:30	4:40	10:30	5:30
8:45	5:50	11:10	7:26	Hanover.....	10:10	4:15	9:50	4:50
9:57	6:05	11:20	7:36	Orfordville.....	9:57	4:03	9:25	4:18
10:30	6:40	11:25	7:50	Brodhead.....	9:45	3:50	9:00	3:15
11:50								
p. m.								
12 20	7:00	11:50	8:05	Juda.....	9:26	3:32	8:05	2:20
		p. m.						
1:40	7:45	12:10	8:30	Monroe.....	9:10	3:15	7:20	1:40
2:10	8:10	12:30	8:48	Browntown.....	8:48	2:55	6:38	1:00
2:15	8:15	12:34	8:53	Dill [I. C. Jct.].....	8:43	2:52	6:34	12 52 a.m.
2:45	8:35	12:42	8:59	South Wayne.....	8:35	2:45	6:25	12:42
3:30	9:20	1:02	9:20	Gratiot.....	8:15	2:26	6:00	11:30
4:00	10:20	1:27	9:38	Darlington.....	7:50	2:03	5:15	10:20
4:45	11:00	1:46	9:48	Calamine.....	7:35	1:46	4:45	9:30
5:30	12:05	2:10	10:10	Mineral Point.....	7:10	1:20	4:00	8:45

Trains on the New Glarus and Shullsburg spurs are mixed, but straight passenger service is given on the Platteville-Calamine line. In all cases close connections are made with the main line passenger trains, giving practically continuous service in the same direction when the trains are maintaining their schedules.

Since the morning westbound passenger and the returning eastbound passenger trains meet at Calamine, it is obvious that it is impossible to travel to localities west of that point and return the same day on a passenger train. An inspection of the table shows that the eastbound train leaving Mineral Point at

1:20 p. m. is the last outbound train, while at Darlington, the station east of Calamine, there is only about half an hour's time between the east and the westbound trains, so that the contention of the petitioners, that it is impossible to transact business of any length at such principal places or at intermediate points, and return on the eastbound passenger train, is evidently well founded. As the time of the passenger trains on this division is fixed at Janesville by Chicago, Milwaukee and Madison connections, it is true that this schedule cannot be disturbed.

Exhibits were filed by the respondent company showing that the cost of an additional passenger train without branch line connections would amount to approximately \$1,200 a month. This sum does not include new service on the branches to connect with the additional train on the main line. With these connections the new service would cost about \$4,000 a month. These figures do not include anything for overhead charges. One of the petitioners, while testifying, contended that a new train would do a cash business of \$50 a day, or about \$1,500 a month. He admitted that he did not believe that the new service would earn enough to pay for branch line connections also. And it seems probable that if new main line service were installed without giving connections with the branches there would be more or less complaint.

A petition requesting the granting of the desired service was filed in the case. The petition bore the signatures of 292 signers. It was intimated that the demand for this service came largely from the traveling salesmen. It is doubtless true that this class of travelers using the railroads constantly, feels the advantages or inconveniences of a schedule, as the case may be, more keenly than the general traveling public. However, it appears that only about seventy of the signers were traveling salesmen. The remaining signers are farmers, merchants, business and professional men in the towns served. It appears that there is a very considerable demand for the new service. Whether, however, such service, particularly with branch connections, would fill such a want as to make it self-supporting, must be considered.

The Chicago and Milwaukee time freight in each direction carries passengers. As to this it is claimed that this train is very irregular in its running. It carries nothing but the ordinary stock carboose. Of course, any passenger business is inci-

dental and in a car of this sort there is inevitably more or less inconvenience in getting on and off, and in the caboose itself. It was admitted that the passenger traffic on this division is comparatively heavy and that at times the caboose of the returning eastbound time freight is crowded.

The last passenger service east from Mineral Point, as has been noted, is at 1:20 p. m. This is unquestionably rather early in the day. Also it would seem desirable, if possible, to allow for a westward flow of traffic, which could return the same day with reasonable convenience.

A suggestion emanating from several of the opinions of respondent's agents on this division, filed in the case, appears to meet the situation. That suggestion is to run the two time freights with less tonnage, on a schedule to accommodate the traveling public, and with a passenger coach attached. It would seem that this train, if it were less irregular and offered adequate passenger accommodations, would reasonably meet the demand represented by petitioners. It is true that a somewhat later hour at Janesville than 5:30 a. m. would doubtless be more convenient at that point, and that a train leaving Mineral Point a little later in the afternoon than 4 p. m. would be somewhat more acceptable there. It is not always possible, however, to adjust these minor details to the entire satisfaction of all concerned.

This train, running west, makes close connections for Platteville. It does not make through connections for Shullsburg and New Glarus. On its return east in the afternoon it has through connection from Platteville and Shullsburg. Since it would not reach Janesville until 10:30 p. m., it would be too late for Madison connections on respondent's line, but there would be connections on the Chicago & North Western. There would also be connections for points on the Freeport-Dodgeville line of the Illinois Central at Dill and on the Freeport-Madison line at Monroe. The morning westbound train, if on time, would give through connections at Dill for either Dodgeville or Freeport, and at Monroe for Madison, Freeport and Chicago.

Petitioners, in asking for another train, pointed out that respondent company uses through passenger trains in giving service on the main line of this division, and that one train lies over every day at Mineral Point. For this reason they contended the additional service could be given at comparatively little addi-

tional expense. In doing so they apparently overlooked the fact that the train crew is paid on the basis of mileage, so that the fact of the third train does not offset the figures given by respondent as covering the cost of additional service.

Since it appears doubtful whether the company could with propriety be ordered to add another passenger train, the petition must to this extent be denied. The company, however, will be required to attach a passenger coach to its time freights and to furnish passenger service between Mineral Point and Janesville and return, and to reasonably maintain its schedule.

Now, THEREFORE, IT IS ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company attach a passenger coach to their time freights, designated as Nos. 165 and 166 in time table No. 135 of the Mineral Point division, furnishing such service and with such maintenance of their schedules between Janesville and Mineral Point as is reasonably consistent with the main functions these trains were planned to fulfill.

ADAM HAPPEL ET AL.

vs.

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

Submitted Dec. 3, 1912. Decided April 5, 1913.

Complaint was made that the second crossing on the M. St. P. & S. S. M. Ry. north of the station at Rugby Jct., known as the Fond du Lac or Rothenbach crossing, town of Polk, Washington county, Wis., is dangerous.

Held: The crossing requires protection and the respondent is ordered to install an automatic electric bell and illuminated sign, plans for track circuits to be submitted for approval.

The petition in this matter, which is signed by nine freeholders in the town of Polk, Washington county, Wis., alleges in substance that the second crossing on the respondent's line north of the station at Rugby Junction 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.

No formal answer was filed by the respondent.

A hearing was held on December 3, 1912, at Rugby Jct., Wis. *Adam Happel* appeared for the petitioners and *H. Pederson* for the respondent.

The original complaint was filed with the Commission on March 20, 1912, including both the present respondent and the Chicago, Milwaukee & St. Paul Railway Company. The date of hearing was set for April 22, 1912, and at that time, with the Commission present, an informal agreement was reached between the petitioners and the respondents, whereby the respondents agreed to install a system of joint bell protection at this crossing. Later the Chicago, Milwaukee & St. Paul Railway Company withdrew from this joint arrangement and installed a separate bell at the crossing to protect its tracks. The Minneapolis, St. Paul & Sault Ste. Marie Railway Company, however, has failed to provide any protection in lieu of the joint arrangement formerly agreed upon.

At the hearing it was shown that the crossing is known as the Fond du Lac or Rothenbach crossing. The respondent's line runs northwest and southeast, and the highway approximately east and west, the angle of crossing being about 45 degrees. The respondent's track parallels the line of the Chicago Milwaukee & St. Paul Railway Company at a distance of 116 feet measured along the highway. The respondent's track lies in a cut, the banks of which were said by witnesses for the petitioner to obstruct the view of trains for some distance from the tracks on both highway approaches. West of the track and north of the highway corn is grown during the summer in the field adjacent to the right of way. This corn was said to be from six to ten feet in height and to obstruct the view of trains from the northwest so that a traveler must be on the right of way to have a clear view. Witnesses testified that in winter snow is often piled up four feet high on the banks of the cut near the crossing, thus further limiting the vision. It was also asserted that heavy fogs are frequent in this locality, and that during such fogs trains cannot be seen as they approach, nor their noise or whistle readily heard. Witnesses testified that trains often fail to whistle for this crossing.

The respondent's representative testified, from a survey made by an engineer in his company's employ, that in April from a point in the highway 150 feet west of the tracks, a train may be detected by smoke a half mile from the crossing to the northwest, and that a clear view of 1,400 feet is afforded. From the same point, he said, a clear view to the southeast of 2,000 feet is available. From a point in the highway 50 feet east of the Chicago, Milwaukee & St. Paul track, or 166 feet from the respondent's line, a train approaching from the northwest may be detected by smoke about one-half mile from the crossing, and can be seen clearly 1,200 feet from the crossing. From the same point a view of 2,000 feet to the southeast is afforded. The witness admitted that this survey was made under the most favorable conditions, at a time when no crops were large enough to obstruct the view, and when the weather was fair.

It was shown at the hearing that the highway in question is the main road to Richfield and Schleisingerville, and that the traffic over it is heavy. It was stated that from forty to seventy-five automobiles and from fifteen to twenty teams use the cross-

ing daily. As many as one hundred automobiles were said to pass occasionally on Sundays. It appears that there are nineteen regular train movements over the respondent's line, of which nine occur after dark. In addition, a number of extra freights are operated.

The Commission's chief engineer, after an investigation on the ground, recommends bell protection for this crossing. In his report he comments as follows:

"On account of the restrictions to the view of approaching trains at times when the corn crop is at its highest stage in the neighboring fields, or when snow banks have accumulated to any great extent on the right of way, especially during the foggy weather which is reported to occur in that locality somewhat frequently at certain seasons of the year, the use of this crossing by the public must be accompanied with more than the ordinary degree of hazard. The extent and kind of traffic both on the highway and on the railroad are such as to demand special consideration in devising suitable protective measures for this crossing."

Upon a careful examination of the testimony and of our engineer's report, we find that the crossing is more than ordinarily dangerous, and that it requires some form of protection. The fact that the Chicago, Milwaukee & St. Paul Railway Company maintains a bell at its crossing situated only 116 feet from the respondent's crossing, makes it desirable that similar protection be installed in the present case, if it will render the crossing reasonably safe. Protection by different kinds of warning devices at crossings so close together, or protection at one without protection at the other, is apt to be confusing to travelers, thus increasing the hazard rather than alleviating it. For this reason, in addition to those reasons stated in our engineer's report, we believe that bell protection should be installed at this crossing.

IT IS THEREFORE ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, install and maintain at the second crossing on its line north of the station at Rugby Junction in the town of Polk, Washington 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 to be a sufficient time within which to comply with this order.

J. J. MAHONEY

vs.

CHICAGO AND MILWAUKEE ELECTRIC RAILWAY COMPANY.

Submitted Oct. 23, 1912. Decided April 5, 1913.

The petitioner alleges that the present location of the Bain station on the Chi. & Mil. El. Ry. in the town of Pleasant Prairie, Kenosha county, Wis., is inconvenient and asks that it be relocated at the Mahoney road. Certain patrons in order to take the shortest route to the present station walk the tracks, which is a dangerous practice.

Held: It appears that the present location is the more convenient. The respondent is ordered to construct and maintain a crushed stone walk along the west side of its right of way from the north edge of the station platform to the Mahoney road, and provide suitable turnstiles or steps at the fences crossed by the walk.

The petitioner, who is a farmer and a supervisor of the town of Pleasant Prairie in Kenosha county, Wis., alleges in substance that the present location of the Bain station on the respondent's line is inconvenient for the patrons of the electric cars, and asks the Commission to require its relocation at the Mahoney road.

No answer was filed by the respondent.

A hearing was held on October 23, 1912, at the city hall, Kenosha, Wis. The petitioner appeared in his own behalf, and the respondent was represented by *Mr. Bull* of the firm of *Bull & Johnson*.

The testimony shows that the Bain station is located on the respondent's north and south line, immediately north of the Spring Brook road which runs in a northeasterly direction from the station. The Spring Brook road intersects an east and west highway called the Mahoney road about 650 feet from the station. From this intersection the distance along the Mahoney road to the tracks is about 500 feet. From the Mahoney road crossing to the Spring Brook road crossing the distance along the tracks is about 355 feet. Thus, a person living west or north of the crossing of the Mahoney road is obliged to walk around two sides

of a triangle a distance of about 1,150 feet, or walk along the respondent's tracks a distance of only about 355 feet in order to reach the station to board a car. It was shown that the shorter route is usually taken by both adults and children in spite of the danger involved in walking the tracks.

A witness stated that about twenty-five persons who make daily use of the cars are obliged by reason of the location of their homes to either take the roundabout route or walk the tracks from the Mahoney road to the station. It was shown that it is to the interest of persons so situated to have the station relocated at the Mahoney road. On the other hand, it was pointed out that the proposed change would make the station equally inconvenient for passengers whose natural approach is on the Spring Brook road. Moreover, the present location is more convenient for milk shipping, a considerable amount of which is done at this point.

It is clear from the testimony that the Spring Brook road is much more heavily traveled than the Mahoney road. Furthermore, data submitted at the hearing by the respondent, and additional data gathered by the staff of the Commission, show that a comparatively small proportion of the total passengers walk along the tracks from the Mahoney road to the station.

Under such circumstances it appears that the present location is the most convenient for all concerned. To allow persons, especially children, to walk along the track to the station is, however, a dangerous practice which should be discontinued. It was suggested at the hearing that a satisfactory solution of the difficulty could be reached by building a walk beside the tracks from the Mahoney road to the station platform, a distance of about 255 feet. This plan was looked upon with favor by the petitioner and other interested witnesses. The respondent's engineer testified that such a walk, built of sand with a stone surface, would cost about \$73. We are of the opinion that the construction of a walk beside the tracks will meet the needs of the situation. Not only will the interest of the greater proportion of the railway's patrons be subserved by the retention of the station at the present site, but an element of danger at the Spring Brook road crossing will be avoided. Since the traffic over this road is rather heavy, and since the line of vision at the crossing is somewhat obstructed, it is highly desirable that the stopping

point be near it, so that the speed of those cars which stop will not be great over it. Our engineer suggests that the most available location for the proposed walk is west of the tracks.

IT IS THEREFORE ORDERED, That the respondent, the Chicago & Milwaukee Electric Railway Company, construct and maintain a crushed stone walk five feet in width extending along the west side of its right of way from the north edge of the present Bain station platform to the Mahoney road, and provide suitable turnstiles or steps at the fences crossed by the walk.

Sixty days is regarded as a sufficient time within which to comply with this order.

TOWN OF SOMERS

vs.

CHICAGO AND MILWAUKEE ELECTRIC RAILWAY COMPANY.

Submitted Oct. 22, 1912. Decided April 5, 1913.

The petitioner alleges that the crossings on the Chi. & Mil. El. Ry. at the Berryville road, Hansche road and the Burlington road, in the town of Somers, Kenosha county, Wis., are dangerous. The protection of the crossing at the Broesch road, also included in the petition, is reserved for further investigation.

Held: The crossings require protection. The respondent is ordered to install and maintain a bell and illuminated sign at the Burlington and the Berryville road crossings. The respondent is further ordered to improve and widen the crossing to an effective width of 24 ft. within its right of way at the Hansche road.

The petitioner, a regularly organized town in Kenosha county, Wis., alleges in substance that three highway crossings in the town of Somers, located at the intersections of the respondent's line with the Berryville road, the Hansche road, and the Burlington road, are dangerous to public travel, on account of the surrounding physical conditions.

It further alleges that the crossing of the respondent's line with the Broesch road in the town of Somers is dangerous to travelers on the highway if the highway is traveled as laid out; that the respondent has occupied a portion of the highway in such a way that when the road is graded and improved, as is necessary to render it suitable for public travel, the respondent's tracks will cross the road diagonally, thus rendering it unsafe and dangerous to public travel; and that by its occupancy of this portion of the road the respondent has excluded the public from the use of the entire width of the highway for a distance of some rods and one-half of the width of the highway for a distance of ten rods or more. The Commission is, therefore, asked to require the respondent to properly safeguard these crossings, and in reference to the Broesch road, to acquire for the use of the town other land for highway purposes.

A hearing was held on October 22, 1912, at the city hall, Kenosha, Wis. *John F. Herzog* appeared for the petitioner and *Bull & Johnson*, by *W. M. Johnson*, for the respondent.

With regard to that part of the complaint dealing with conditions at the Broesch road crossing, we shall reserve our decision until a further hearing is held and further investigations are made by our engineering staff. The matters to be considered in the present decision, therefore, relate to the proper safeguarding of the highway crossings on the respondent's line at Berryville road, the Hansche road, and the Burlington road.

Berryville Road Crossing.

It appears from the testimony that the Berryville road runs east and west at the crossing, intersecting the respondent's tracks which run northeast and southwest. From the east highway approach the view of the tracks to the northeast is unobstructed, but to the southwest it is hindered by fruit trees and buildings. A witness testified that a traveler must be very close to the tracks in order to see a train crossing from the southwest. From the west highway approach the view of the tracks to the northeast is obstructed by an orchard. It was shown that the highway is in a slight depression and descends to the tracks from both sides. Our engineer reports that the tracks to the southwest are in a cut, the sides of which are about four feet high, and partially obstruct the vision. The limits of vision at this crossing to the southwest from the east approach and to the northeast from the west approach, are reported by the engineer as follows:

Distance of point of observation on highway from tracks.	Clear view to southwest	Partial view through trees, etc. to southwest.	Distance of point of observation on highway from tracks.	Clear view to northeast.	Partial view through trees, etc. to northeast.
East 25 feet....	2,000 feet	.....	West 50 feet....	2,000 feet	.....
" 50 "	400 "	1,000 feet	" 100 "	100 "	250 feet
" 75 "	150 "	1,200 "	" 150 "	150 "	900 "
" 100 "	150 "	700 "	" 200 "	100 "	1,000 "
" 150 "	150 "	350 "	" 300 "	75 "	200 "
" 200 "	150 "	350 "	" 400 "	50 "	150 "
" 300 "	100 "	200 "			
" 400 "	75 "	200 "			

The engineer's report indicates that the partial view through the trees noted in the above table will be obscured in a very large measure by the foliage in the summer. The data gathered show that there are no serious obstructions to the vision in the north-east and southwest angles of the crossing.

The testimony shows that traffic over the Berryville road is heavy, and includes numerous automobiles, and teams hauling market produce. A witness estimated the average daily traffic to be about one hundred fifty teams and fifty automobiles. Our engineer's report shows that there are forty cars scheduled over the respondent's line, of which ten pass after dark. Two serious accidents at this crossing were reported at the hearing.

On the basis of his investigation on the ground, our engineer recommends that bell protection be installed at the Berryville road crossing.

Hansche Road Crossing.

The testimony shows that at this crossing the railway runs northeast and southwest, intersecting a north and south highway. Instead, however, of crossing at an acute angle, the south highway approach parallels the track for a short distance, turns sharply, and crosses the tracks approximately at right angles. It was stated by witnesses that the view of cars to the northeast is seriously obstructed by farm buildings from the south highway approach until the turn is made immediately at the crossing. The report of our engineer indicates that the view of approaching cars is unobstructed when traffic on the highway is within one hundred feet of the tracks on either side of the crossing. Witnesses testified that the driveway over the crossing is too narrow for safety. With regard to this point, our engineer reports that the width of the highway is sixty feet, but that the traveled road is twelve feet wide and the crossing planking eighteen feet in length. A witness testified that the sharp curve in the road immediately southeast of the tracks, resulting from the deflection of the road, as originally laid out in order to avoid an acute angle crossing, is a source of danger, especially for automobiles. He suggested that the crossing would be more safe if the highway were carried across as originally laid out. Our engineer comments on this proposal as follows:

“It is not considered desirable to change the angle of this crossing from 90 degrees to 45 degrees. It may be inconvenient for drivers to slow up at the turns in the highway approaching the tracks; but the lack of convenience is more than balanced by the increased safety resulting from traffic approaching the crossing under control.”

Our engineer recommends, on the basis of an investigation on the ground, that the highway be surfaced and widened to an effective width of twenty-four feet within the right of way, the length of the crossing plank to be changed to conform to the increased width.

Burlington Road Crossing.

The testimony shows that at this crossing the Burlington road, which runs east and west, intersects the respondent's tracks approximately at right angles. The view to the south is comparatively unobstructed from both approaches. The view to the north, however, is seriously obstructed by orchards on both sides of the right of way and by a building in the northeast angle of the crossing. Witnesses stated that southbound trains are not visible from either approach until the traveler is very near the right of way. The limits of the vision to the north are reported by the Commission's engineer as follows:

Distance of point of observation in highway from tracks.		Clear view to north.	Partial view through trees, etc. to north.	Distance of point of observation in highway from tracks.		Clear view to north.	Partial view through trees, etc. to north.
East	50 feet....	2,000 feet	.....	West	50 feet...	2,000 feet	.....
"	75 ".....	600 "	..... (1).....	"	75 ".....	150 "	500 feet
"	100 ".....	350 "	..... (1).....	"	100 ".....	150 "	750 "
"	150 ".....	250 "	..... (1).....	"	150 ".....	100 "	750 "
"	200 ".....	.....	800 feet	"	200 ".....	100 "	(1).....
"	300 ".....	.....	1,000 "	"	300 ".....	100 "	(1).....
"	400 ".....	.....	250 "	"	400 ".....	100 "	(1).....

¹ Partial view to be had through branches, distance not specified.

It is pointed out in the engineer's report that most of the partial views through the branches of trees shown in the above table will be obscured by the foliage in the summer.

The testimony shows that the Burlington road is one of the main traveled highways in this district and connects Burlington

and Kenosha. One witness estimated the traffic over the crossing to be about one hundred and fifty teams and fifty automobiles daily. Another witness testified that about seventy-five teams a day in addition to a considerable number of automobiles is a fair statement of the traffic. A count taken by an engineer of the Commission from 1 p. m. to 3 p. m. on January 30, 1913, shows that in those two hours twenty-two teams passed over this crossing. There are forty car movements daily over the respondent's tracks, of which ten occur after dark. The testimony shows that a serious accident occurred at the Burlington road a few months prior to the hearing.

After an investigation on the ground, our engineer recommends bell protection for this crossing.

In the light of the testimony and of our engineer's report, we find that each of the three crossings considered in this decision is more than ordinarily dangerous and that each requires some form of protection. Traffic conditions, when taken in connection with the limited view of approaching cars at the Berryville and Burlington roads render bell protection at these crossings necessary. At the Hansche road the chief source of danger is the narrowness of the highway, and this should be remedied. The view of the tracks is comparatively unobstructed, and under existing traffic conditions we regard bell protection as unnecessary.

NOW, THEREFORE, IT IS ORDERED:

1. That the respondent, the Chicago & Milwaukee Electric Railway Company, install and maintain at each of the two highway crossings located at the intersections of its line with the Berryville road and the Burlington road, in the town of Somers, Kenosha 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.

2. That the respondent improve the highway crossing at the Hansche road on its line one-fourth of a mile north of Berryville, by increasing the effective width of the highway to twenty-four feet, by planking the crossing to conform to this width, and by properly surfacing the highway, all within its right of way.

Ninety days is considered a sufficient time within which to comply with this order.

TOWN OF RICHFIELD

vs.

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

Submitted Dec. 3, 1912. Decided April 5, 1913.

Petitioner alleges that the first crossing on the M. St. P. & S. S. M. Ry. south of Rugby Jct. station, in the town of Richfield, Washington county, Wis., is dangerous.

Held: The crossing requires protection, and the respondent is ordered to install an electric bell and illuminated sign; plans for track circuits to be submitted for approval.

The petitioner, a regularly organized town in Washington county, Wis., alleges in substance that the first highway crossing on the respondent's line south of Rugby Junction station, in the town of Richfield, 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, denies that the crossing is unusually dangerous to public travel, and therefore asks the dismissal of the petition.

A hearing was held on December 3, 1912, at Rugby Junction, Wis. The town of Richfield was not represented. *H. Pederson* appeared for the respondent.

The testimony shows that at the crossing in question an east and west town line road intersects the respondent's single track line which runs approximately north and south, curving to the west south of the crossing. About two hundred feet east of this crossing the town line road intersects the line of the Chicago, Milwaukee & St. Paul Railway Company. The respondent's tracks lie in a cut, south of the crossing. The report of our engineer shows that this cut is five feet deep one hundred feet south of the crossing, attaining a depth of eleven feet two hundred feet south, and ending about four hundred feet south. The testimony shows that the highway is also in a cut at the crossing

and descends to the track from the west at a considerable grade. Our engineer reports that the bank of this cut in the northwest corner of the crossing is ten feet high and in the southwest corner five feet high. At a distance of one hundred feet west of the crossing the highway cut is about six feet deep. The engineer states that a few trees close to the crossing in the southwest angle, an orchard about two hundred feet south of the highway, a house and farm buildings, and some high land further obstruct the view of trains to the south from the west highway approach. Witnesses testified that persons approaching from the west cannot see trains in either direction until very close to the track. From the east highway approach the view was said to be somewhat better than from the west, but travelers were said to be unable to secure a clear view of trains until very close to the crossing. The report of our engineer as to the limits of vision at the crossing from the west approach shows that for a distance of one hundred feet from the crossing, a view of less than fifty feet north is available, and that beyond that point on the highway trains can be seen as far north as the station, except for the distance between points thirty feet and two hundred feet from the crossing. The view to the south from this approach as reported by our engineer is very poor. When fifty feet west of the tracks, one can see a train only one hundred feet to the south. Beyond that point a partial view of the tops of cars may be had for from one hundred to two thousand feet south of the crossing, varying at different points along the highway, but the report states that these partial views are through the branches of trees and will be largely eliminated when the trees are in leaf. The report shows that from the east highway approach the view to the north is relatively open to the station after the C. M. & St. P. tracks are crossed. To the south, however, only the tops of the cars are visible for six hundred feet, beyond which the view is clear to a point one-half mile from the crossing.

The testimony shows that the highway in question is a main road to Richfield and is used by ordinary farm traffic. No data as to highway traffic were presented at the hearing. Our engineer examined this crossing on February 12, 1913. The weather was cold, the thermometer registering about zero. On that day between 9:30 a. m. and 12:00 noon, and between 12:45 p. m.

and 2:45 p. m. five teams and one pedestrian crossed the tracks. Our engineer reports fifteen regular train movements over the crossing of which nine occur after dark. Some extra trains are also run over this line. Several narrow escapes from accident at the crossing were reported at the hearing.

The engineer of the Commission, after a careful investigation, recommends that this crossing be given bell protection. In the light of the testimony and of the engineer's report, we find that the crossing is more than ordinarily dangerous and requires some additional protection. We believe that it will be rendered reasonably safe under existing traffic conditions by the installation of a bell with a light for night indication, as suggested by our engineer.

IT IS THEREFORE ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, install and maintain at the first crossing south of the station at Rugby Junction on its line, in the town of Richfield, Washington 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.

TOWN OF POLK

vs.

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

Submitted Dec. 3, 1912. Decided April 5, 1913.

Petitioner alleges that the first crossing on the M. St. P. & S. S. M. Ry. north of the station at Rugby Jct. in the town of Polk, Washington county, Wis., requires protection.

Held: The crossing is dangerous and the respondent is ordered to improve the crossing by grading the highway within its right of way to an effective width of twenty-four feet and by removing the top of the bank of the cut in the southeast angle of the crossing.

The petitioner, a regularly organized town in Washington county, Wis., alleges in substance that the first highway crossing on the respondent's line north of the station at Rugby Junction in the town of Polk 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, denies that the crossing is unusually dangerous to public travel. It therefore asks the dismissal of the petition.

A hearing was held on December 3, 1912, at Rugby Junction, Wis. *Andrew Lehner* appeared for the petitioner, and *H. Pederson*, for the respondent.

The testimony shows that at the first crossing north of Rugby Junction the railway runs northwest and southeast. West of the tracks the highway runs north and south and east of the tracks it runs east and west. The crossing is at the angle of the road. It appears from the testimony that the chief point of danger at this crossing is to travelers approaching from the south on the highway, from northbound trains. In this angle the view of trains was said to be obstructed by the banks of the cut in which the tracks lie, by grain growing in the field ad-

jaacent to the tracks, by coal sheds owned by the respondent, and frequently by box cars standing on the sidetrack. It was stated that a traveler must be very close to the tracks in order to see a train approaching from the southeast. The view to the northwest from this approach was shown to be somewhat better than that to the southeast. From the east highway approach the view to the southeast was said to be limited by the banks of the cut. The limits of vision from the south highway approach is reported by our engineer as follows: From fifty feet south of the crossing a partial view to the southeast over the top of the bank can be had for one thousand feet if no cars are standing on the sidetrack, but the view would be further obstructed by cars. From one hundred feet south trains can be seen six hundred feet southeast of the crossing, a further view being cut off by growing brush. From two hundred feet south, the view of trains for the first one hundred feet southeast of the crossing is obscured by brush, but beyond that the view is clear for one thousand feet. From three hundred feet south the view to the southeast is the same as from two hundred feet. For the first hundred feet south on the highway trains can be seen to the northwest for between one thousand and two thousand feet. At two hundred feet south, a clear view northwest for two hundred feet may be had, the view beyond that point being partially obstructed by trees. At three hundred feet south the view to the northwest is the same as at two hundred feet. The tracks of the C. M. & St. P. Ry. Co. are crossed by the highway about eighty feet east of the "Soo" crossing. From the C. M. & St. P. tracks a good view in both directions on the "Soo" line is afforded if no cars are on the sidetracks southeast of the crossing.

At the hearing witnesses complained that the highway approach is too narrow to allow teams to pass each other or to turn around. It was said to be poorly drained and subject to frequent washouts. The testimony shows that the highway descends to the tracks for a distance of four hundred feet south of the crossing. Our engineer's report indicates that the last seventy feet of the south highway approach descends to the tracks on an 8 per cent grade, and that beyond that point the grade is 5 or 6 per cent. He also reports that within fifty feet of the crossing the effective width of the roadway is only

twelve feet, an insufficient width to allow teams to pass each other or turn around.

Witnesses stated that the traffic over the highway is very light, it being used chiefly by the farmers living close to it. Traffic was estimated at less than ten teams daily. Our engineer reports that there are nineteen regular train movements, of which nine occur at night. In addition a number of extra freights are operated. Considerable switching was said to be done over the crossing, and witnesses stated that switching trains do not ordinarily whistle for the crossing. It was also stated that regular trains often fail to whistle for the crossing.

The representative of the respondent at the hearing expressed the opinion that the crossing could be placed in a satisfactory condition by a small amount of grading. He suggested that the grade of approach should be made less steep and that the effective highway should be widened.

After a careful investigation on the ground, our engineer reports that this crossing can be rendered reasonably safe for the existing traffic by widening the highway within the right of way and by removing the top of the bank of the cut in the southeast angle of the crossing. He states that conditions do not warrant bell protection, especially in view of the fact that the frequent switching over the crossing would make necessary a rather complicated layout for a bell.

In the light of the testimony and of our engineer's report, we find that the crossing in question is more than ordinarily dangerous and that it requires some form of protection. We believe that the alterations suggested by our engineer will adequately safeguard public travel under existing traffic conditions.

IT IS THEREFORE ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, improve the first highway crossing north of its station at Rugby Junction by grading the highway within its right of way to an effective width of twenty-four feet, and by removing the top of the bank of the cut in the southeast angle of the crossing.

Thirty days is deemed a reasonable time within which to comply with this order.

TOWN OF LUCAS

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY
COMPANY.

Submitted Jan. 28, 1913. Decided Apr. 7, 1913.

Petitioner alleges that a crossing on the C. St. P. M. & O. Ry. Co., known as Kaspar crossing, 2.6 miles southeast of Knapp, in the town of Lucas, Dunn county, Wis., requires protection.

Held: The crossing is dangerous. The respondent is ordered to install and maintain an electric bell and illuminated sign, plans for track circuits to be submitted for approval. The approaches to the crossing are to be lengthened so that the grade does not exceed 6 per cent.

The petitioner, a regularly organized town in Dunn county, Wis., alleges in substance that a highway crossing located 2.6 miles southeast of Knapp in the town of Lucas, on the respondent's line, is dangerous to human life on account of the surrounding physical conditions. The Commission is therefore asked to require the respondent to properly safeguard this crossing.

No answer was filed by the respondent.

A hearing was held on January 28, 1913, in the village hall at Knapp, Wis. *Fred Stewart* appeared for the petitioner, and *T. D. Sterling* for the respondent.

The testimony shows that at the crossing in question, which is known locally as the "Kasper crossing," the respondent's line running northwest and southeast intersects the highway which runs north and south. Immediately north of the railroad right of way the highway joins another road which approximately parallels the tracks. From testimony introduced by the petitioner, it appears that from the south approach on the highway the view of trains to the northwest is obstructed by trees and brush up to a point about two hundred feet from the tracks where a train may be seen at a distance of one hundred and fifty feet from the crossing. A witness for the respondent testified that from a point on the highway one hundred feet south of the tracks,

trains can be seen one thousand to twelve hundred feet northwest of the crossing. From this approach the view to the southeast was conceded to be relatively free from obstruction. From the north approach, also, the view to the southeast is comparatively unobstructed, but witnesses stated that because of the parallel position of the highway and the tracks it is impossible to see trains from the southeast without looking over the shoulder or putting one's head out of a closed vehicle, until the turn is made very close to the tracks. It was shown that the view to the northwest from the north highway approach is obstructed by trees to such an extent that the traveler must be very close to the tracks in order to see an approaching train. A witness for the respondent testified that from a point within its right of way fifty feet north of the tracks a view of approaching trains may be had 3,200 feet to the southeast and one and one-half miles to the northwest.

The extent to which the view of approaching trains is obstructed at this crossing is described in the report of our engineer as follows:

“A driver going north can see nothing of the eastbound trains and has a very imperfect view of westbound trains until he reaches the south right of way fence fifty feet from the track. Here he can see about eight hundred feet to the east and about one thousand feet to the west. Drivers approaching the crossing from the northwest cannot see eastbound trains until they reach the junction of the roads north of the crossing. At the center of the junction an eastbound train can be seen three hundred fifty feet west of the crossing and a westbound train about six hundred feet east of the crossing. Approaching the crossing from the southeast parallel to the tracks, a driver has a fair view to the northwest, but has to look back over his shoulder to see trains from the southeast.”

The testimony shows that the railroad is on a hill at the crossing, the height of which was estimated at from ten to twenty feet. As a consequence, the grade of approach on the highway is steep, approximating 14 per cent according to an estimate made by a witness for the respondent. Moreover, the width of the approaches is only about eighteen feet, a condition which makes difficult the control of teams if passed by a train while close to the tracks.

It appears from the testimony that the highway has been in public use for between thirty and forty years, and that it connects two important roads which lead to Menomonie and Hudson. Traffic was estimated at from eight to twenty teams a day. Some automobiles use the crossing, especially in summer. Several children were said to cross on their way to and from school. A witness for the respondent testified that there are twenty-two daily train movements over the crossing, thirteen of which occur after dark.

Our engineer recommends, on the basis of a careful investigation on the ground, that the grade of approach on both sides of the crossing be improved so that it will not exceed 6 per cent and that bell protection be installed.

After an examination of the testimony and of our engineer's report, we find that the crossing under consideration is more than ordinarily dangerous and that some additional protection is necessary. We believe that the improvements suggested by our engineer will render the crossing reasonably safe under the existing traffic conditions.

NOW, THEREFORE, IT IS ORDERED :

1. That the respondent, the Chicago, St. Paul, Minneapolis & Omaha Railway Company, install and maintain at the crossing located on its line 2.6 miles southeast of Knapp in the town of Lucas, Dunn 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.

2. That the respondent lengthen the approaches at the crossing described above so that the grade of approach shall not exceed 6 per cent.

Ninety days is regarded as a reasonable time within which to comply with this order.

TOWN OF STANTON

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY
COMPANY.

Submitted Jan. 28, 1913. Decided April 7, 1913.

Complaint was made that the crossing on the C. St. P. M. & O. Ry., known as "McCulloch crossing," located 2.4 miles southeast of Knapp in the town of Stanton, Dunn county, Wis., requires protection.

Held: The crossing is dangerous and the respondent is ordered to install and maintain an electric bell and illuminated sign, plans for track circuits to be submitted for approval.

The petitioner, a regularly organized town in Dunn county, alleges in substance that a highway crossing located on the respondent's line 2.4 miles southeast of Knapp in the town of Stanton, is dangerous to human life 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 the surrounding conditions at the crossing are the same as have existed there for the past twenty-five years; that the view of the tracks is somewhat obstructed by brush growing on private property; that certain improvements should be made by the petitioner; and that it is willing to cooperate with the petitioner to a reasonable extent in improving conditions at the crossing.

A hearing was held on January 28, 1913, in the village hall at Knapp, Wis. *C. R. Freeman* appeared for the petitioner and *T. D. Sterling* for the respondent.

The testimony shows that at the highway in question, which is known as the "McCulloch crossing," the respondent's line runs northwest and southeast, intersecting an east and west township line highway at an acute angle. East of the tracks the highway does not follow the township line, but turns slightly to the north, following the course of Wilson creek. It crosses Wilson creek immediately east of the tracks by means of a wooden bridge. It was stated that this bridge is seventy-three feet from the north

track, and that the deck of the bridge is about seven feet lower than the level of the rail. Thus the approach from the bridge to the track is on approximately a 10 per cent grade. The approach to the bridge from the east is also on an ascending grade. The chief point of danger is to teams approaching from the east from westbound trains. The acuteness of the angle of crossing is such that a driver must look over his shoulder, or put his head out of a closed wagon, in order to see trains approaching from the southeast. But it appears from the testimony that even with unusual care it is impossible to obtain a clear view of trains from the southeast. The view is obstructed by trees and brush growing along the creek and the highway, the obstruction being complete in the summer, and partially so when the trees are bare of leaves. A witness testified that in the summer no view of the tracks to the southeast can be had from a point twenty rods east of the bridge until the bridge is crossed and one is practically on the right of way. It was stated that in winter a person on the bridge can see the tracks for a distance of about twenty rods to the southeast. The testimony shows that the presence of the bridge near the crossing adds to the danger by diverting the attention of travelers from the crossing. Moreover, the grade is such that automobiles are apt to speed up on approaching the bridge. Witnesses stated that the approach is narrow and that this condition makes the control of teams difficult if trains pass while they are near the tracks. A witness for the respondent testified that from a point in the highway at the edge of the right of way, a clear view of the tracks can be had in both directions.

Traffic was estimated at from fifteen to twenty teams a day in winter. During the summer as many as twenty or thirty automobiles in addition to the team traffic were said to use the crossing. On the railroad there are twenty-two regular train movements, of which thirteen occur after dark. Witnesses stated that trains frequently pass the crossing going in opposite directions at about the same time. The maximum speed of trains at this point was estimated by a witness for the respondent to be about thirty-five miles per hour. Several narrow escapes from accident at the crossing were reported at the hearing.

It was suggested, on behalf of the respondent, that conditions at the crossing could be improved by relocating the bridge to the east of the present site. Such a relocation, it was claimed, would

provide an easier grade of approach and a clearer view of trains. The proposed change was not regarded favorably by a member of the town board, who testified that the bridge would have to be higher than at present, that an embankment would have to be built for the highway approach to the bridge, and that the view of the tracks would not be improved. It was also pointed out that to move the bridge to the proposed location would involve changing the channel of the creek at a considerable expense.

From a careful investigation on the ground, the Commission's engineer reports that some additional protection for this crossing is necessary. He recommends bell protection.

In the light of the testimony and of our engineer's report, we find that the crossing in question is unusually dangerous and that it requires some additional protection. We believe that conditions at the crossing could be materially improved by the relocation of the highway bridge so as to allow an easier grade of approach at the crossing. But since this bridge is not within the right of way, action by the town is necessary to accomplish this end. The improvement of the grade of approach would, however, be insufficient to make the crossing reasonably safe. It is our judgment that bell protection is necessary under existing traffic conditions.

IT IS THEREFORE ORDERED, That the respondent, the Chicago, St. Paul, Minneapolis and Omaha Railway Company, install and maintain at the crossing located on its line 2.4 miles southeast of Knapp in the town of Stanton, 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 regarded as a reasonable time within which to comply with this order.

TOWN OF WILTON

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Sept. 23, 1912. Decided April 7, 1913.

The petitioner alleges that the first two crossings on the C. & N. W. Ry. west of tunnel No. 1, known as "Saxby crossing" and "Lyddy crossing" in the town of Milton, Monroe county, Wis., are dangerous.

Held: If from an examination of the physical surroundings it appears that a crossing is dangerous, protection should be provided, even if the highway traffic is small. If the life of one person is necessarily jeopardized by a highway crossing, that crossing is "unsafe and dangerous to human life" (sec. 1797—12d). The element of highway traffic becomes important only as a guide to the nature of the protection necessary. The crossings in question are dangerous and the respondent is ordered to install and maintain at each crossing an electric bell and illuminated sign, plans for track circuits to be submitted for approval.

The petitioner, a regularly organized town in Monroe county, Wis., alleges in substance that the first two highway crossings west of tunnel No. 1 on the respondent's line in the town of Wilton are dangerous to public travel on account of the surrounding physical conditions. The Commission is therefore asked to require the respondent to maintain a flagman at the first crossing and to install a bell at the second crossing, or to provide such other protection as the Commission may deem necessary.

In its answer, the respondent denies that conditions at these crossings warrant the installation of protection as asked for in the petition. It therefore seeks the dismissal of the complaint.

A hearing was held on December 23, 1912, at the village hall of Wilton, Wis. *Jos. C. Lincoln* appeared for the petitioner and *C. A. Vilas* for the respondent.

Saxby Crossing.

The first crossing west of tunnel No. 1 is called locally the "Saxby crossing." The testimony shows that at this point the

highway runs north and south and the respondent's line northwest and southeast, the angle of crossing being about 45 degrees. South of the crossing the highway turns to the east and parallels the railway. The main track and a sidetrack are crossed by the highway. The north highway approach ascends to the track on a sharp grade of 12 or 15 per cent. The grade continues to ascend south of the tracks. The chief danger at this crossing is from trains approaching from the southeast, the view of which from both approaches is seriously obstructed by the banks of a cut on the railway, by the grades on the highway, and by brush along the highway. The obstruction to vision offered by the banks of the cut was said to be increased by brush growing there, which collects snow banks in winter, and cannot be seen through when the leaves are out in summer. It appears that the view at this crossing is also limited at times by the piles of snow banked up by section men in clearing the highway for travel. A further obstruction to the southeast was said to be caused by freight cars standing on the sidetrack, but cars are not frequently there, since a liberal estimate of cars loaded during the year is less than thirty, according to the testimony of witnesses for the petitioner.

The respondent's assistant division engineer submitted data relative to the limits of vision at this crossing. These were verified by the Commission's engineer in a subsequent investigation and found to be substantially correct. Since our engineer's report is fuller, its data are used here rather than the findings of the respondent's engineer. The limits of vision as reported follow:

Distance of point of observation in highway from tracks.	View of trains to northwest.	View of trains to southeast.	Distance of point of observation in highway from tracks.	View of trains to northwest.	View of trains to southeast. ¹
North 25 feet..	2,000 feet	1,000 feet	S. E. 25 feet	2,000 feet	850 feet
50 "	2,000 "	800 "	50 "	1,200 "	700 "
100 "	2,000 "	100 "	100 "	800 "	500 "
150 "	2,000 "	75 "	150 "	500 "	450 "
200 "	1,200 "	75 "	200 "	500 "	400 "
300 "	1,000 "	100 "	300 "	450 "	500 "
400 "	700 "	200 "	400 "	200 "	800 "
600 "	650 "	150 "	500 "	.....	800 "
760 "	1,700 "	75 "			

¹This column indicates a view of the top of the engine, to be had only by looking back over the shoulder.

Witnesses stated that trains frequently pass without whistling for the crossing. It was also pointed out that the noise made by a team approaching over the steep grade from the north also serves to distract the attention of the driver from the noise or whistle of an approaching train.

It was shown at the hearing that the highway is a main road connecting Wilton and Kendalls. Its use, however, is largely local by farm teams, since its condition makes it unattractive to automobile traffic. A count was made in the interest of the respondent for nine days in December from 7 a. m. to 6 p. m. as follows:

Date.	Teams.	Pedestrians.	Date.	Teams.	Pedestrians.
December 14....	14	.....	Dec 19	3	.....
" (Sun). 15....	1	5	" 20	1	.....
" 16....	9	.....	" 21	5	.....
" 17....	10	4	" 22	6	.....
" 18....	8	.....	Daily average..	6.4	1

The town chairman testified that this count is a fair statement of the traffic at that season. He stated that in the winter when the roads are good for sleighing the traffic is about double the summer traffic. It was pointed out by another witness that at the time the count was taken the sleighing was not good. Six passenger trains and two way freight trains pass over the respondent's line daily. The division superintendent testified that the freights pass the crossing at from ten to twelve miles an hour and the passenger trains at about twenty-five miles per hour. Two passenger trains pass after dark. Witnesses told of many instances of narrow escapes from accident at the Saxby crossing.

Lyddy Crossing.

The second crossing west of tunnel No. 1 is known locally as the "Lyddy crossing." It appears from the testimony that at this point the respondent's line runs northwest and southeast, and the highway northeast and southwest, the intersection being at an angle of about 75 degrees. The report of our engineer shows that the northeast highway approach ascends to the track

on a very heavy grade, approximating 17 per cent for the sixty-five feet nearest to the crossing. The southwest approach also ascends to the track, but on a fairly easy grade. The testimony shows that the chief point of danger is on the southwest approach from trains coming from the southeast. Data submitted by an engineer of the respondent at the hearing and later verified by the Commission's engineer, shows that at a distance of fifty feet southwest of the track on the highway, a train is visible only about one hundred and twenty feet southeast of the crossing, and that from points beyond that on the highway trains cannot be seen until they are within about twenty feet of the crossing. The view is completely shut off by the nose of a hill around the base of which the highway curves. From the southwest approach the view to the northwest along the track is good for about seven hundred feet, beyond which it is obstructed by the banks of a cut. From the northeast highway approach a comparatively unobstructed view of the track in both directions is available.

From the testimony it appears that the traffic over the "Lyddy crossing" is usually somewhat lighter than that over the "Saxby crossing." The highway is a crossroad connecting the Wilton-Kendalls road and the Black River road. A count of the traffic for nine days in December from 7 a. m. to 6 p. m. was made on behalf of the respondent, and the data presented at the hearing as follows:

Date.	Teams.	Pedestrians.	Date.	Teams.	Pedestrians.
Dec. 14.....	5	2	Dec. 19.....	10	.....
" 15 (Sun)....	4	7	" 20.....	6	.....
" 16.....	16	6	" 21.....	4	.....
" 17.....	10	.....	" 22 (Sun)....	2	.....
" 18.....	10	.....	Daily average..	7.3	1.7

Witnesses testified that the traffic is heavier in winter than in summer. It was stated that a count taken for a single day by a section hand showed that forty teams used the crossing, but it was admitted that this was under unusual conditions. The farmer living nearest to the crossing estimated that more than fourteen teams a day use the crossing at the most favorable season of the year. He also stated that he had experienced consider-

able trouble in safely driving cattle over the crossing. The train movements are the same as those at the Saxby crossing, but westbound trains were said to attain a speed of from thirty-five to forty miles an hour. Numerous narrow escapes from accident at this crossing were reported.

At the hearing, the dangerous physical condition of each of these crossings was not questioned by the representative of the respondent, but it was insisted that the traffic is too light to justify the expenditure necessary for the installation and maintenance of safety devices. The traffic is admittedly light, but the respondent has voluntarily installed bell protection on its line at a crossing, the physical surroundings and traffic of which are very similar to those in the present case. At the point where the same Wilton-Kendalls road, which crosses at the Saxby crossing, intersects the railway at the first crossing east of tunnel No. 1, a bell with a light was installed without a formal order of the Commission. The traffic there cannot be materially greater than that at the Saxby crossing, since no crossroad enters the highway between the two crossings.

In determining whether a crossing is dangerous to public travel, the important considerations are the physical surroundings, such as the obstructions to vision, the grade of highway, the angle of crossing, auditory conditions, etc., and the frequency and speed of train movements over the crossing. If, upon an examination of these conditions, the crossing is found to be dangerous, protection should be afforded even though the highway traffic is very small. The element of highway traffic becomes important only as a guide to the nature of the protection necessary. A crossing which with only a very limited highway traffic may be rendered reasonably safe by bell protection, might require a flagman, or gates, or grade separation with increased highway traffic. On the other hand, a crossing which is not unusually dangerous as judged by its physical surroundings and the train movements over it, and which with a small amount of highway traffic requires no especial protection, might require varying degrees of protection with increases in the highway traffic. We believe that the position maintained by the respondent in this matter, namely that an admittedly dangerous crossing should not be given protection because of the limited highway traffic, is not well taken. Sec. 1797—12d of the statutes

authorizes the Commission to order protection, "if upon such hearing it shall appear to the Commission that the crossing complained of is unsafe and dangerous to human life." If the life of one person is necessarily jeopardized by a highway crossing, that crossing is "unsafe and dangerous to human life" and should be protected. Both of the crossings in question are regularly used by a number of farmers who have no other access to centers of population. To subject these farmers constantly to unusual danger in order to save the expense involved in installing a safety device, is certainly not justified.

The engineer of the Commission, after a careful investigation of the conditions of these crossings, recommends that each of them be provided with bell protection. He also suggests that the town of Wilton remove all trees and brush growing within the highway limits for a distance of five hundred feet on each side of the crossing.

After careful consideration of the testimony and of our engineer's report, we find that each of the crossings under consideration is unusually dangerous and requires some form of protection. In view of the limited number of train movements and the light traffic over the highways, we believe that bell protection, as recommended by our engineer, will render the crossings reasonably safe.

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, located respectively 5.2 miles east of Wilton and 3.9 miles east of Wilton, in the town of Wilton, Monroe 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.

OSCAR GILBERTSON ET AL.

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted March 11, 1913. Decided April 7, 1913.

The respondent asks that it be relieved from the tentative order (10 W. R. C. R. 495) requiring the stopping of two trains on signal, between Green Valley and Gillette, at the county line road, forming the boundary of Oconto and Shawano counties. The respondent submitted the record of the passenger business at this stopping place for the three months' trial period, kept as required in the former order.

Held: The traffic and the resulting revenue is not sufficient to warrant the stopping of trains at this point. The former order is vacated and the original complaint is dismissed.

REHEARING.

An order in this matter was issued on September 18, 1912, requiring the respondent to stop two of its trains on signal at the county line road, forming the boundary of Oconto and Shawano counties, between Green Valley and Gillette, for a period of three months, and to make a record of the passenger business at that point for the period named, after which the Commission would issue such further order as the facts might warrant. (*Gilbertson et al. v. C. & N. W. R. Co.* 1912, 10 W. R. C. R. 495.)

On January 24, 1913, the respondent filed with the Commission a petition to which the record of passenger traffic at the point in question for a three months period is attached. This petition asks, on the basis of the data submitted, that it be relieved from the duty of making any further stops at the county line and that the original petition be dismissed.

A hearing was held at the office of the Commission in the capitol at Madison, Wis., on March 11, 1913. *C. A. Vilas* appeared for the Chicago & North Western Railway Company. The petitioners were not represented.

The respondent's division superintendent was the only witness. He explained that the data submitted with the petition for relief from the former order were compiled under his direction

from reports made by the conductors of the trains which were stopped at the county line. He said that passengers boarding the train at the county line were asked as to their final destination and the fare to that point included in the statement of revenue. The data submitted show that during the three month period sixty-eight stops were made, thirty-four to allow passengers to board trains and thirty-four to allow passengers to alight. Seventy passengers were discharged at the county line and 66½ full fares were collected from passengers boarding trains there. The total revenue derived was \$18.67. The actual cost of making the stops was estimated at \$20.40.

From the records kept by the respondent for the trial period, as provided in our former order and as presented at the rehearing, it is evident that the traffic at the county line and the revenue derived therefrom is not sufficient to justify the stopping of trains at that place. Therefore, our former order in the matter is hereby vacated and the original complaint is dismissed.

TOWN OF MERTON

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Decided April 7, 1913.

Complaint was made that "Monsted crossing," located on the C. & N. W. Ry. about one mile east of North Lake, in the town of Merton, Waukesha county, Wis., requires protection.

Held: The crossing is dangerous and the respondent is ordered to install and maintain an electric bell and illuminated sign, plans for track circuits to be submitted for approval.

The petitioner, a regularly organized town in Waukesha county, alleges in substance that a highway crossing located on the respondent's line about one mile east of North Lake 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, denies that the crossing is dangerous to public travel and therefore asks the dismissal of the petition.

A hearing was held on January 9, 1913, in the village hall, North Lake, Wis. *Samuel Severson* and *Ernest Trader* appeared for the petitioner, and *C. A. Vilas* for the respondent.

The testimony shows that at the crossing in question, which is known as the "Monsted crossing," the railway runs east and west, crossing a north and south highway approximately at right angles. From testimony introduced by the petitioner, it appears that from the south approach on the highway the view of trains to the west is comparatively unobstructed, but that trains approaching from the east are not visible because of the obstruction to the vision offered by a house and several farm buildings, by trees near these buildings, and by the banks of a cut. The farm buildings are about six or eight rods from the track and obstruct the view until the traveler enters the cut through which the highway descends to the tracks. Witnesses for the

petitioner also testified that from the north approach the view in either direction is obstructed by the banks of a cut through which the railway runs. This cut was said to reach a depth of about ten feet east of the crossing and about twelve feet west of the crossing. The highway descends to the tracks and is also in a depression. It was pointed out that snow banks in the winter, and corn growing in the fields adjacent to the crossing in the summer, further obscure the vision.

An engineer in the employ of the respondent testified that between a point a quarter of a mile north of the tracks in the highway and a point five hundred feet north, the traveler has a clear view of trains for a half mile to the east, but that from that point to the crossing the body of the train is hidden by the banks of the cut. To the west the banks of the cut offer an obstruction to the view of trains for a distance of 350 feet from the crossing on the highway. The witness stated, however, that at no place was the train entirely obscured by the cut, the smoke stack, or the top of the cab being always visible. He admitted that growing corn in the fields adjacent to the cut would further obstruct the view. The respondent's engineer also testified that from the south highway approach the view to the west is clear, but that to the east the vision is obstructed by farm buildings and trees until a point 150 feet from the tracks is reached, after which the view is clear. He expressed the opinion that grade separation was feasible, and estimated the cost of an overhead highway bridge at from \$15,000 to \$18,000. He stated that if any protection should be required, the installation of a bell would be adequate.

It appears from the testimony that the highway is a main traveled road running from Hartland to Monches and Holy Hill, and that it is largely used by traffic bound for Fond du Lac. The number of teams and automobiles using the crossing daily was estimated by various witnesses at from thirty to sixty. The summer traffic was said to be much heavier than that during the winter. It was pointed out that when excursions to Holy Hill occur, about two hundred persons are obliged to use the Monsted crossing. Twelve trains in each direction are scheduled to pass over this line daily. The testimony shows that a serious accident occurred at this crossing and that others have been narrowly averted. Witnesses testified that trains frequently fail to whistle for the crossing.

After a careful examination of the testimony and of our engineer's report, we find that the crossing in question is more than ordinarily dangerous and that some form of protection is necessary. While grade separation appears to be feasible, we believe that the traffic conditions do not warrant the expenditure necessary for that improvement at the present time. It is our judgment that bell protection will render the crossing reasonably safe under the existing circumstances.

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, install and maintain at the highway crossing located on its line about one mile east of North Lake in the town of Merton, 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 regarded as a reasonable time within which to comply with this order.

VILLAGE OF THORPE

vs.

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

Submitted Jan. 30, 1913. Decided April 7, 1913.

Petitioner alleges that the crossing on the M. St. P. & S. S. M. Ry. at Washington street in Thorpe, Clark county, Wis., requires protection.

Held: The crossing is dangerous and the respondent is ordered to install and maintain an electric bell and illuminated sign, plans for track circuits to be submitted for approval. The crossing is to be protected by a flagman during all train movements over the sidetrack.

The petitioner, a regularly organized village in Clark county, Wis., alleges in substance that a highway crossing on the respondent's line at Washington street in the village of Thorpe 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 upon present information the crossing does not appear to be dangerous. It therefore asks the dismissal of the petition.

A hearing was held on January 30, 1913, in the village hall at Thorpe, Wis. *Geo. B. Parkhill* appeared for the petitioner, and *C. B. Culbertson* for the respondent.

The dangerous features of the crossing considered in this proceeding were first brought to the attention of the Commission in connection with a petition relating primarily to the train service and station facilities at Thorpe. At the hearing of that complaint on July 23, 1912, testimony was taken concerning the Washington street crossing. That testimony was introduced without objection as a part of the present case.

The testimony shows that Washington street runs north and south intersecting at right angles the main track and a sidetrack of the respondent's line. From the north approach, the view of

the tracks west is obstructed by a printing office and a warehouse, by the banks of a cut, and by freight cars standing on the sidetrack. It was admitted by the respondent's counsel that if no cars are on the sidetrack a traveler must be within thirty-five feet of the main track in order to see a train approaching from the west, and that if cars are on the sidetrack one must cross it to obtain a clear view of the main track to the west. The view east from the north approach is obstructed at times by cars standing on the sidetrack. No other serious obstruction exists in this angle of the crossing for a distance of about one hundred feet north of the tracks where a lumber office is located. From the south approach the view to the east is comparatively good, the only obstruction being the respondent's depot situated some little distance from Washington street. The view to the west, however, is obstructed by a store building which stands close to the street and only fifty feet south of the main track.

The testimony makes it clear that the traffic over the crossing on the highway is fairly heavy. At first hearing witnesses estimated that from fifty to one hundred teams use the crossing daily. At the second hearing it was stated that a fair average of the traffic the year round, including pedestrians, teams and persons riding in vehicles would be between 1,000 and 1,400 daily. A count of the traffic was made in the interest of the petitioner on December 21 and 23, 1912, between the hours of 7 a. m. and 6 p. m. It was pointed out that school was not in session on these days, and that the traffic was somewhat augmented because of the nearness of Christmas. The data gathered are as follows:

Date.	Teams.	Pedestrians.	Persons in vehicles.	Total persons crossing.
December 21.....	254	659	582	1,241
" 23.....	314	648	672	1,320

Our engineer reports that on the date of his inspection of this crossing, November 22, 1912, during the half hour between 8:30 a. m. and 9:00 a. m., fifty-five pedestrians, eleven teams, two automobiles and one bicycle passed over the tracks at Washington street. Witnesses stated that between forty and fifty school children are obliged to use this crossing four times a day on their

way to and from school. It was also pointed out that the crossing is used to a considerable extent in the early morning before 7 o'clock by farmers hauling to the dairies and cheese factories, and that these movements are not shown in the count which was taken. There are twelve regular train movements over the respondent's tracks of which four occur after dark. Trains which do not stop at Thorpe were said to pass Washington street at a speed of from forty to fifty miles per hour. Witnesses stated that trains often drift over the crossing with steam shut off, making little noise, and that they sometimes fail to whistle at the crossing. Several serious accidents have occurred at Washington street, and a number of others have been narrowly averted.

After a careful investigation on the ground, our engineer recommends that bell protection be installed at this crossing, and that all train movements on the sidetrack be flagged over Washington street by the train crews.

In the light of the testimony and of our engineer's report, we find that the crossing under consideration is unusually dangerous, and that some additional protection is necessary. We believe that the protection suggested by our engineer will render the crossing reasonably safe under existing traffic conditions.

NOW, THEREFORE, IT IS ORDERED:

1. That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, install and maintain at the crossing of its line with Washington street in the village of Thorpe an automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted to the Commission for approval.

2. That the respondent protect the Washington street crossing by a flagman during all train movements over its sidetrack at that point.

Ninety days is regarded as a reasonable time within which to comply with this order.

TOWN OF GRANVILLE

vs.

MILWAUKEE NORTHERN RAILWAY COMPANY.

Submitted Jan. 11, 1913. Decided April 8, 1913.

A complaint was made in regard to the crossing on the Mil. N. Ry. at Highway Five, also known as the Cedarburg Plank Road, in the town of Granville, Milwaukee county, Wis.

Held: The crossing is dangerous. The respondent is ordered to construct and maintain a roadway within its right of way with an effective width of twenty-five feet, retaining the present location of the crossing, and to construct and maintain a wire wing fence within its right of way southeast of the crossing.

The petitioner, a regularly organized town in Milwaukee county, Wis., alleges in substance that the respondent has obstructed a highway crossing on its line known as Highway Five, by erecting fences and a trolley pole within the highway. The Commission is therefore asked to require the respondent to remove these obstructions and to plank the crossing to the full extent of the highway.

No formal answer was filed by the respondent.

A hearing was held on January 11, 1913, at Keipper's Park, town of Granville, Wis. *John F. Hintz* and *John Schmidt* appeared for the petitioner, and *J. St. John* for the respondent.

The testimony shows that at the crossing in question, which is located in the northwest quarter of sec. 13, the double tracked line of the respondent company runs northwest and southeast. The highway, as laid out, runs north and south. In order to avoid an extremely acute angle of crossing, however, the traveled roadway has been diverted along the west side of the tracks for a short distance and carried over the tracks at a less acute angle. A trolley pole is located in the highway as laid out, and a fence separates the roadway from the tracks up to a point near where the traveled roadway now crosses the tracks. Witnesses for the petitioner testified that the width of the roadway had been decreased about one-third by the changes

made by the respondent, and that in its present condition the highway is dangerous to traffic because of the narrowness of the traveled roadway, the added curves, and the obstruction offered by the fence. Members of the town board urged that the trolley pole and fence referred to should be removed, and the highway properly planked for use as originally laid out. The representative of the respondent testified that the changes made by the respondent were for the purpose of rendering the crossing more safe. He expressed the opinion that it would increase the danger at the crossing to restore the road as laid out, as desired by the petitioner.

It appears from the testimony that the traffic over the crossing is fairly heavy. Witnesses estimated the winter traffic at from thirty to fifty teams a day. One witness estimated the summer traffic at from fifteen to twenty-five teams and from fifteen to twenty-five automobiles daily. Another witness testified that the traffic is about three times as great in summer as in winter. Our engineer reports that there are hourly cars in each direction on the respondent's line, and an additional twenty minute service during the summer months for Saturday afternoons, Sundays and holidays.

A member of the Commission's engineering staff has made an investigation of the conditions at this crossing. In his report he states that to restore the road to its original position as desired by the petitioner would decrease the angle of crossing and increase the length of the crossing. If this change were made, the angle of crossing would be so very acute that there would be great danger of wheels being caught between the rail and the planking. The engineer considers the fence and the relocation of the crossing complained of by the petitioner to be betterments, and regards the crossing at its present location as safer than the original crossing would be under existing conditions. He states that as the road is laid out at present, there is sufficient room for a traveled roadway of twenty-five feet, which is the width of the traveled portion of the highway for some distance north of the crossing. He recommends that the present location of the crossing be retained, that a traveled roadway with an effective width of twenty-five feet within the right of way be constructed, and that a wire wing fence be constructed in the southeast angle of the crossing.

After a careful consideration of the testimony and of our engineer's report, we find that the crossing in question is more than ordinarily dangerous and that it requires some additional protection. The changes suggested by our engineer will, we believe, render this crossing reasonably safe under existing traffic conditions.

IT IS THEREFORE ORDERED, That the respondent, the Milwaukee Northern Railway Company, improve the highway crossing on its line located at Highway Five, otherwise known as the Cedarburg Plank Road, in the town of Granville, Milwaukee county, Wis., as follows:

1. Construct and maintain a roadway within its right of way with an effective width of twenty-five feet, retaining the present location of the crossing.
2. Construct and maintain a wire wing fence within its right of way southeast of the crossing.

Sixty days is considered a sufficient time within which to comply with this order.

TOWN OF MILWAUKEE

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Dec. 14, 1912. Decided April 8, 1913.

Petitioner alleges that the Green Bay road and the Port Washington road crossings on the C. & N. W. Ry. in the town of Milwaukee, Milwaukee county, Wis., require protection.

Held: The crossings are dangerous. It is ordered that the respondent station a flagman at each crossing from 6:30 a. m. to 6:30 p. m. daily during the months from May to October inclusive, maintain the bells and illuminated signs now installed in proper condition, and provide at each crossing an effective roadway twenty-four feet wide within its right of way properly planked at the tracks and surfaced.

The petitioner, a regularly organized town in Milwaukee county, Wis., alleges in substance that two highway crossings on the respondent's line, known as the Green Bay road crossing and the Port Washington road crossing, are dangerous to public travel on account of the surrounding physical conditions. The Commission is therefore asked to require the respondent to properly safeguard these crossings.

The respondent, in its answer, denies that these crossings are dangerous, as alleged, and asks that the petition be dismissed.

A hearing was held on December 14, 1912, at the city hall, Milwaukee, Wis. *William Stabelfeldt* appeared for the petitioner, and *C. A. Vilas* for the respondent.

Green Bay Road Crossing.

The testimony shows that the Green Bay road runs north and south and the respondent's line northwest and southeast, the angle of crossing being acute. The railway is double-tracked and is on a fill at this point, necessitating ascending highway approaches from both sides. The respondent's engineer testified that the grade of approach varies from 4 to 5½ per cent. Witnesses for the petitioner stated that from the south highway ap-

proach the view of trains in both directions is limited by orchards until a traveler is within one hundred or one hundred and fifty feet of the tracks. From the north highway approach the view to the northwest was said to be limited by a house and barn, but the view in both directions was conceded to be fairly open. The respondent's engineer stated that the limits of vision at the crossing from points in the highway are as follows:

	View northwest	View southeast
South 50 feet	1 mile	$\frac{3}{4}$ mile
“ 100 “	1 “	$\frac{1}{4}$ “
North 50 feet	1 “	$\frac{3}{4}$ “
“ 100 “	1 “	$\frac{3}{4}$ “

These observations are reported by our engineer to be substantially correct. He further reports that from points two hundred and three hundred feet north of the tracks, a view is afforded about one-half mile northwest and one-half mile southeast. From points in the highway two hundred and three hundred feet south of the tracks the view is substantially the same as that afforded at one hundred feet south.

Witnesses for the petitioner testified that the roadway at the crossing is in poor repair. The respondent's division superintendent explained that the conditions complained of have resulted from the insufficient ballasting on the second track which has been recently laid, and that the roadway will be put into good shape immediately.

It appears from the testimony that the Green Bay road is a main traveled road to Milwaukee and that the vehicular traffic is very heavy. Automobiles go back and forth to a country club. There is a large amount of heavy hauling, farm products, sand, milk, etc. Witnesses stated that hundreds of automobiles and hundreds of teams pass over the road daily. Summer traffic was said to be greater than winter traffic, and it was estimated that as many as a thousand vehicles cross on the busiest days. Ten or twelve school children are obliged to cross the tracks on their way to and from school. The respondent's division superintendent stated that there are thirty-three regular train movements daily and an additional one on Mondays and Tuesdays. Occasional extras are also run. About half of the train movements occur during the day. He testified that the maximum speed of passenger trains is from thirty-five to forty miles an hour at the

crossing, but that freight trains move slowly on account of the proximity of a bridge and the belt line junction.

The danger due to the operation of fast trains over a double track was pointed out by witnesses for the petitioner. A driver crossing behind one train was said to be in danger at times from a train moving in the opposite direction. It was also stated that a driver with a slow moving team is apt to be obliged to wait for a fast train to pass after he has driven on to the ascending highway approach, where the control of a frightened team is difficult. Two fatal accidents and several narrow escapes at this crossing were reported at the hearing.

The testimony shows that the respondent maintains an electric bell at the Green Bay road. Members of the town board testified that bell protection is insufficient in the light of traffic conditions. They suggested that a subway be constructed, but stated that if a separation of grade could not be accomplished, a flagman should be stationed at the crossing. The respondent's engineer stated that the drainage for a subway is poor, but that it might be feasible. The division superintendent expressed the willingness of his company to place a flagman on the crossing during the summer months when the traffic is heavy.

On the basis of two investigations on the ground by members of the staff, our engineer reports that a subway is feasible, but that the cost of construction and drainage would be great. He states that with the existing bell protection there is danger of traffic passing immediately behind a receding train on to the crossing directly in front of an approaching train. The report also points out that on account of the acute angle of crossing there is danger of drivers misjudging relative distances from the crossing. He recommends that the existing bell protection be supplemented by stationing a flagman at the crossing during the summer months.

Port Washington Road Crossing.

The general direction of the highway and the railroad at this crossing is shown by the testimony to be similar to that at the Green Bay road crossing. Witnesses for the petitioner testified that from the south highway approach the view of trains to the northwest is obstructed by a schoolhouse which is located about

one hundred feet from the right of way. South of the schoolhouse on the highway a partial view to the northwest can be had through scattered trees. The view of trains to the southeast from both approaches on the highway is limited by the banks of a cut which begins about four hundred feet southeast of the crossing. A witness for the petitioner estimated the banks of this cut to be fourteen feet high; but the respondent's engineer testified that they were five or six feet in height, and that a train is visible while in the cut. From the north approach on the highway the view to the northwest is partially obscured by brush. The limits of vision from various points in the highway are reported by the Commission's engineer as follows:

	View northwest.	View southeast.
South 25 feet.....	$\frac{1}{2}$ mile	$\frac{1}{2}$ mile
.. 50 ..	$\frac{1}{2}$ "	$\frac{1}{2}$ "
.. 100 ..	$\frac{1}{2}$ "	1,000 feet
.. 200 ..	600 feet ¹	$\frac{1}{2}$ mile
.. 300 ..	$\frac{1}{2}$ mile ²	"
North 25 ..	$\frac{1}{2}$ "	$\frac{1}{2}$ "
.. 50 ..	$\frac{1}{2}$ "	$\frac{1}{2}$ "
.. 100 ..	$\frac{1}{2}$ "	$\frac{1}{2}$ "
.. 200 ..	$\frac{1}{2}$ "	$\frac{1}{2}$ "
.. 300 ..	$\frac{1}{2}$ "	$\frac{1}{2}$ "

¹ Obstructed by schoolhouse.

² View obtained back of schoolhouse.

At the Port Washington road, and northwest of it, the railroad is on a fill and the highway approaches ascend to the tracks, the rise beginning about one hundred and fifty feet south and two hundred feet north. The town chairman testified that the traveled roadway at the crossing is only sixteen feet wide and that teams can pass each other, but do not have room to turn around. The respondent's engineer stated that the traveled roadway varied from thirty to forty feet in width. The report of the Commission's engineer indicates that the highway has a width of fifty feet as laid out, that the crown of the road is about twenty-eight feet wide and that the traveled roadway is about eighteen feet in width. Off of the right of way the traveled roadway is about thirty feet wide. It is stated by our engineer that there is sufficient room on the approaches for teams to pass and to turn around if necessary. The planking and surfacing at this crossing were said by witnesses to be in poor condition, and at a re-

cent investigation by a member of our staff the roadway was found to be poorly graded within the right of way. The division superintendent stated that the poor condition of the roadway was due to insufficient ballast in the newly laid track and that it would be immediately remedied.

Traffic conditions at Port Washington road crossing were said to be substantially the same as at the Green Bay road crossing. One witness stated that the vehicular traffic is as heavy or possibly heavier than that on the Green Bay road crossing. The train movements and the speed of trains are about the same at the two crossings. Two fatal accidents were reported at the hearing, and a number of accidents were said to have been narrowly averted.

The respondent maintains an electric bell at this crossing, but witnesses asserted that it does not always operate properly. Members of the town board expressed the opinion that bell protection is insufficient in the light of the traffic conditions. They suggested the desirability of a subway, but stated that if grade separation cannot be secured, a flagman should be placed on the crossing to supplement the bell protection now afforded. The respondent's engineer testified that a subway is impracticable because of the lack of drainage. The division superintendent expressed the willingness of his company to station a flagman at the crossing during the summer months.

Two members of the Commission's engineering staff have investigated the conditions at this crossing and report that grade separation is not feasible on account of the poor drainage conditions. They suggest that the town of Milwaukee remove the brush south of the tracks and east of the highway and that the railway company arrange with the owners of the property in the northwest and southwest angles of the crossing for the removal of brush. The report recommends that the bell and light now maintained be supplemented by a flagman during the summer months.

After a careful examination 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 and requires some additional protection. It is our judgment that, for the present, protection by flagmen during the daylight hours in the summer months, in addition to the bell pro-

tection now provided, will render these crossings reasonably safe under existing traffic conditions. With an increase in the amount of traffic, however, it may be necessary to station flagmen at the crossings during a longer period of the year, and also after dark. These crossings should be placed in good condition at once, with proper surfacing and planking, and with an effective width of twenty-four feet within the right of way.

NOW, THEREFORE, IT IS ORDERED:

1. That the respondent, the Chicago & North Western Railway Company, station a flagman at each of the two highway crossings on its line, known as the Green Bay road crossing and the Port Washington road crossing, and located in the town of Milwaukee, Milwaukee county, Wis., who shall be on duty from 6:30 a. m. to 6:30 p. m. daily during the months of May, June, July, August, September, and October.

2. That the respondent maintain the bells and illuminated signs now installed at these crossings in proper operating condition.

3. That the respondent provide at each of these crossings an effective roadway twenty-four feet wide within its right of way, properly planked at the tracks and properly surfaced.

TOWN OF ALMENA

vs.

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

Submitted Nov. 29, 1912. Decided April 8, 1913.

Petitioner alleges that the "Turtle Lake road" or "Strobel crossing" on the M. St. P. & S. S. M. Ry., about one mile west of Alma, Barron county, Wis., requires protection.

Held: The crossing is dangerous and the respondent is ordered to install and maintain an electric bell and illuminated sign, plans for track circuits to be submitted for approval.

The petitioner, a regularly organized town in Barron county, Wis., alleges in substance that a highway crossing located on the respondent's line about one mile west of Alma and known as the "Turtle Lake road crossing" 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.

No formal answer was filed by the respondent.

A hearing was held on November 29, 1912, in the village hall at Turtle Lake, Wis. *W. A. Gierhart* appeared for the petitioner, and *J. S. Mitchell* for the respondent.

The testimony shows that the crossing in question is known as the "Strobel crossing." The highway runs east and west and the railway northeast and southwest. The railway is on a curve and lies in a cut north of the crossing. The highway ascends to the track through a cut. Some trees are located north of the highway and west of the railway. Members of the town board testified that the view of trains is satisfactory, except to the northeast from the west highway approach. They stated that in this angle the view is so seriously obstructed by the banks of the cut, the curve in the tracks, and the timber, that a clear view cannot be had until a point about fifty feet west of the tracks is reached. The cut was said to be about five feet deep near the crossing and deeper farther away. The representative

of the respondent testified that on the west highway approach the first view of a train coming from the northeast may be had at a point about seventy-five feet west of the crossing. He said that at this point a train can be seen between seven hundred and eight hundred feet away, and that from a point in the highway fifty feet west of the crossing a view of trains eight hundred feet to the northeast is afforded.

Our engineer reports that the cut extends about seven hundred feet northeast of the crossing, and varies in depth from three to seven feet. The curve in the track begins about forty feet northeast of the crossing and continues about eleven hundred feet. He states that there is a rather heavy growth of poplar and brush in the northwest angle of the crossing. The limits of vision to the northeast are given in the engineer's report as follows:

Distance of point of observation in highway from tracks.	Clear view to northeast.	View of top of train to northeast.	Distance of point of observation in highway from tracks.	Clear view to northeast.
West 25 feet.....	800 feet	.....	East 25 feet	600 feet
" 50 "	800 "	.....	" 50 "	450 "
" 100 "	.....	500 feet	" 100 "	400 "
" 150 "	.....	400 "	" 150 "	250 "
" 200 "	.....	200 "	" 200 "	200 "
" 300 "	50 ¹	.....	" 300 "	150 "

¹ Will be obscured when trees are in leaf.

The testimony shows that the highway is an important road connecting Alma and Turtle Lake. Witnesses estimated that seventy or more teams ordinarily use the crossing in a day. The Commission's engineer reports that there are eight regular train movements over the crossing of which three occur at night. A serious accident and a number of narrow escapes were reported at the hearing.

It appears from the testimony that the cut northeast of the crossing is flared back as far as the limits of the right of way. To cut away the banks further would require the purchase of additional land. The representative of the respondent expressed the opinion that if the timber in the northwest angle of the crossing is removed, the view of trains will be satisfactory. Witnesses for the petitioner, however, testified that the

timber in question does not obstruct the view for a distance of twenty rods west of the crossing, and that its removal would not improve the view for this distance along the highway. The Commission's engineer reports that the removal of the timber would be a material improvement, but that on account of the grade on the highway and the cut on the railway, the view of trains would still be unsatisfactory. While the bank of the cut, taken alone, is not of itself sufficient to obscure a train, the combination of the cut with the grade on the highway is such as to form a serious obstruction to the vision. The engineer recommends that bell protection be installed at this crossing.

After a careful consideration of the testimony and of our engineer's report, we find that the crossing in question is more than ordinarily dangerous and that some form of protection is needed. We believe that bell protection, as recommended by our engineering staff, will render the crossing reasonably safe under the existing traffic conditions.

IT IS THEREFORE ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, install and maintain at the highway crossing on its line, about one mile west of Alma, in the town of Alma, known as the "Strobel crossing," 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.

TOWN OF FARMINGTON

vs.

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

Submitted Jan. 31, 1913. Decided April 8, 1913.

Complaint was made that the crossing on the M. St. P. & S. S. M. Ry., about 550 feet west of the depot at Sheridan, in the town of Farmington, Waupaca county, Wis., requires protection.

Held: The crossing is dangerous. It is ordered that the respondent move the switch so that the south house track is removed from the roadway, construct a suitable roadway over its right of way, keep the south house track clear of cars west of the store building in the southeast corner of the crossing, flag all switching movements over the crossing, and station a flagman to protect traffic whenever a train is uncoupled at the crossing.

The petitioner, a regularly organized town in Waupaca county, Wis., alleges in substance that a highway crossing located on the respondent's line 550 feet west of the depot at Sheridan, in the town of Farmington, 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, says that it will be present at the hearing and go into the merits of the case with the Commission as to whether the crossing is unsafe and dangerous to travelers in its present condition.

A hearing was held on January 31, 1913, at Sheridan, Wis. C. C. Boyce appeared for the petitioner and W. C. Fisher for the respondent.

It appears from the testimony that at the crossing in question the railway runs east and west, and the highway northwest and southeast, the angle of intersection being acute. From the northwest highway approach the view of trains to the east is obstructed by buildings and frequently by cars standing on the passing track. It was said that freight trains often uncouple at the crossing on the passing track, thus leaving cars standing

close to the crossing on both sides. They are sometimes allowed to stand there for several hours and trains pass on the main track while they are there. Witnesses testified that a traveler from the northwest must be practically on the crossing in order to see an approaching westbound train. From the southeast highway approach the view of trains to the west was said to be good, but the view of trains to the east was said to be seriously obstructed by buildings and by cars standing on the south house track close to the highway. Witnesses testified that when cars are on the sidetrack, a traveler must be practically on the tracks to see a train approaching from the east. It was pointed out that the acuteness of the angle of crossing makes it difficult for drivers to accurately estimate the distance over the crossing, and places them in danger of driving in front of trains.

The highway is the main road from Stevens Point to Wau-paca. The traffic was said to be heaviest in the winter. One witness estimated the winter traffic at from fifteen to twenty teams daily, and the summer traffic at eight to ten teams per day. In summer from ten to fifteen automobiles use the crossing. Other witnesses estimated that at the busiest season about fifty teams per day cross the tracks. More than a dozen school children were said to be obliged to cross at this point several times a day. The engineer of the Commission reports that there are seventeen regular train movements over the respondent's line, of which six are night trains. Some extra trains are also operated. A number of accidents and narrow escapes were reported at the hearing.

It was suggested by the representative of the respondent at the hearing, that conditions at the crossing could be made satisfactory by laying out a new road parallel to and on the south side of the right of way, turning at a 90 degree angle to cross the tracks about two hundred feet west of the present highway. Members of the town board expressed the opinion that this change would improve the conditions at the crossing.

Subsequent to the hearing, a conference was held between members of the town board, representatives of the respondent company, and an engineer of the Commission. At this conference the plan for changing the highway was abandoned on account of the objection of the owner of the property southwest of the crossing. It was agreed that the respondent will move the

switch of its south house track 130 feet or more to the east of its present location, thereby removing this track from the traveled roadway; that it will not allow any cars to stand on the south house track west of the store building located in the southeast angle of the crossing; and that it will construct a first class roadway over its right of way, as nearly at right angles as practicable, this roadway to be properly graded, planked, and drained. Our engineer, in his report, approves of the changes outlined at the conference.

After a careful consideration of the testimony and of our engineer's report, we find that the crossing in question is more than ordinarily dangerous and that some additional protection is necessary. We believe that in addition to the alterations agreed upon at the conference, that the crossing should be flagged during all switching movements, and whenever a waiting train is uncoupled at the crossing.

IT IS THEREFORE ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, improve the highway crossing located on its line 550 feet west of the depot at Sheridan in the town of Farmington as follows:

1. Move the existing switch of the south house track 130 feet or more east of its present location.
2. Construct a suitable roadway over its right of way, properly graded, planked, and drained, and as nearly at right angles with the tracks as is practicable.

IT IS FURTHER ORDERED, That the respondent keep the south house track clear of cars west of the store building in the southeast corner of the crossing; that it flag all switching movements over the crossing; and that it cause a flagman to warn travelers of the approach of trains whenever a waiting train is uncoupled at the crossing to allow traffic to pass.

Sixty days is regarded as a reasonable time within which to comply with this order.

J. LAURSEN ET AL.

vs.

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

Submitted Nov. 2, 1912. Decided April 12, 1913.

The petitioner alleges that the station facilities at Milltown, Polk county, Wis., are inadequate; that the depot is inconveniently located; and that the train service is inadequate.

Held: The station facilities are reasonably adequate, and the present location of the depot is the most satisfactory. The respondent is ordered to provide additional seats in the depot, and to construct and maintain a walk between the depot and the main street.

It was stated that trains Nos. 64 and 65, stopping at Milltown only on signal, make regular stops at other stations of less importance. These trains are little used at Milltown and the action of the company is not discriminatory, being justified by operating conditions. The present train service is adequate.

The petition, which is signed by twenty-seven residents of the village of Milltown, Polk county, Wis., alleges in substance that the station facilities provided by the respondent at Milltown are inadequate because of the small size of the depot, and inconvenient because of the location of the depot at a considerable distance from the main street of the village. It further alleges that by reason of the present location of the depot trains pass the crossing of the main street at a rate of speed which renders the crossing dangerous; and that the train service is insufficient in that trains which stop at points no larger than Milltown do not stop there. The Commission is therefore asked to require the respondent to relocate the depot nearer the crossing, to enlarge it to meet the needs of the traffic, and to stop all trains at Milltown which are stopped at stations of similar size.

The respondent, in its answer, alleges that the depot is so located as to permit the standing of trains without obstructing the highways and at the same time to provide reasonable access for the business furnished by the village and the surrounding country. It also avers that the station reasonably accommodates all the business transacted at Milltown. The dismissal of the petition is therefore asked.

A hearing was held on November 2, 1912, at the village hall in Milltown, Wis. *F. E. Yates* appeared for the petitioners, and *Kenneth Taylor* for the respondent.

With regard to the adequacy of the station building at Milltown, the testimony shows that the present structure was built about 1906 when the population of the village was approximately one-third as large as it is now. The depot is a one-story building consisting of a waiting room 15 ft. by 15 ft. in dimension, a freight room 24x25 ft., and an office. A witness testified that the waiting room will seat about fifteen people. The report of our engineer, however, states that seats are provided for only six persons, and that there is sufficient standing room for seventeen persons, making a total of twenty-three people who can occupy the waiting room at one time. Testimony introduced by the petitioners indicates that the daily passenger traffic at Milltown averages about twenty-five or thirty, and that occasionally as many as thirty are waiting for trains at the same time. Data of passenger revenue submitted by the respondent show that for the twelve months ending September 30, 1912, an average of eleven passengers a day boarded trains at Milltown. It was pointed out by witnesses that the station is closed at the hours when trains Nos. 64 and 65 pass, and that persons using these trains are obliged to wait on the open platform. It was stated, however, that these trains pass at an unusual hour and are not heavily patronized.

Testimony was introduced to show that the freight room is insufficient. It appears that it is often so crowded that goods have to be piled on the platform without shelter. In most cases goods of a non-perishable character are so exposed, but at times perishable goods are also piled outside. In such cases, however, they are usually removed immediately by draymen. No specific cases of loss from exposure of goods were reported. The way freights are often late, and witnesses testified that when the freight room is crowded, shippers have to await the arrival of these trains to receive their consignments if they do not wish them to be exposed on the platform.

The conditions at Milltown are not materially different from those prevailing at small stations on all railroads. Occasionally, the station buildings at such places are taxed beyond their capacity, but they are generally sufficient for the ordinary run

of traffic. In a small village, there is usually no necessity for the local freight to remain any length of time at the station. Freight consigned to residents of the village can generally be removed from the platform immediately upon its arrival and discharge. Such freight as is consigned to those residing in the country tributary to the station requires storing and protection. All perishable goods should be placed in the building if the consignee is not present to receive them when they arrive.

While a larger and more commodious station building, particularly for the accommodation of freight, would prove a convenience at times, we do not feel justified at present to require the expenditure needed to enlarge the present building. The respondent's funds available for improvements and betterments for the coming year are very limited, and cannot, under existing circumstances, be increased. Hence, in view of the demand for new depots at many points where none now exist and where they are imperative, and the necessity for the reconstruction of existing depots which have outlived their usefulness, as well as the general betterment of the roadbed, tracks and other structures, some inconvenience will necessarily have to be indulged in by the public at certain stations until a more opportune time has arrived for remedying the situation.

To require the reconstruction and enlargement of substantial structures at the expense of improvements needed at other places, and particularly of the important improvements of roadbed, tracks, bridges, etc., which are required for the safety of operation is not only inadvisable from the standpoint of the railroad company but also contrary to the larger interest of the general public. In this connection it may not be amiss to call attention to the fact that since the acquisition of the Wisconsin Central lines by the respondent company, the latter has spent large sums in improving the road and is now engaged in making extensive improvements which will make such lines equal to those of the best railroads in the country. The public and the Commission should coöperate with the management of the company in the matter of such improvements, and fully appreciate the fact that all requirements for enlargement and improvement of stations cannot be met at one time, but must be taken up and considered gradually so that the most pressing needs may be first supplied.

From the testimony introduced at the hearing it is apparent that if the village continues its growth a more commodious depot must be provided within a short time. In denying the application at the present time we do not mean to leave the impression that the present station building is sufficient in every respect, but that it is not unreasonably inadequate for existing traffic within the contemplation of the statute which imposes upon the company the duty of furnishing suitable and adequate depots and buildings.

The testimony shows that the village of Milltown has a population of about three hundred and that about one hundred persons live within a radius of one-half mile of the village. It was stated that the population of the village has tripled within the past six years. It appears that the surrounding country is a thickly settled farming community. Data submitted by the respondent shows that its passenger and freight receipts for the year ending September 30, 1912, at Milltown were as follows:

Date	Number of outgoing passengers	Revenue from outgoing passengers	Total freight revenue	Total freight and passenger revenue
Oct. 1911.....	400	\$271 45	\$685 64	\$667 09
Nov. 1911.....	264	198 31	704 75	903 06
Dec. 1911.....	312	175 06	683 97	859 03
Jan. 1912.....	263	181 37	1,033 38	1,214 75
Feb. 1912.....	258	236 93	816 71	1,053 64
Mar. 1912.....	334	231 79	1,366 49	1,598 28
Apr. 1912.....	330	239 94	859 24	1,099 18
May 1912.....	271	153 39	947 97	1,101 36
June 1912.....	495	317 48	810 98	1,128 46
July 1912.....	348	299 27	832 87	1,132 14
Aug. 1912.....	406	307 09	729 14	1,036 23
Sept. 1912.....	502	339 39	839 91	1,179 30
Total	4183	\$2,951 47	\$10,321 05	\$13,272 52
Monthly ave.....	348	\$245 97	\$860 08	\$1,106 05

It should be noted that this table does not include the inbound passenger revenue, the addition of which would materially increase the passenger revenue attributable to Milltown. It was stated by witnesses that the business done by the respondent at Milltown is greater than at other stations which have been accorded better depots than Milltown has. Lewis, Siren, and Danburg were cited as stations better equipped but with a smaller amount of business. A witness for the petitioners testified that the combined freight and passenger receipts of the

respondent average from \$2,800 to \$3,000 per month. The data from the respondents' books included in the above table do not bear out this statement, for when the revenue from outgoing passenger traffic is doubled to allow for incoming passenger revenue, the monthly average for freight and passenger revenue combined is only \$1,352.02.

Considerable emphasis was laid upon the inconvenience occasioned by the present location of the depot. It appears that the depot stands about 1,000 feet northeast of the crossing of the respondent's line with the main street of the village. It lies wholly within a strip of land donated by the village to the respondent in 1904 on condition that a suitable station be constructed there. No walk is provided for the use of passengers between the main street and the depot, with the result that passengers must walk in the roadway or along the tracks. In muddy or snowy weather most of the passengers were said to use the right of way. One witness estimated that 90 per cent of those who walk to the depot use the tracks. There are no lights operated between the depot and the main street. A large hole in the track bed was said to increase the danger to which persons walking along the tracks after dark are subjected. It was urged by witnesses that the relocation of the depot nearer the main street would not only make it more convenient for passengers, but would also detract from the danger of the highway crossing by reducing the speed over it of all trains which stop at Milltown. The respondent contends that the present location is best for the safety of public travel on the highway for the reason that in its present position the depot does not obstruct the view of approaching trains.

Our engineer points out in his report that trains stop on an easy grade at the station as now located, but that if the station were moved closer to the highway northbound trains would be obliged to stop on a 0.35 per cent ascending grade. He states, moreover, that northbound trains would also block the main street while stopped at the station if it were relocated nearer the crossing, which would necessitate cutting the trains if stops of more than ten minutes were required.

The testimony shows that train No. 64, northbound, which is scheduled to pass Milltown at 2 a. m., and train No. 65, southbound, which is scheduled to pass Milltown at 3.38 a. m., stop

there only on signal. Witnesses testified that these trains make regular stops at other stations of less importance than Milltown. It was admitted, however, that they are little used at Milltown, and that frequently no passengers desire to ride on them. It also appears from the testimony that the schedule is so arranged that residents of Milltown can reach the Twin Cities, transact business and return the same day without using the trains which the petitioners desire to have stopped regularly. Furthermore, it was shown that stations north of Danbury on this line have two trains a day less than Milltown.

The respondent, in its brief, points out that nowhere on this line do trains Nos. 64 and 65 make regular stops as close together as are Milltown and Luck, a distance of only 3.6 miles, and this statement is borne out by an examination of the respondent's timetables. It urges that its action in making Milltown a flag station is therefore justified by operating conditions.

While the passenger waiting room is not as large as might be desired, it appears that it is reasonably adequate for the passenger traffic obtaining at the present time. It is apparent, however, that additional seats should be installed. With regard to the location of the depot, we are convinced that the present location is the best when all conditions are considered. From an operating standpoint the present site is the more favorable, as pointed out in the respondent's brief and in the report of our engineer. Furthermore, we think that the advantage of a decreased speed of trains over the crossing to be obtained by relocating the depot nearer the main street are offset in a large measure by the limitation of the view of trains from the crossing which it would necessarily cause. From the testimony taken and from our engineer's report it appears that the crossing at the main street has certain dangerous features and may need some additional form of protection. A petition from the town or village authorities is necessary, however, to give the Commission authority to order further protection at the crossing. In view of the fact that the land for station purposes was donated by the village of Milltown, it seems only reasonable that the respondent provide a proper walk for pedestrians between the depot and the main street of the village. Such a walk is necessary to prevent the dangerous practice of walking to the depot along the tracks, and is needed to direct strangers, who alight from trains after dark, to the village.

The train service afforded Milltown appears to be adequate under existing traffic conditions. It was not shown that passengers have been seriously inconvenienced by the rule which makes Milltown a flag stop for trains Nos. 64 and 65. The chief complaint seems to be that other stations of less or equal importance with Milltown are regular stops for these trains, and that this involves discrimination. We do not find any discrimination in this matter, however, since it appears that the action of the company is justified by the operating conditions. To require the respondent to stop early morning trains regularly at a point where there are often no passengers and where there are no operating reasons for regular stops, would obviously be unjust.

NOW, THEREFORE, IT IS ORDERED:

1. That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, provide several additional seats in the waiting room of the depot at Milltown, Polk county, Wis.
2. That the respondent construct and maintain a proper and suitable walk for pedestrians between its depot at Milltown and the main street of the village.

Sixty days is considered a reasonable time within which to comply with this order.

JOHN BOWERS ET AL.

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted Nov. 12, 1912. Decided April 19, 1913.

The petitioner alleges that the C. M. & St. P. Ry. Co. fails to furnish sufficient cars to move the large crops of sugar beets and cabbages at Sylvania, Wis. There is a tendency to a shortage of cars in the fall, but respondent contends that the available equipment was equitably distributed. It appears that there has been no great difficulty in supplying empties for cabbages. The sugar beet factories do not unload the cars as fast as they can be shipped, and the resulting congestion accounts in a large measure for the failure of the railway company to supply cars when needed by the shippers. The factories are not represented in this case, and, in view of the congestion incident to the short season, it does not appear that they can be charged with negligence (sec. 1797—10m). Considerable inconvenience resulted in that shippers were not kept informed as to when shipments could be made.

Held: The factories should make definite arrangements with the railroads and the shippers respecting the number of cars and the days on which they will be available at each station, and, if for any reason shipments cannot be provided for, the railroads should notify the shippers in advance. In view of the fact that the manufacturers control both the shipment and delivery under their contract with the growers, no duty rests upon the railroads to furnish more cars than the manufacturers direct. The petition is dismissed.

The petition in this proceeding sets forth that the petitioners raise large amounts of sugar beets and cabbages; that Sylvania, on respondent company's line, is their shipping point; that respondent company has failed to furnish sufficient cars to move these crops as fast as the farmers are prepared to deliver them; and that this failure subjects the petitioners to damages for heavy losses through deterioration. Wherefore, petitioners pray that respondent company be required to supply sufficient cars to move the beets and cabbages and to furnish the cars as needed. Petitioners also pray that respondent company be required to put the roadway, adjoining the sidetrack at which the loading is done, into proper condition.

The answer of the respondent alleges that in the fall of the year there is a shortage of all classes of equipment, that the distribution of available empties is made as equitably as possible, that the beet sugar companies in the state fail to unload the shipments of beets as fast as received, and that if they did so, respondent would be in a position to furnish the sugar beet growers cars when needed. The answer further alleges that until heavy rains set in during the preceding summer the driveway complained of was in good condition and that a large amount of material has been shipped in to again put the roadway in proper repair. The respondent therefore prays that the petition be dismissed.

A hearing was held November 12, 1912, at the office of the Commission in Madison. *John T. Gettings* appeared for the petitioner, and *J. N. Davis* for respondent.

Because of the inability of the Commission, under existing circumstances, to grant the relief asked by the petitioners, the matter was held in abeyance until a further investigation could be made. It was the intention to obviate complaints of like character during another season, if possible.

Sylvania is a shipping point in the southeastern corner of the state, on the Racine and Southwestern division of respondent company's system. It is about two and one-half miles from Corliss, the junction point of the above division and the Chicago & Milwaukee division, and about ten miles from Racine. The agent at Corliss also has Sylvania under his control, and cars for the latter point must be ordered through him. According to the census of 1910 Sylvania has a population of 52, Corliss of 525 inhabitants.

This section of the state, Racine and Kenosha counties, was called in the interstate commerce commissions' hearing at Chicago in 1906 the greatest cabbage producing center in the United States. It is apparently only in comparatively recent years that the shipment of sugar beets has assumed large proportions in that district. The companies buying beets from the farmers shipping from Sylvania are the United States Sugar Company, the Rock County Sugar Company of Janesville, and the Pope Sugar Company of Riverdale, Chicago, which control the output of 430 acres tributary to the station. According to the testimony there were also some two hundred acres in cabbage around Sylvania, during the past year. The cabbage crop is taken care of largely through individual buyers.

The first car of sugar beets from Sylvania was shipped October 7. It was estimated that the crop in 1912 ran about sixteen tons to the acre, and that an average carload was thirty tons. On the basis of these figures the sugar beet crop around Sylvania last year was 6,880 tons, requiring about 230 cars for its disposal. From October 7 to November 12 the United States Sugar Company had shipped seventy-four cars, the other two companies fifteen, a total of eighty-nine cars, or a little over a third of the total estimated cars needed to move the crop. The beets are less perishable than the cabbages, but under alternate thawing and freezing are subject to decay, and will not thus be accepted by the manufacturers. Apprehension of this, in view of the lateness of the season, was largely responsible for the complaint.

It appears that on some days the petitioners have had no cars whatever, and other days four or five, but that at no time has there been a sufficient number to adequately care for the shipping of this crop. And that although the sidetrack where the loading is done has room for from eighteen to twenty-two cars, depending on their length, the respondent company furnished, on an average, from the time shipments commenced to the time of the hearing, only three cars a day. The lack of a sufficient number of cars, as well as the uncertainty as to whether at any given time there would be any cars whatever, resulted in a great deal of inconvenience and some hardship to the petitioners. It is claimed that as many as sixty-five loads of beets waiting for cars have been counted at one time. Instances were stated where the farmers, arriving early in the morning, finished loading the cars by noon, and waited several days for the arrival of other cars, in order that they might be sure of getting the beets away. At other times they piled the beets on the ground near the track, and went back to the fields for other loads and then loaded from the pit to the car, when cars came. Witnesses told of having seen one hundred tons of beets piled on the ground in this way.

The experience of one of the petitioners, living three-quarters of a mile from the station, illustrates the situation. He testified that his yield of sugar beets was 200 tons, of which he had shipped 125 in the preceding forty days, and that he could have moved this amount in six days and the whole crop in ten days, if he had had the cars.

Apparently the sugar beet traffic has certain features which present difficult problems to both manufacturer and carrier. Speaking of this traffic *In re Appl. C. M. & St. P. R. Co. et al.* 1911, 8 W. R. C. R. 278, 279-280, the Commission said: "The shipping season is very brief; the commodity is relatively very bulky and requires a great many cars and a large storage and unloading capacity at the beet sugar factories to which it is shipped. The beet is grown in nearly all parts of the state, and shipped in from hundreds of stations." The United States Sugar Company ships its beets from Sylvania and sixty other stations to its Madison plant.

Both beets and cabbages are harvested from about the first of September until December. Refrigerator, stock and box cars are used for the cabbages, depending on the time of the shipment. The beets are loaded in gondolas. In the fall of the year there is a heavy demand for this class of equipment, both for beets and for moving the winter's coal supply. It seems that there are three sand and gravel pits on the division in question which also require the gondolas. According to the testimony of the chief train dispatcher of this division, there was on his division at the time of the complaint a call for about sixty coal cars daily for beets alone. He further testified that when the shortage became extreme, the superintendent of transportation gave orders that cars should be furnished for the sugar beet traffic in preference to the sand and gravel, which was done until the failure of those shipments held up important work at the larger centers.

Of course, it is true that there is a tendency to a shortage of equipment on the railroads of the country in the fall of the year. Respondent contends, however, that the available equipment has been equitably distributed on a pro rata basis and that Corliss, including, of course, Sylvania, which is under its control, being a junction point, has had, if anything, more than its fair share, as much equipment is available there first.

In spite of the general shortage in the fall of the year, respondent alleges that, if the manufacturers unloaded the cars promptly, which respondent charges they fail to do, it would be able to supply the beet growers with cars as fast as needed. Respondent contends that it is confronted with the same difficulty every year, that the beet factories do not unload the cars

as fast as they are loaded and delivered, which results in delay to the cars and congestion at the terminals and sidetracks along the division where the cars are set out and held. This would seem to be true, though, owing to the brief, concentrated movement of the crop, it is not altogether clear how far this could be avoided.

From October 19 to October 30, inclusive, the unloading at the factories is illustrated by the following figures:

	Average loaded cars on hand at 6 p. m.	Average daily unloaded.
Madison.....	49.0	12.8
Janesville.....	126.8	20.4
Menomonee Falls.....	52.4	14.7
Chippewa Falls.....	143.4	17.4
Total.....	371.6	65.3

The foregoing statistics do not include cars held out at various places in order to save congestion at unloading points.

The situation at Janesville and Madison from November 1 to 11, inclusive, was as follows:

	Average cars on hand.	Average cars spotted.	Average cars unloaded.	Delays in days.
Janesville.....	75.1	16.4	12.9	521
Madison.....	46.5	13.9	13.7	456
Total.....	121.6	30.3	26.6	977

According to respondent's chief train dispatcher on the division in question, a blockade in moving shipments to Janesville and Madison was also in force for a time during the shipments last fall. The embargo at Janesville lasted from ten days to two weeks, and the one at Madison for four or five days.

It seems that a somewhat similar condition prevailed in the fall of 1911. The respondent company in this case applied at that time for the suspension, as far as it effected sugar beets, of ch. 358, laws of 1911, which requires common carriers to move carload freight from the point of shipment to the point of destination at an average of seventy-five miles for each twenty-

four hours. In that decision, *In re Appl. C. M. & St. P. R. Co.* 1911, 8 W. R. C. R. 101, 103, the Commission said: "From the car reports of the superintendents of the various divisions of the petitioner's lines that are involved herein, it appears that the daily loading of cars with sugar beets for the sugar factories, at Janesville, Madison, and Menomonee Falls considerably exceeds the average number of such cars that are daily unloaded at these factories, and that for this reason the petitioner now has on its tracks at various places some 385 cars loaded with sugar beets which the factories had so far failed to unload." To obviate demurrage charges the United States Sugar Company instructed the railway companies that it would accept but a limited number of cars daily during the season of 1912. Nevertheless, in 1912 the average daily excess of cars loaded over cars unloaded, was, for the four points in the preceding tabulation, during the last part of October over 300. This does not include Janesville, which was also said to have been badly congested, nor does it include cars held out along the divisions involved to avoid congestion at the terminals.

Respondent's chief train dispatcher on the division in question testified in this case that at the time of the hearing there were no cars of the kind required for the beet shipments on his division and not in use. As regards the cabbage crop, of which about one-third had been taken care of at that time, he testified that shippers at Sylvania had been furnished their fair share, on a pro rata basis. He stated further that the company makes every effort to anticipate the demand for cars for the beet shipments, using all their own available cars of the class needed, and as many foreign cars as possible. It appears that the only time during the year that there is such a heavy demand for gondola cars is in the fall. Respondent's agent at Corliss claimed that early in the season empties had been furnished for the cabbage loading at Sylvania and later taken out because not loaded. He believed that about seventy-five per cent of the orders for empties for cabbage had been filled. It would seem that there has been at least no great difficulty in this respect.

As has been stated, the shortage in equipment in the fall of the year is not usually confined to any one state. On the other hand, it is apparently very difficult for the sugar factories to keep up with the shipments at the height of the season. In one

case before the Commission last fall, involving sugar beets and cabbages, in this section (*Savage et al. v. C. M. & St. P. R. Co.* 1912, 10 W. R. C. R. 442, 443), it was stated that the sugar refineries gave premiums for late shipments, paying 25 cts. per ton more in November than in October, and 25 cts. more in December than in November. The companies, at least the United States Sugar Company, the largest in the field, is under no obligations to take the beets at any one time, nor apparently responsible for caring for the crop after the same is harvested. This duty is placed upon the farmer, as the contract provides that "Beets that cannot be delivered immediately after harvesting should be formed in piles * * *" specifying in some detail the manner, cover, etc., the object being, of course, to prevent deterioration as far as possible. The two points, time and decay, are covered by the following clause in the contract: "All beets shall be delivered by the grower in such quantities as may be required by the company during the months of September, October, November and December, and the grower must protect the beets to prevent wilting, freezing, or deterioration. The company shall not be liable to receive or pay for beets which are rotten, or otherwise unfit or undesirable for making sugar." The providing of cars is not directly covered by the contract, which simply states that the grower shall cultivate and harvest the sugar beets "and deliver them in good condition to the company's factory at Madison, Wis." The ordering of cars, in the present case at least, is attended to by the company's representatives at the shipping point.

It was stated that a letter had been sent out by the company to all the farmers, advising them that on account "of the great shortage of cars this season" it would be necessary that a portion of the beets should be held for delivery during November and December, and that these should therefore be put in piles and covered as a protection against frost. This letter was apparently somewhat misleading to the farmers, as it would seem that the congestion at the factories was fully as much responsible for the car shortage as any unreasonable lack of equipment on the part of the respondent company. Doubtless it is an added expense to the farmers to be obliged to put their beets in piles. It is difficult to see how this is to be avoided, however, as on the whole the difficulties with which the shipper is con-

fronted in here is the highly seasonal nature of the traffic. However, there appear to be one or two points as to which the situation should be improved.

The petitioners contend that the uncertainty as to when there would be cars and whether there would be any whatever, was one of the most trying features in the situation last fall and resulted in many useless trips. The agent in charge of the depot at Sylvania testified that he notified the farmers by telephone to the best of his ability when there were no cars, but apparently he was not informed as to when cars would be forwarded. The petitioners say that if they could have cars three times a week, or at regular intervals, they would be satisfied, as they would know what to do.

It would seem from the record that petitioners were not informed as to the blockade declared on shipments for Madison and Janesville. Nor did the company's representative at Sylvania ever receive orders not to ship. It should be here noted that when a company declares a blockade at any point, it requests the railroad to discontinue the shipments thereto. The railroad then notifies the agents at the stations involved to furnish no more cars for shipments to the point in question. In a case like the present one, where the United States Sugar Company declares a blockade in Madison, it results in shutting off nearly all the beet shipments from Sylvania. In such cases it would only seem just that the growers should be informed as to the real situation, and why they are not furnished with cars.

As stated in one of the cases already alluded to (*In re Appl. C. M. & St. P. R. Co.* 1911, 8 W. R. C. R. 101, 104), it "is the duty of shippers to so regulate their shipments that there is a reasonable and fair relation between the amount of freight that is forwarded to them and the amount of freight they are equipped to handle." Sec. 1797—10m of the statutes provides, among other things, that the "consignee must use due and reasonable diligence in unloading all cars * * *." The factories were not represented in this case, and, on the face of the record and in view of the peculiar character of the sugar beet traffic, the Commission is not prepared to hold that there has been negligence on their part in taking care of shipments. It would seem obvious, however, that the factories should make definite arrangements with the railroads and the shippers re-

specting the number of cars and the days on which they will be available at each station, and if for any reason the railroads cannot at any time furnish cars, they should notify the shippers in advance of such inability.

Under the circumstances it is impossible to impose any duty upon the railroads in the premises. If the manufacturers were willing to receive the beets when delivered we should require the railroads to furnish cars as needed by the shippers, but as the manufacturers control both the shipment and delivery under their contracts with the growers, no duty rests upon the railroads to furnish more cars than the manufacturers direct. For the reasons stated, no order can be entered herein and the petition will be dismissed without prejudice.

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

A. G. ROETHE

vs.

MINERAL POINT AND NORTHERN RAILWAY COMPANY.

Submitted July 30, 1912. Decided April 19, 1913.

Complaint is made that one mixed train on the Mineral Pt. & N. Ry. between Highland and Mineral Point, does not afford adequate service. The petitioner asks that the respondent be required to run two mixed trains according to the schedule previously in effect, or that changes be made in the schedule for one train to improve the passenger service. The line is operated at a substantial loss, and it appears doubtful whether the road can be made to pay expenses, even with the operation of only one train under the most favorable circumstances. The freight business seems to be adequately taken care of with one train and crew under the present schedule, and the estimated increase in passenger business is not sufficient to warrant the operation of an additional train.

Held: Any change in the present schedule does not seem practicable. The petition is dismissed.

The petition in this proceeding sets forth that prior to June 2, 1912, the Mineral Point & Northern Railway Company operated two mixed trains each way daily between Highland and Mineral Point, Wis., thereby rendering reasonably adequate service; that on June 2 the respondent company took off one of these trains; and that, as a result of this change, the service afforded the village of Highland was rendered grossly inadequate to meet the needs of that community. The petitioner prays that respondent railway company be required to return to the schedule in force prior to June 2, or, that being deemed impracticable, to run the one train on a schedule approximately as follows: Leave Highland 9 a. m. and return at 5 p. m.

No answer was filed by respondent.

The case came on for a hearing July 30, 1912, at the office of the Railroad Commission in Madison. The following appearances were entered: *Platt Whitman* for the petitioner, and *Calvert Spensley* and *W. D. Brown* for the respondent.

The decision in this case has been delayed for the purpose of ascertaining the financial results of operation for a longer

period under the one train schedule than that available at the conclusion of the hearing, as well as for investigation of other matters involved in the proceeding.

The Mineral Point & Northern Railway Company extends from Mineral Point to Highland, a distance of some thirty miles, crossing the Madison-Lancaster branch of the Chicago & North Western Railway at Whitson Junction, eight miles south of Highland, the end of the line. Four miles south of Whitson Junction is located the village of Linden. Highland, Linden and Mineral Point are the only towns served by the line given any population in the census. Highland has approximately 1100, Linden 600, and Mineral Point 3000 inhabitants. Highland and Linden are dependent on the respondent company for railroad service. Mineral Point, however, is also served by the Mineral Point division of the Chicago, Milwaukee & St. Paul Railway. Of the 30.6 miles operated by the Mineral Point & Northern, 26.4 is over the company's own line. The balance, 4.2 miles, from Highland Junction to Mineral Point, is over the Chicago, Milwaukee & St. Paul and is operated under a trackage agreement with that company.

The two train schedule in force prior to June 2, 1912, and the one train schedule, which displaced it, follow:

TWO TRAIN SCHEDULE PRIOR TO JUNE 2, 1912.

Trips out (Read Down)			Return Trips (Read Up)	
9:10 a. m.	1:30 p. m.	Highland	11:20 a. m.	5:15 p. m.
Time not shown by files in the case		} Whitson Junction Linden Highland Jct. Mineral Point	Time not shown by files in the case	
11:45 a. m.	4:00 p. m.		8:00 a. m.	1:30 p. m.

ONE TRAIN SCHEDULE SUBSTITUTED FOR THE PRECEDING.

Trip Out (Read Down)			Return Trip (Read Up)	
12 noon		Highland	10:50 a. m.	
12:25 p. m. (arrive)		Whitson Junction	10:25 a. m. (leave)	
12:30 p. m. (leave)			9:45 a. m. (arrive)	
12:45 p. m. (arrive)		Linden	9:30 a. m. (leave)	
1:00 p. m. (leave)			9:10 (arrive)	
2:00 p. m.		Highland Junction	8:30 a. m.	
2:25 p. m.		Mineral Point	8:05 a. m.	

All the trains operated on this line are mixed trains. One detail of operation before the change in schedule, not shown by the table, is this: The train leaving Mineral Point at 1:30 p. m. reached Whitson Junction in time for the afternoon North Western passenger trains. After the latter trains had departed the former train, or possibly the engine and coach—the record does not show—returned to Linden, giving Linden direct afternoon connection from Whitson Junction, and then passed on to Highland. After the change in schedule all doubling back between Highland and Highland Junction was eliminated, and the two trains ran straight through from one terminus to the other.

The net result of the change of schedule was that it thereby became impossible for the people of Highland to depart and return by train the same day. Owing to the schedule of the passenger trains on the Madison-Lancaster branch of the North Western the town of Linden was placed in the same situation. This is because the southbound Mineral Point & Northern train passes Whitson Junction several hours before the arrival of the afternoon passenger trains on the North Western. It should be here stated that the only direct passenger connections now made by the Mineral Point line are with the morning North Western trains at Whitson Junction. It is possible to leave Highland on the noon train south and wait at the Junction, but, as this involves several hours waiting without shelter, the stage, making more direct connections, is usually preferred. No passenger connection whatever is made at Mineral Point, since the first passenger train on the Chicago, Milwaukee & St. Paul Railway does not get into Mineral Point until 2:10 p. m., whereas the Mineral Point & Northern train leaves at 8:05 a. m., and the last train out of Mineral Point on the Chicago, Milwaukee & St. Paul Railway leaves at 1:20 p. m., a little over an hour before the arrival of the Mineral Point & Northern train on its return trip south. The following table shows the present situation at Whitson Junction, as far as passenger service is concerned:

	Morning		Afternoon	
	Westbound	Eastbound	Westbound	Eastbound
Chicago & N. W. Ry..	10:05	10:15	4:20	3:36
	Northbound		Southbound	
Min. Pt. & N. Ry.....	9:45 (arrive)		12:25 (arrive)	
	10:25 (leave)		12:30 (leave)	

Bearing in mind that Linden is south of Whitson Junction and Highland north, it will be seen that at present Linden has one direct connection coming from Whitson Junction, but none going to such point. Conversely, people at Whitson Junction, coming from Highland or bound for Linden, have to wait for connections, the former from 12:25 p. m. to 3:36 p. m. or 4:20 p. m., the latter from 10:05 a. m. or 10:15 a. m. until 12:25 p. m. Before the change the afternoon northbound train, after making connections at Whitson Junction, backed down to Linden before going on to Highland, so that each town had direct connections out and back the same day. For instance, it was possible for the people of Linden or Highland to go to Dodgeville, the county seat, and return the same day. As a further result Highland, Linden and Mineral Point each had one mail. This was remedied by the use of a stage in the case of Highland, and at the hearing a similar course was suggested for Linden by her representative. The Commission, of course, has no jurisdiction as far as the mail is concerned. The time between the inbound morning train and the outbound afternoon train at Highland has been shortened from two hours and ten minutes, to one hour and ten minutes. It is claimed that the northbound train is frequently late. The result is that little or no time is given to transact business and get out of town by train the same day, or to get a letter from the incoming train and send a reply on the outgoing train. The morning train from Highland prior to June 2, i. e. the train which was taken off, made it possible to connect with the afternoon passenger train going east from Mineral Point on the Chicago, Milwaukee & St. Paul Railway. The Wells Fargo & Co. Express handles the express over this line and the Chicago, Milwaukee & St. Paul Railway. There is no interchange at Whitson Junction, so that taking off this train also meant that express from Highland and Linden must remain over night at Mineral Point. It is contended that this would work a hardship in case of poultry shipments.

To take care of the freight en route and make the run, it takes the mixed train now operated generally a little over three hours. If one train were to give the towns close connections to and from the four North Western passenger trains, and serve Mineral Point also, making passenger connections at that point, there would be little or no time for the freight traffic. The

freight traffic is much the largest source of income. It is a question whether the road may be justly ordered to run another train as prior to June 2, and if not, whether it is feasible to start the one train from Highland instead of Mineral Point, and, by backing from Linden to Whitson Junction in the morning and vice versa in the afternoon before going on, give each town service out and back the same day.

The line was built in 1904. Apparently at that time the intention was to operate a freight train and another train to take care of the passenger service. The management put on two mixed trains. The road has been a losing proposition from the start. In *Sandoval Zinc Co. v. Mineral Point & Northern R. Co.* 1906, 1 W. R. C. R. 99, 101, the Commission said:

“The Mineral Point & Northern Railway Company has been in existence but a short time and is only thirty miles long; from the sworn report of the company filed in this office it appears that it began business in the fall of 1904, and that from the time it began up to December 31, 1905, a period of a little more than a year, its gross earnings amounted to \$28,978.04; that its operating expenses during the same period amounted to \$33,286.13, and further that the interest on its fixed charges during the same period amounted to \$14,258.34, leaving a deficit of about \$19,000 from the time the company had been in operation up to Dec. 31, 1905.”

TABULATION SHOWING DEFICITS.

June 30, 1905.*	June 30, 1906.	June 30, 1907.	June 30, 1908.
\$16,113 12	\$42,716 08	\$2,061 58	\$17,149 10
June 30, 1909.	June 30, 1910.	June 30, 1911.	June 30, 1912.
\$19,218 59	\$9,323 06	\$5,322 96	\$11,081 76

*Includes latter part of 1904, when road commenced operations.

At the end of June 30, 1912, the total loss was \$123,056.25. The actual investment in the road, excluding \$17,400 for treasury stock and the loss just mentioned, is 970,000 odd dollars. The capitalization is \$1,000,000, so that the loss is a heavy one, being something over \$15,000 on an average annually. The gross earnings have been as follows:

Six months ending June 30, '05.	Year ending June 30, '06.	Year ending June 30, '07.	Year ending June 30, '08.
\$11,605 88	\$46,657 23	\$77,009 70	\$73,057 13
Year ending June 30, '09.	Year ending June 30, '10.	Year ending June 30, '11.	Year ending June 30, '12.
\$77,469 91	\$85,465 00	\$100,761 98	\$88,604 38

With the exception of the first two periods, in which there was a loss, the net earnings have varied from \$9,979.05 to \$25,818.15. In no year, however, have they been sufficient to take care of \$22,500, interest on \$450,000 bonded indebtedness of the road, and the other fixed charges. The increase in gross earnings in 1911 is said to be due to the rebuilding of the Mineral Point Zinc Company's works; and respondent contends that the gross earnings have reached their maximum. At least the increase after the road was established has not been very rapid. Interest on loans has risen from approximately \$400 in 1906 to something over \$3000 in 1912. Meanwhile the property has been allowed to run down, and it is claimed \$45,000 or \$50,000 will be required in the next year or two to put the road on a normal basis. It is contended by respondent's assistant general manager that it is a question whether, even under the most favorable circumstances and operation of only one train, the road can be made to pay.

It was suggested that the additional passenger business to be obtained by the operation of the second train might more than compensate for the cost of its operation. The company filed a detailed statement according to which the expense of operating the train taken off was \$1,714.00 a month, or \$0.942 a mile. On a 45 per cent loss on all passenger business they estimated the earnings at \$290.70 a month. The company, according to the record, is now taking care of the freight business with only one train and crew, and the operation of the second train would not be met by additional passenger business. The loss is placed by the respondent at \$17,000 a year. In another statement of comparative earnings for June 1911 and June 1912, the latter month, which was the first month after taking off the train in question, the company places its net corporate loss at \$614.79 in

1912 as against \$3,118.85 in 1911. Part of the loss in the latter year was caused by an expenditure of about \$2,000 more than in 1912 for "Maintenance of way", the balance is largely an excess of about \$1,500 in "Transportation expense". The "Passenger earnings" fell off from \$591.77 in 1911 to \$535.43 in 1912.

In the report of the company to the Commission for the fiscal year ending June 30, 1912, the "Passenger revenue" for that year is given as \$8,534.61 and since then there has been no material change in the monthly receipts of operating revenue. Assuming that the cost of operation of the additional train would be only one-half the company's estimate of \$1,714 per month, it would still pay the company to take off the one train and lose all the passenger traffic. This supposes, of course, that it continued to be able to take care of the freight with the one train.

Looked at in this light, the Commission is not prepared to hold that a company, operating thirty miles of line and serving two towns only en route, one of six hundred the other of eleven hundred inhabitants, is furnishing insufficient passenger service in operating one mixed train each way. Nor is it clear that because the company has for a time operated two trains at a loss, it should for that reason alone be compelled to continue to do so.

As regards reversing the movement, there are a number of difficulties that appear to make this impracticable. The larger part of the business of the line is from Highland Junction to Mineral Point. The company handles all the freight between these points, practically all the freight of the Chicago, Milwaukee & St. Paul Railway Company is turned over to the respondent company at Highland Junction.

In the year from April 1, 1911, to March 30, 1912, the total freight and passenger business out of Highland and Linden was \$17,293.84, as compared with a total freight and passenger business for the entire line for the fiscal year ending June 30, 1912, of \$82,304.11. No statement was filed covering the same identical period in each case, but the figures bear out the contention of respondent that the burden of its business lies between Highland Junction and Mineral Point, a distance of a little over four miles. To take care of the switching at Mineral Point alone takes about five hours a day.

In proposing to reverse the movement it was suggested by petitioner to leave Highland at 9 a. m. Owing to the switching at Linden it would be necessary to leave Highland about 8 a. m. in order to make connections at 10 a. m. at Whitson Junction. Respondent submits the following schedule as the approximate one which would be necessary to take care of the switching between Highland Junction and Highland and meet both trains, and give both trains connections, if the movement was reversed:

Highland, leave	Linden, arrive
8:00 a. m.	11:05 a. m.
Whitson Junction	Linden, leave
8:25 a. m.	11:45 a. m.
Linden, arrive	Harker, arrive
8:45 a. m.	12:00 a. m.
Linden, leave	Harker, leave
9:00 a. m.	12:10 a. m.
Whitson Junction, arrive	Highland Junction, arrive
9:15 a. m.	12:35 a. m.
Whitson Junction, leave	Highland Junction, leave
10:50 a. m.	1:30 p. m.
	Mineral Point, arrive
	2:25 p. m.

It will be noted that in the proposed schedule the train does not get into Mineral Point any earlier than the train at present on its return trip. This would seem to be largely due to the following factors: First, that in this schedule the train would have to double back from Linden to Whitson Junction with the additional switching thereby involved before going on to Mineral Point. Second, leaving Mineral Point in the morning, the switching between there and Highland Junction is disposed of before the train starts on its trip, whereas, operating with Highland as a base, it is still to be taken care of. Third, Highland Junction would be reached too late to take a train to Mineral Point ahead of the Chicago, Milwaukee & St. Paul east-bound passenger No. 6, leaving that point at 1:20 p. m. It appears that there is a heavy grade from Highland Junction to Mineral Point, and that it is necessary to haul heavy loads on account of the traffic there delivered. The practice is to take the train to within about a mile of Mineral Point in two sections, one of which is taken into Mineral Point and the other is permitted to remain until the engine returns to Highland Junction for a second train. The additional run to Mineral Point and back again takes about an hour and a half. Thus it

is evident that the traffic movement of respondent company under the proposed schedule would always have to wait for eastbound C. M. & St. P. No. 6, and in case of heavy trains for westbound C. M. & St. P. passenger No. 21, which reaches Mineral Point at 2:10 p. m. There is a decided advantage in this respect in favor of the present schedule.

With an average of about five hours' switching at Mineral Point where the train arrives at 2:25 p. m. and later, if the westbound C. M. & St. P. passenger interfered, it would probably be 8:30 p. m. before the crew were ready to start back. It appears that it now takes the northbound train as a rule three hours and over to make the run from Mineral Point to Highland. Consequently, it would be between 11 and 12 o'clock p. m., making no allowance for contingencies, before the train would reach Highland. Under the circumstances it is at least doubtful whether, owing to the Hours of Service Law, it would be possible for respondent company operating from Highland, to take care of its business with one train and crew.

As the situation is at present, it is possible to stop work where the largest traffic is without coming in conflict with the Sixteen Hours Statute, and to start again very early in the morning.

There are additional considerations, however. A large source of service for the company is its switching for the Mineral Point Zinc Company. This company operates Sundays as well as week days. At present the situation is handled by switching Saturday evening and starting very early Monday morning. Respondent contends that the Zinc company could not wait for switching from Saturday afternoon until Monday afternoon, as would be necessary under the proposed schedule, and that, for this reason, under such schedule respondent company could not hope to hold its business in competition with the Chicago, Milwaukee & St. Paul Railway. This would be the loss of one of the road's chief sources of income.

The company also competes for stock shipments with the Chicago & North Western Railway at Rewey and Linden, and with the Chicago, Milwaukee & St. Paul at Belmont and Mineral Point. Stock buyers are averse to shipping in the morning, and in order to hold their business, which amounts to about three hundred cars of stock a year, it would be necessary to run an extra train on stock days.

Aside from these considerations, it is still not clear that Highland, on the whole, would be benefited by reversing the movement, at least not unless the train on its morning trip south doubled back from Whitson Junction to Highland before going on to Linden and Mineral Point. Unless it did so, people would not be able to get into Highland by train until late at night. This would mean hours of waiting at Whitson Junction after the North Western afternoon passenger trains had passed through, unless there would be a connection from Madison by mixed train No. 613, due at Whitson Junction at 10:30 p. m. It also appears that freight from the North Western morning westbound time freight train No. 133 would not reach Highland until late at night instead of in the morning. The disadvantage may to a certain extent be compensated for by the fact that Mineral Point freight would reach Highland the same day, though between eleven and twelve p. m. instead of the next morning. As far as outbound freight is concerned, the trains run so that the situation would be practically unchanged. Most of the freight now moves to Highland Junction over the C. M. & St. P. Ry. The C. M. & St. P. way freight leaves Highland Junction at 8:45 and the southbound train under the proposed schedule would not, of course, connect with this, so that freight would have to wait over a day, under the proposed schedule, as it does at present and there would be no gain as to the time freight.

The petitioner suggested that the road had too many high salaried men connected with the management. According to the company's report on file in the office of the Commission, for the year ending June 30, 1912, there were three general officers and two minor officers. The general officers received an average daily compensation of \$5, and the others \$3.48. Excluding general officers, there were thirty employes whose daily average wage was \$1.99. It would hardly seem that a charge of extravagance in the management can be sustained.

It was suggested that having the southbound train leave Highland later would more or less eliminate the long wait at Whitson Junction. There are two difficulties which must be considered in this connection. One is that this train must leave Highland early enough to make connections with the 4 p. m. eastbound time freight train on the Chicago, Milwaukee & St. Paul Rail-

way. The other is that people bound for Linden must wait at Whitson Junction until the southbound train passes through on its return trip. This means at present from 10:50 or 1:15 a. m. to 12:25 p. m. The later the train leaves Highland, the longer the wait before getting the train for Linden. On the whole, it would seem that the present schedule cannot be disturbed.

Since, in view of the foregoing facts and considerations, it appears that respondent company cannot with propriety be ordered to furnish additional service, and that to reverse the movement, or start the present southbound train from Highland later is not practicable, the petition must be dismissed.

The petition is therefore dismissed.

VILLAGE OF ELK MOUND

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Submitted Feb. 28, 1913. Decided April 30, 1913.

The petitioner alleges that a crossing on the C. St. P. M. & O. Ry. at First ave. in Elk Mound, Dunn county, Wis., requires protection.

Held: The crossing is dangerous. The respondent is ordered to install and maintain an electric bell and illuminated sign, plans for track circuits to be submitted for approval. A flagman is to protect the crossing from 7 a. m. to 6 p. m. daily until the alarm is in satisfactory operation. It is further ordered that the respondent flag all switching movements over the house track and passing track, repair the highway within its right of way, and limit the speed of all trains at the crossing to conform to the statutes.

The petitioner, a regularly organized village in Dunn county, Wis., alleges in substance that a highway crossing on the respondent's line at First avenue in the village of Elk Mound 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 submitted in answer a letter from its general manager, which states that arrangements have been made to install a crossing bell at First avenue as soon as the work of equipping that part of its line with automatic signals is completed.

A hearing was held on February 28, 1913, in the village hall at Elk Mound, Wis. *J. C. Gilbertson* appeared for the petitioner, and *F. E. Nicoles* for the respondent.

No testimony was introduced at the hearing with regard to the physical surroundings of the crossing in question, the report of the Commission's engineer being accepted as correct by both the petitioner and the respondent. A second investigation of the crossing was made subsequent to the hearing by a member of our staff. From the data submitted in the two reports, it

appears that First avenue runs north and south and the railway northwest and southeast. Two main tracks, a house track, and a passing track are crossed by the highway at an angle of about 60 degrees. The traveled roadway in general is about twenty-five feet wide, but at the tracks it has an effective width of thirty feet. The view of trains from the highway approaches is limited by houses in the northeast angle; by a store building, a water tank, the depot and trees in the northwest angle; by an elevator, sheds, a store building in the southwest angle; and by sheds and store buildings in the southeast angle. When cars are allowed to stand on the house track or the passing track they obstruct the view of the main tracks. Our engineer reports that at the second inspection cars were standing close to the crossing on the house track, obstructing the view in both directions to such an extent that a driver's horse would have been almost on the eastbound main track before he could see an eastbound train. When both the passing track and the house track are clear of cars the limits of vision are substantially as follows:

Point of observation in highway from nearest main track.	View northwest.	View southeast.
North 25 feet.....	200 feet	880 feet
" 50 "	130 "	2,000 "
" 75 "	900 "	210 "
" 100 "	1,000 "	200 "
" 200 "	700 "	0 "
South 25 "	880 "	500 "
" 50 "	1,500 "	500 "
" 100 "	500 "	300 "
" 100 to 220 feet.....	0 "	0 "

The testimony is directed chiefly toward the traffic conditions and accidents or close calls at the crossing. A count taken for the petitioner shows that from 7 a. m. to 6 p. m. on February 27, 1913, 692 pedestrians and 120 teams, including two school busses, used this crossing. On that day the weather was raw and cold and not conducive to heavy travel. On April 16, 1913, from 8:30 a. m. to 10:25 a. m., our engineer observed crossing the tracks at First avenue, three automobiles, 30 other vehicles, and 123 pedestrians of whom 60 were children. Witnesses testified that traffic is heaviest in the autumn. Automobile travel was said to average about ten a day, although on some days a dozen will pass in a single hour. About one hundred

pupils are enrolled in the village school and about half of them are obliged to cross at First avenue from two to four times a day. It was shown that the country surrounding Elk Mound is a thickly settled farming community, and that the highway in question is the only available entrance into the village. It is used largely by touring automobiles bound for Eau Claire, Menomonie, or St. Paul. Railway traffic, according to the testimony of the division superintendent, consists of twenty-three regular movements and some six or eight extra freights daily. Only eight scheduled trains make a regular stop at Elk Mound. It was stated that the number of extra trains would probably be increased during the summer. The superintendent estimated the speed of trains at about twenty-five miles an hour, but admitted that some of them attain a speed of fifty or fifty-five miles an hour at the crossing. A serious accident and several narrow escapes were reported.

It was conceded by the representative of the respondent that the crossing is dangerous and requires further protection. He stated that arrangements had been made to install a bell at the crossing, so adjusted that it will not ring while trains are stopped at the station. For the petitioner, the opinion was expressed that in view of the traffic conditions on the highway and the frequency and speed of train movements, bell protection is not sufficient and that the the crossing should be guarded by a flagman. Our engineer reports that bell protection can be satisfactorily installed, and that it should give adequate protection. He recommends that a flagman be stationed at the crossing until a bell is installed; that all switching movements on the house track and passing track be flagged by a member of the train crew; that the crossing be placed in proper repair; and that the speed of trains be reduced at the crossing. He also suggests that the village authorities endeavor to keep children from crossing the tracks west of the depot.

In the light of the testimony and of the reports of two members of our engineering staff, we find that the crossing in question is unusually dangerous and that further protection is necessary. If operating conditions permit, cars should not be allowed to stand on the house track or the passing track in such a position as to limit the view of travelers. The constant presence of cars there may make protection by flagman necessary,

but if the tracks are kept reasonably clear, we believe that adequate protection, under the existing traffic conditions, will be afforded by the installations and improvements recommended by our engineer.

NOW, THEREFORE, IT IS ORDERED:

1. That the respondent, the Chicago, St. Paul, Minneapolis & Omaha Railway Company, install and maintain at the highway crossing on its line at First avenue in the village of Elk Mound, Dunn 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.

2. That the respondent station a flagman at this crossing who shall be on duty from 7 a. m. to 6 p. m. daily, until such time as the installation ordered in paragraph one is in satisfactory operation.

3. That the respondent's train crews flag each switching movement over the house track and the passing track at First avenue.

4. That the respondent properly repair and surface First avenue within its right of way.

5. That the respondent limit the speed of its trains at First avenue to conform to the statutes.

TOWN OF PEWAUKEE

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted March 13, 1913. Decided April 30, 1913.

Complaint was made that "Stone crossing", located on the C. M. & St. P. Ry. about two miles northeast of Waukesha in the town of Pewaukee, Waukesha county, Wis., requires protection.

Held: The crossing is dangerous. It is recommended that the brush and trees, obstructing the view, be removed. The respondent is ordered to install and maintain an electric bell with an illuminated sign, plans for track circuits to be submitted for approval; and all switching movements over the crossing are to be flagged.

The petitioner, a regularly organized town in Waukesha county, Wis., alleges in substance that a highway crossing, known locally as the "Stone crossing" and located on the respondent's line approximately two miles northeast of Waukesha in the town of Pewaukee, is dangerous to public travel 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, expresses its willingness to install a modern bell with a light for night indication in place of the old style bell which it now maintains at the crossing; and avers that this improvement will render the crossing reasonably safe. It therefore asks the dismissal of the petition.

A hearing was held on February 12, 1913, at the city hall, Waukesha, Wis. *R. R. Freyer* appeared for the petitioner. The respondent was not represented. A second hearing was held at the same place on March 13, 1913, at which *R. R. Freyer* represented the petitioner and *N. P. Thurber* the respondent.

The testimony shows that at the "Stone crossing" the highway runs east and west, crossing the main track and a sidetrack which runs approximately north and south. The sidetrack is about two hundred feet west of the main track. Immediately

west of the main track the highway intersects another road which parallels the track some distance.

From the east highway approach the view of trains to the south is limited by a house, a barn and by trees. The house is located about 65 feet from the tracks. It was stated by witnesses for the petitioner that the south view is obstructed from a point 250 feet east of the tracks until this house is passed, except for a limited view between the house and barn. The north view from the east approach was said to be limited by a barn and a shed. Approaching from the west on the highway the south view is comparatively open, but to the north the view is obstructed by houses located close to the right of way about one hundred rods north of the highway, by an office building close to the right of way and the highway, and by a slight rise of ground just west of the sidetrack. A witness for the railway company testified that a traveler within sixty feet of the crossing on either approach has a clear view in both directions.

Other conditions at the crossing which increase the danger to travelers were mentioned at the hearing. It was shown that a stone quarry is located near by, and that the frequent blasting there serves to distract the attention of drivers from the crossing. Witnesses also pointed out that the noise of trains on the "Soo" line, which runs some distance east of the Chicago, Milwaukee & St. Paul line, is easily confused with trains on the Chicago, Milwaukee & St. Paul line. It was stated that much switching is done at the crossing, both on the main track and on the sidetrack which serves the stone quarry. Switching movements on the sidetrack while a train is passing on the main track were said to be confusing to travelers. It appears that a serious automobile accident recently occurred during switching operations on the sidetrack. Other accidents and narrow escapes were reported.

The north and south highway leads to Menomonee Falls and the east and west highway is a main road between Madison and Milwaukee. The traffic over the crossing was estimated by witnesses at from three or four to thirty teams, and from fifteen to fifty automobiles per day. From fifteen to twenty children are obliged to use the crossing several times a day on their way to and from school.

Subsequent to the hearing the railway company submitted a list of the trains passing the crossing in question for three days in March as follows:

Date.	Passenger trains.		Freight trains.		Total.
	Day.	Night.	Day.	Night.	
March 29, 1913.....	16	2	5	3	26
" 31, " (Sunday).....	3	2	2	1	8
" 31, "	15	1	4	8	28

At the second hearing the representative of the railway company stated that he had secured permission from property owners to cut down obstructing trees and brush, and that the respondent was willing to remove these obstructions, install approved bell protection, and flag all switching movements over the crossing. The chairman of the town board expressed the opinion that these improvements would be satisfactory, but one witness for the petitioner asserted that the conditions are such that protection by flagman or by gates is necessary. The engineer of the Commission, on the basis of an investigation on the ground, reports that the changes proposed by the respondent will render the crossing reasonably safe.

After carefully considering the testimony and the reports of our engineering staff, we are of the opinion that the crossing in question is more than ordinarily dangerous and that further protection is needed. We recommend that the town authorities cooperate with the railway company in removing the brush and trees which obstruct the view. If this can be satisfactorily accomplished, we believe that approved bell protection, with the regulation that all switching movements be flagged, will render the crossing reasonably safe under existing traffic conditions. If, however, the obstructing brush and trees are not removed, some further protection may be required.

NOW, THEREFORE, IT IS ORDERED:

1. That the respondent, the Chicago, Milwaukee and St. Paul Railway Company, install and maintain at the highway crossing on its line, known as the "Stone crossing" and located about two miles northeast of Waukesha in the town of Pewaukee, Waukesha county, Wis., a modern automatic electric bell

with an illuminated sign for night indication, plans for track circuits to be submitted to the Commission for approval.

2. That the respondent require some member of its train crews to flag each switching movement over the crossing in question.

Ninety days is considered a sufficient time within which to comply with the first paragraph of this order.

TOWN OF BEAVER DAM

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Submitted March 25, 1913. Decided April 30, 1913.

Complaint was made that "Dutchman crossing" or "Hammer crossing" on the C. M. & St. P. Ry., one and one-half miles east of Beaver Dam, in the town of Beaver Dam, Dodge county, Wis., requires protection.

Held: The crossing is dangerous. It is recommended that the brush, obstructing the view, be removed. The respondent is ordered to install and maintain an electric bell with an illuminated sign, plans for track circuits to be submitted for approval; and to provide a roadway with an effective width of twenty-four feet within its right of way.

The petitioner, a regularly organized town in Dodge county, Wis., alleges, in substance, that a highway crossing on the respondent's line in sec. 35, township 12 north, range 14 east, in the town of Beaver Dam, is dangerous to public travel on account of the surrounding physical conditions. The Commission is therefore asked to require the respondent to provide adequate safeguards at this crossing.

In its answer the respondent alleges that the crossing in question is not exceptionally dangerous, and that the physical surroundings and the traffic conditions do not require or warrant the expenditure of money for further protection. It therefore asks the dismissal of the petition.

A hearing was held on March 25, 1913, at the city hall, Beaver Dam, Wis. *A. W. Lueck* appeared for the petitioner and *C. N. Davis* for the respondent.

The testimony shows that the crossing designated in the complaint is known locally as "Dutchman crossing" or "Hammer crossing." The railway runs northwest and southeast and the highway east and west, the angle of crossing being very acute. Both the railway and the highway are on a fill at this point, and the highway ascends to the tracks from both sides of the crossing. The traveled part of the roadway was said to be from twelve to fifteen feet wide within the right of way.

It appears from the testimony that the chief danger at this crossing results from obstructions in the northwest and southeast angles of the crossing. From the east highway approach the view to the southeast is obstructed by the banks of a cut. It was stated by witnesses for the petitioner that from a point in the highway opposite the schoolhouse, about three hundred or four hundred feet east of the crossing, no view of trains to the southeast can be had by a traveler until very close to the tracks. A witness for the respondent testified that on this approach the view is obstructed for about one hundred and fifty feet along the highway near the schoolhouse, but that it is otherwise open. From the west highway approach the view of trains to the northwest is limited by timber, some willow trees and brush. The respondent's trainmaster admitted that a traveler must be within fifty or sixty feet of the tracks to see a train approaching from the northwest. The limits of vision at the crossing are reported by our engineer as follows:

Point in highway.	View southeast.	View northwest.
East 25 feet	1,500 feet	1,000 feet
50 "	1,000 "	1,000 "
100 "	500 "	1,200 "
West 25 "	1,500 "	1,000 "
50 "	1,500 "	1,000 "
100 "	1,200 "	800 "

The testimony shows that the highway is a main traveled road to Horicon and Burnett Junction, and connects with the Watertown-Fox Lake highway. Summer traffic was estimated at about ten teams and a number of automobiles daily, although as many as one hundred vehicles were said to pass on some days. Other estimates placed the traffic at from twenty to twenty-five vehicles a day. A count was made in the interest of the respondent for three March days between the hours of 7 a. m. and 7 p. m. It was shown that during these days the weather was unfavorable for traffic and the roads in poor condition. The results of the count are as follows:

Date.	Pedestrians.	Vehicles.	Train movements.		
			Freight.	Passenger.	Total.
March 21, 1913.....	4	15	7	4	11
" 22, ".....	.....	58	9	3	12
" 24, ".....	.....	24	9	4	13
Total.....	4	77	25	11	36
Daily average.....	1	26	8	4	12

The roadmaster testified that there are nine regular train movements and about four extra freights during a twenty-four hour period. He stated that trains pass the crossing at from thirty-five to forty miles an hour. A witness for the petitioner estimated the speed of some trains at fifty miles an hour, and it was stated by the justice of the peace, before whom the coroner's inquest over the victim of an accident was held, that the engineer there testified that his train was moving about fifty miles an hour at the time of the accident. The accident referred to occurred on December 8, 1912, and resulted in the death of a woman, the serious injury of a man, and the loss of a team. Several narrow escapes at this crossing were also reported at the hearing.

Our engineer, in his report, points out that because of the extremely acute angle of crossing travelers are very likely to misjudge distances, especially where a train is approaching from their rear. On the basis of his investigations he recommends that the highway be widened to twenty-four feet within the right of way and that bell protection be installed.

The company's superintendent expressed his willingness to cut the brush on its right of way, and also that on the highway if granted permission to do so by the town authorities. He stated that he would use his best efforts to secure permission from adjoining property owners to cut down the brush on private land which offers an obstruction to the view. He offered the opinion that if this action is taken, no further safeguards will be necessary.

After a careful consideration of the testimony and of our engineer's report, we find that the crossing in question is more than ordinarily dangerous and that some additional protection

should be provided. The removal of the brush which obstructs the view, as suggested by the respondent, will unquestionably improve the situation and we recommend that the town authorities and the railway company use their best efforts to accomplish it. This improvement, however, we cannot regard as sufficient when all of the conditions at the crossing are considered. It is our judgment that the highway should be widened and protected by an approved bell and light.

NOW, THEREFORE, IT IS ORDERED:

1. That the respondent, the Chicago, Milwaukee & St. Paul Railway Company, install and maintain at the highway crossing on its line located one and one-half miles east of Beaver Dam, in the town of Beaver Dam, Dodge 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.

2. That the respondent provide a roadway with an effective width of twenty-four feet within its right of way at the crossing described above.

Ninety days is considered a sufficient time within which to comply with this order.

IN RE APPLICATION OF THE MUSCODA MUTUAL TELEPHONE COMPANY FOR AUTHORITY TO INCREASE AND ADJUST RATES.

Submitted Feb. 20, 1913. Decided April 30, 1913.

Application is made by the Muscoda Mut. Tel. Co. for authority to increase and adjust rates. It is alleged that the applicant's present arrangements with the various connecting lines are inequitable and a reasonable switching rate is to be determined. A valuation was made and the revenues and expenses investigated. The expenses were apportioned to show the cost of service for the local, rural and foreign or connecting lines.

A valuation of the physical property, as of date Feb. 1, 1913, shows a cost new of \$11,813, and a present value of \$8,586.

Held: The present revenues are insufficient and the switching arrangements are inequitable. No switching charge is exacted of the Highland and Blue River exchanges, but these exchanges perform a like amount of switching for the applicant. All subscribers similarly situated are treated alike and the free exchange of switching service is permissible. (*In re Free and Reduced Rate Telephone Service*, 1908, 2 W. R. C. R. 521, 542.) All other connecting lines are to pay a uniform switching fee.

The applicant is to pay a rental for property used but not owned by the utility, the rental to be based on the actual investment in the property. An annual rental is provided for the Richland Center through lines, in lieu of the free switching service considered as compensation for the use of these lines.

Instruments owned by stockholders were offered in part payment for stock, but nonstockholders owning instruments are to be paid the annual rental provided.

An additional charge of 25 cts. per month is authorized for telephones installed for only part of the year.

The applicant's present practice of rebating to stockholders is unlawful (sec. 1797m—92). All subscribers are to be charged the regular rate. The free service now furnished the post office and railway station is to be discontinued.

It is ordered that the applicant put in effect the rates fixed by the Commission.

The Muscoda Mutual Telephone Company, on December 23, 1912, filed application with this Commission seeking authority to increase and adjust rates.

The rates in effect at the time of application as given in the petition are \$12 a year to nonstockholders for all classes of telephones, an annual assessment of \$10 upon stockholders, and a charge against connecting lines amounting to \$3 a year per phone in consideration of switching service.

Application is made to increase and adjust rates on the grounds that the rates now in effect are unjust and discriminatory, particularly the rates obtained from connecting lines for switching, and that the income of the company is not sufficient to pay the charges for good service, to provide for betterments made necessary by growth of business, to maintain the property adequately, and to allow the stockholders a proper return on the money invested.

To remedy existing conditions, the applicant asks that a uniform switching fee be established "high enough not to discriminate against the stockholders" of the company and that the following specific rates be permitted:

\$15.00 a year for business telephone.

\$12.00 a year for residence telephone in country and village.

\$0.25 a month additional charge where the telephone is in for less than one year.

An additional charge for extension telephones and extension bells.

\$18.00 a year for business telephone if on a metallic circuit. (At present common return is used).

\$4.00 a year for switching for each telephone on lines not owned by this company, this rate to apply where lines run to this central only.

\$2.00 a year for switching for each telephone on lines connecting another exchange with the Muscoda exchange, or

In lieu of the above, such schedule as the Commission shall deem just and reasonable.

Hearing on these matters was held at Madison, February 20, 1913. *Dr. A. W. James*, secretary of the Muscoda Mutual Telephone Company, appeared for the applicant, and *R. M. Orchard* appeared for the Pulaski Telephone Company, the Avoca-Muscoda Telephone Company, and the Basswood and Eagle Telephone Company, these three being companies among the connecting lines affected by the switching charges. From the testimony the following facts appeared:

Prior to December 9, 1911, the applicant gave limited service, the period of service being from 7 a. m. to 8:30 p. m. on week days and from 8 to 10 a. m. on Sundays. Subsequent to the filing of a petition with the Commission asking that the company be ordered to install twenty-four hour service, the company voluntarily provided such service, making an order of the

Commission unnecessary. The Pulaski Telephone Company and other connecting lines had paid an annual switching rate of \$3 per phone during the time applicant gave limited service. This rate had been paid in advance and the Pulaski company refused to pay the additional amount to make up the \$4 rate asked by the applicant for twenty-four hour service. There have been certain legal proceedings between the parties involved which need not be discussed here. This application was brought before the Commission for the purpose of determining the reasonableness of the \$4 switching fee.

It appears from the testimony that the applicant furnishes service to 450 phones, 90 of which are village phones and 113 of which are rural phones, all on lines owned by the applicant. The remainder are phones belonging to connecting lines for which the applicant does a switching service. The 113 rural phones are connected to eight party lines owned by the applicant. Following is a description of these eight lines and of the connecting lines as given in the testimony:

RURAL LINES OWNED BY APPLICANT.

No. 98.—This line has 12 phones. It connects the Muscoda exchange with the Lone Rock Telephone Company at Gotham. The two companies have made a geographical division of business according to which the applicant pays to this Gotham exchange a switching fee of \$3 each for five phones.

No. 101.—This line has 18 phones and runs to a country switch known as Foley's switch, through which applicant has connection with a Montfort company.

No. 102.—This line has 21 phones and does not connect with any foreign line, being the only line in fact which does not connect with one or more foreign lines.

No. 103.—This line has 11 phones and runs to a country switch, Hing's switch, through which it can connect with the Munz lines.

No. 113.—This line has 8 phones and runs to a country switch known as Berren's switch, through which connections can be had with a Highland line.

No. 115.—This line has 11 phones and runs to a country switch known as Heffner's switch, through which applicant has connection with a Fennimore company.

No. 116.—This line has 11 phones and runs to Blue River.

No. 118.—This line has 17 phones and runs to Highland.

RURAL LINES OWNED BY FOREIGN COMPANIES.

Highland Line.—No. 89. (15 phones.) This line connects Muscoda with the Highland exchange. The Highland exchange gives free switching to Muscoda from line No. 118 and the Muscoda exchange gives free switching to Highland from its line No. 89.

Oakridge Telephone Company.—No. 104. (15 phones.) This connects Muscoda with Blue River and the exchange at Blue River switches free for applicant's line No. 116 in exchange for free switching at Muscoda.

"Pier Lines."—Nos. 91, 94, 99, and 105 with 10, 15, 9, and 10 phones, respectively, making a total of 44 phones. These lines are owned by Mrs. James. All four lines run into the applicant's switchboard and have no exchange of their own. The applicant company gives free switching to these 44 phones in exchange for a Richland Center outlet, as explained in the following paragraph.

Through Line to Richland Center.—Two lines, Nos. 96 and 110, are used as through lines to Richland Center and have no subscribers connected en route. The distance between Muscoda and Richland Center is about 10 miles. For one-half of the distance, out from Muscoda, i. e. about five miles, the lines are owned by Dr. James. From that point on they are owned by the Farmers' Telephone Exchange of Richland Center. The applicant switches the 44 phones on the Pier lines in consideration of the free use of the Richland Center lines owned by Dr. James.

Basswood and Eagle Telephone Company.—For this company the applicant switches 56 phones distributed over 5 lines, Nos. 97, 100, 106, 109, and 111. Prior to July 1, 1912, the Basswood & Eagle Telephone Company had not made any payment to the applicant for switching, but since that time has been paying on the basis of \$125 a year, considering about 30 phones switched.

Munz Line.—No. 93 (16 phones). Prior to January, 1913, this line paid \$3 per phone for switching, but since that time has paid on the basis of \$4 per phone.

Byrds Creek Lines.—Nos. 92 and 107 (32 phones). Until August, 1912, these lines were switched at Eagle corners, but at that time began switching through Muscoda. The Byrds Creek lines connect with the Blue River exchange and receive a switching service from them as well as from Muscoda. The applicant has been charging the Byrds Creek lines \$2 per phone for switching, on the ground that they must also support the Blue River exchange.

Pulaski Lines.—Nos. 114 and 120 (39 phones). These are the lines that have made the most objection to a \$4 switching

fee. The Pulaski lines have since 1909 been paying \$3 per phone and refuse to pay the \$4 charge.

Avoca-Muscoda Telephone Company.—Nos. 84 and 119 (21 phones). These two lines connect Muscoda with the Avoca-Muscoda Telephone Company's exchange at Avoca. For several years past this company has paid nothing to the applicant and pays no switching fee at the present time.

In summarizing the existing arrangements with connecting lines it was shown on behalf of the applicant that the arrangement with the Highland and Blue River exchanges by which there was free exchange of switching is entirely satisfactory; that the Pier lines agreement is open to question and might be remedied either by purchasing these lines with an issue of stock or else by charging them a switching fee and at the same time paying the Pier lines a toll for the use of the Richland Center lines; that the Basswood and Eagle, the Munz and the Pulaski lines should pay a \$4 switching fee; that the present arrangement with the Byrds Creek lines is satisfactory; and that the Avoca-Muscoda Telephone Company should be made to pay either a \$2 charge per phone (as in the case of the Byrds Creek line) or else pay a \$4 charge per phone on a geographical division of business.

The contention of the Pulaski lines and the other lines is that the \$4 switching charge is excessive and that a lower rate should be established.

Testimony was given to the effect that service has been much better since twenty-four hour operation has been in force.

The principal arguments made in the brief for the Pulaski and other connecting companies may be summarized as follows:

1. That the charges now made by the applicant more than compensate it for the switching service furnished; that for the past two years the stockholders have received a rebate of \$2 a year, equal to about 10 per cent on the par value of the capital stock; that the net earnings of the applicant are adequate to meet all legitimate expenses and to pay a reasonable dividend; and that when switching charges are added to the revenues the balance in favor of the applicant is such that rates could well be reduced rather than increased.

2. That the physical valuation as determined by the Commission is excessive.

3. That if lines Nos. 89 and 104 are exempted because they give mutual exchange, then the same arrangement should be allowed the Avoca-Muscoda company; and that at least three of the Pier lines should pay a switching fee, leaving the fourth free for through messages.

4. That the Wisconsin Telephone Company does not pay its proportionate share of costs in view of the fact that central gives first attention to its calls.

5. That as much time is taken in answering calls from the rural lines owned by the applicant as is required to answer calls on other rural lines, and for this reason the applicant's rural lines should pay a proportion of the switching costs.

6. That the costs which the connecting lines should pay include a portion of operator's salary and cost of maintenance of central office, and a small part of the repairman's salary, but should bear no part of the expenses for wire plant or substation, as the connecting lines maintain their own lines from the limits of the village outward.

7. That no fault is found with the service.

8. That a proper switching fee for connecting lines to pay would lie between \$2 and \$3 per phone.

PHYSICAL PLANT.

The physical plant of the Muscoda Mutual Telephone Company was inspected by one of the Commission's engineers for the purpose of making a valuation. The following summary of the somewhat complicated physical connections is given in his report:

"The Muscoda Mutual Telephone Company is a combination of a number of farmers' mutual telephone companies with a single exchange in the village of Muscoda. Local and foreign connections are given through a 150 drop Kellogg switchboard to 88 village telephones over "common return" or McClure and grounded lines, and to 115 rural phones over 8 grounded lines all owned by the Muscoda company. Eighteen foreign rural grounded lines with a total of 241 directly connected phones also enter the switchboard of the Muscoda company, the patrons of which lines, by paying a fee per telephone per year, are given connection to any part of the system. The Muscoda Mutual Telephone Company owns all construction used by these foreign lines from approximately the village lim-

its in to the switchboard. In some cases outside the village limits the foreign companies have wire on the Muscodia company's poles. The apportioned valuation shows the total number of these contacts and their estimated physical value. Six of the above 18 foreign lines connect the Muscodia exchange with the exchange of some other company. These 6 lines average 14 phones per line besides the central offices at either end of the line. A number of the remaining 12 foreign lines have switches by means of which they can switch on to their line other rural lines when they so desire. Of the 8 rural lines owned by the Muscodia telephone company, 3 connect the Muscodia exchange with the exchanges of foreign companies and besides the switchboard connections at either end of the lines average 13 phones per line. Four of the remaining five Muscodia lines have switches through which connections are made to other lines. These four lines average 12 subscribers each. Thus there is only one rural line owned by the Muscodia company which does not connect with a foreign line or with a foreign exchange."

PHYSICAL VALUATION.

A valuation by the engineering department was made as of February 1, 1913, and a summary valuation arrived at as follows:

FINAL SUMMARY VALUATION.

	Rural.		City.		Total.	
	Cost new.	Present value.	Cost new.	Present value.	Cost new.	Present value.
A. Land						
B. Distribution system...	\$7,777	\$5,457	\$1,797	\$1,455	\$9,574	\$6,913
C. Bldgs. and misc struc.	70	42	230	138	300	180
D. Exchange equipment.	118	98	386	320	504	418
E. General equipment.....	10	7	35	25	45	32
F. Paving.....						
Total.....	\$7,975	\$5,604	\$2,448	\$1,939	\$10,423	\$7,543
Add 12 % (see note below).	957	672	294	233	1,251	905
Total.....	\$8,932	\$6,276	\$2,742	\$2,172	\$11,674	\$8,448
H. Material and supplies	32	32	103	106	138	138
Total.....	\$8,964	\$6,308	\$2,848	\$2,278	\$11,812	\$8,586

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

As an appendix to the main valuation, a separate valuation was submitted of the property used by foreign (i. e. connecting) lines and owned by the Muscodia Mutual Telephone Com-

pany. This property has already been included in the rural valuation and is only a segregated portion of that valuation. The apportionment to foreign lines is given below:

VALUATION OF PROPERTY USED BY FOREIGN LINES.

	Cost new	Present value
A. Land	None	None
B. Distribution system	\$502.00	\$382.00
C. Bldgs. and misc. structures (16% of central office bldg.)	48.00	22.00
D. Exchange equipment—manual (16% of total) ..	81.00	67.00
E. General equipment	None	None
F. Paving	None	None
Total	\$631.00	\$471.00

INCOME ACCOUNT.

The operating revenues and expenses of the applicant must be closely scrutinized in order to determine the expense of the switching service and the revenues derived from that source, as well as to determine what return the company gets on its investment as a whole. Very little assistance can be gotten from the reports on file with the Commission. The applicant has been reporting on a condensed blank and has failed to make proper distinction in its reports between expense and construction. An inspection of the company's books was made and it was found that no plant account had ever been kept and that only for the past calendar year has any separation been made between expenses and construction. Neither were the expenses classified in accordance with the classification of accounts. From this inspection, however, and from testimony offered at the hearing, an approximate income account has been constructed. As operating conditions have changed through the increase in salaries, taking on of additional help, etc., it will be best to consider the income account for the present rather than from past experience. The estimated expenses to be met annually are given in the following table. Each item is fully explained by foot note.

ESTIMATED EXPENSES.

Central Office	
1. Operators' salaries	\$780.00
2. Rent of central office ground.....	5.00
3. Power expenses	16.00
4. Misc. supplies and expenses.....	30.00
5. Maint. of central office equipment, bldgs., etc.	14.00
	\$845.00

Brought forward		\$845.00
Wire Plant Expenses		
6. Labor	\$480.00	
7. Misc. supplies and expenses.....	40.00	
	<hr/>	520.00
Substation Expenses		
8. Maintenance of substation.....	\$155.00	
	<hr/>	155.00
Commercial and General		
9. General salaries	\$150.00	
10. Misc. general expenses.....	50.00	
	<hr/>	200.00
Undistributed		
11. Insurance	\$7.00	
	<hr/>	7.00
12. Depreciation		770.00
13. Taxes		75.00
	<hr/>	
Total operating expenses.....		\$2,572.00

EXPLANATORY NOTES:

1. This allows for two central office girls at a joint salary of \$45 a month and for two night boys at \$10 each a month.

2. \$5 is paid annually for ground rent.

3. This allows two changes a year for 50 dry cells at 16 cts. each.

4. Made up as follows:

Electric light 30 cents a month.....	\$3.60
Fuel—average cost for 5 yrs.....	21.00
Oil—for lamp lighting.....	1.10
Miscellaneous allowance	4.30
(for sweeping and cleaning office etc.)	
Total	<hr/> \$30.00

5. To cover switchboard maintenance and repairs to small central office building. Actual repairs to switchboard last year were a little over \$5.

6. A lineman has been at work since about March 1 on a salary of \$40 a month. He may do work for the light plant and others from time to time, providing that whatever he makes on such jobs up to \$2 per job shall go to the telephone company and the rest to him. The earnings from this source will probably not be large and will be offset by expense of transportation into the country.

7. This is an allowance to cover maintenance of cross-arms, wire, etc., and is approximately what was spent on these items in 1912.

8. This figure is based on an allowance of 50 cts. per year for village phones (which allows for two changes of batteries 16 cts. each and other renewals) and an allowance of \$1 per year for rural phones. These allowances for substation are ample as labor is already covered in the lineman's salary and transportation is partly offset by earnings from outside jobs done by lineman.

9. General salaries, including both a manager's salary and clerk's pay, are placed at \$150. In former years the only officer's salary paid was \$30 to the secretary. In 1912, Dr. James received \$150 as secretary's pay and also in consideration of line and repair work. Now that a lineman has been engaged on a separate salary, the secretary is relieved of practically all outside work, so that this allowance should be sufficient.

10. Director's meetings are allowed for at \$30 (\$28.50 was paid in 1912) and postage, express, Railroad Commission expenses, printing, etc., make up the balance.

11. This is the amount of actual premium per year.

12. Depreciation is figured at 6.5 per cent on the cost new.

13. Taxes are estimated on the basis of 2½ per cent on a probable income of \$3,000.

ESTIMATED EARNINGS—PRESENT BASIS.

The approximate earnings under rates and switching charges now in force are indicated in the following summary:

Rental from 84 village phones.....	\$1,008.00
Rental from 103 rural phones.....	1,236.00
Wisconsin Telephone Co., tolls.....	75.00
Local tolls	63.00
Revenues from switching:	
Basswood & Eagle lines (based on 30 phones) ..	125.00
Pulaski lines 39 phones at \$3.00 ¹	117.00
Munz line 16 phones at \$4.00.....	64.00
Byrds Creek lines (based on 25 phones).....	50.00
	\$2,738.00

¹ Have refused to pay \$4.

With revenues of \$2,738 to offset expenses of \$2,572, it is apparent that the balance, \$166, will not supply a proper return to stockholders. Even if the return were sufficient, it would be necessary to adjust the switching charge so as to remove inequalities.

TRAFFIC ANALYSIS.

For the purpose of determining the extent of service furnished to connecting lines through switching service, a traffic analysis was made on February 19, 1913, by the Commission's engineers. The results are given in the table below:

TRAFFIC STUDY OF MUSCODA MUTUAL TEL. CO.

Taken from 8:00 p. m., 2-18-13, to 8:00 p. m., 2-19-13.

CALLS SWITCHED THROUGH CENTRAL OFFICE.

Lines.		No. of calls.	Per cent of total.
From	To		
Local.....	Local.....	165	20.21
.. .. .	Rural.....	23	2.81
.. .. .	Foreign.....	56	6.86
.. .. .	Long distance.....	11	1.34
.. .. .	Richland Center.....	16	1.95
Total local—incoming.....		271	33.17
Miscellaneous central office.....		94	11.50
Foreign.....	Local.....	58	7.09
.. .. .	Rural.....	36	4.40
.. .. .	Foreign.....	113	13.80
.. .. .	Richland Center.....	44	5.38
Total foreign—incoming.....		251	30.67
Rural.....	Local.....	29	3.54
.. .. .	Rural.....	36	4.40
.. .. .	Foreign.....	40	4.88
.. .. .	Richland Center.....	15	1.83
Total rural—incoming.....		120	14.65
Richland Center.....	Local.....	13	1.59
.. .. .	Rural.....	8	.98
.. .. .	Foreign.....	44	5.37
Total Richland Center—incoming.....		65	7.94
Long distance.....	Local.....	11	1.34
.. .. .	Foreign.....	2	.24
.. .. .	Central office.....	4	.49
Total long distance—incoming.....		17	2.07
Total.....		818	100.00

OUTGOING CALLS SWITCHED THROUGH CENTRAL OFFICE.

Lines.	Calls.	Per cent of total.
Total local outgoing.....	276	38.37
Total foreign outgoing.....	255	35.42
Total rural outgoing.....	103	14.30
Total long distance outgoing.....	11	1.52
Total Richland Center outgoing.....	75	10.39
Total outgoing.....	720	100.00

CALLS ON PARTY LINES NOT SWITCHED THROUGH CENTRAL OFFICE.

Lines.	No. of calls.	Per cent of total.
From local to local	12	2.20
From rural to rural	138	25.40
From foreign to foreign	393	72.40
Total	543	100.00

NOTE:—The above calls are not included elsewhere.

The difference between the outgoing and incoming calls is accounted for by busy calls and other calls terminating at central office.

The summary of calls on party lines not switched through central office shows that there were 543 calls passing through the switchboard that were merely signals between parties within one class of subscribers. These calls have to be watched by central in order to get her own signal, and as in this instance the calls not switched were about 66 per cent of the number of calls switched, considerable attention must be given to such calls. Allowing for the relative time required to attend to different calls and allowing for time of watching calls not switched, loading factors for both incoming and outgoing calls have been adopted as follows:

	Factor
Local to local	1.00
Local to rural	1.25
Local to foreign	1.25
Local to Richland Center	1.00
Local to long distance	1.50
Foreign to Richland Center	1.25
Foreign to rural	1.25
Foreign to foreign	1.25
Foreign to long distance	1.50
Rural to Richland Center	1.25
Rural to long distance	1.50
Rural to rural	1.25

Before applying these factors to the calls switched through central office, the "Miscellaneous" calls to central office were distributed. These miscellaneous calls are busy calls and requests for time, all of them terminating at central office. From the details of the traffic study the source of such calls has been determined and then the number coming from each source has been divided as to intended destination in the same proportion as the calls actually completed were divided. The loading factors were then applied to the number of calls completed in

each instance plus the proportion of calls terminating at central office and a product obtained.

The next step was to group these products under four divisions—local, rural, foreign, and long distance. Calls to or from Richland Center were treated as calls to or from foreign lines. The products for calls between two classes or groups were divided half and half between the two classes on the assumption that the benefit divides evenly at both ends. The summary results of these analyses are given below:

	Products (No. of calls x factor)	Approximate per cent
Local	331.37	34
Rural	173.12	18
Foreign	450.76	46
Long distance	21.75	2
Total	977.00	100

The percentages thus determined form the basis for apportioning "Central office expenses." The apportionment of these and other expenses will be affected by the adjustment of the inequalities in present switching charges.

INEQUALITIES IN SWITCHING CHARGES.

In the description of rural lines it was explained that in a number of instances free exchange of service is allowed. Two of these instances seem fairly equitable. These two instances are the arrangements with Highland and Blue River. Reference to the description of lines will show that the applicant owns a line with 17 phones connected running to Highland while the Highland company owns a line with 15 phones connected running to Muscoda. Neither exchange pays a switching fee to the other. In a similar manner the applicant owns a line with 11 phones running to Blue River while the Blue River company owns a line with 15 phones running to Muscoda. It seems fair to assume that, since the number of phones on the respective lines so nearly correspond, the switching at one end about offsets that at the other. In the absence of a traffic analysis at Highland and Blue River this assumption will be made. On this question of free exchange of service this Commission has given an opinion. *In re Free and Reduced Rate Telephone*

Service, 1908, 2 W. R. C. R. 521, 542. There it is explained that free exchange of toll service is prohibited "for a part only of the subscribers of a telephone company similarly situated, and not for all of the subscribers." In the arrangements under consideration all subscribers similarly situated are treated alike and the free exchange is permissible.

The contention has been made by some of the connecting lines that if these arrangements stand the same privilege should apply to the Avoca-Muscoda line. This contention is not well taken because the subscribers of the two companies are not "similarly situated." Here the two lines are owned by the Avoca-Muscoda Telephone Company and there is no balancing of two lines separately owned against another. The Avoca line should pay a switching fee to the Muscoda company. The Muscoda company has no phones that ring the Avoca exchange directly, but the 21 phones of the Avoca lines can ring the Muscoda exchange directly. It is therefore evident that there is not an equal exchange of service.

The Byrds Creek lines have been paying on the basis of 25 phones and at half the full \$4 switching fee. Testimony for the applicant showed that this was done because these lines connected with an exchange at Blue River and would have to contribute to that exchange also. This irregularity should be eliminated, because the applicant is entitled to a contribution from all connecting lines for the service which it gives them. Fees to be paid to other exchanges and rentals to be collected by other companies are matters to be adjusted at the other end. The Byrds Creek lines should pay a full switching fee on its 32 phones.

Probably the most complex of the different switching agreements is the one involving the Pier lines owned by Mrs. James. On the four lines generally known as the Pier lines there are 44 phones that switch through the Muscoda exchange. The present arrangement considers the switching performed by the Muscoda exchange as offsetting the privilege of a Richland Center outlet. This assumption is a pretty broad one and does not seem warranted. The Pier lines should pay a regular switching fee and the applicant should pay a proper amount for the use of the two Richland Center through lines. A com-

putation of what this payment should be is made elsewhere in this decision.

There is only one exchange to which the applicant pays a switching fee and that is the Lone Rock Company's exchange at Gotham. The applicant has a line with 12 phones running to Gotham. Through a geographical division, 5 phones are considered as tributary to the Gotham exchange and on these 5 phones the applicant pays a switching fee of \$3 each per year. The exact extent to which these 12 phones make use of the Gotham exchange is not known, but since neither company has raised objection to the arrangement the agreement will not be disturbed at this time.

As regards the other connecting lines, the Basswood and Eagle, the Munz, and the Pulaski lines, it appears that phones on these lines can all ring Muscoda directly and the only question here is what the uniform switching fee shall be.

The Richland Center Through Lines.

These two lines are used as through lines only. From Muscoda to a point midway between Muscoda and Richland Center the lines are owned by Dr. James. From there on they are owned by the Farmers' Exchange of Richland Center. A fair basis on which the applicant should pay a return to the owner for use of the through lines would be a rental dependent upon the investment of the owner.

An estimate of the value of Dr. James' interest in the Richland Center lines has been made by the engineers and this valuation shows a cost new of \$432 and a present value of \$290. The rental to be paid the owner should be sufficient to allow for interest, depreciation, and taxes on the cost new. An allowance of 15 per cent, or \$65, appears ample. This, then, will be an item to be added to the "Wire plant expenses" of the applicant and makes the total operating expenses \$2,637. No allowance is made here for the ordinary repairing of the Richland Center lines, as these repairs will be relatively small and can undoubtedly be handled by the present lineman without any appreciable increased cost. This arrangement means that the Muscoda Mutual Telephone Company will make the ordinary repairs on Dr. James' half of the lines, while he must

stand in readiness to put in new poles when necessary and to replace the lines when unserviceable.

APPORTIONMENT OF EXPENSES.

We are now ready to apportion expenses to the foreign or connecting lines. "Central office expenses" were found to be \$845. To apportion these on the basis of the percentages obtained from the traffic analysis, 46 per cent should be chargeable to foreign lines. This gives \$388.70 "Central office expense" chargeable to foreign lines. The rental of \$65 a year for Dr. James' property would be apportioned according to the use made of the Richland Center lines, or about 66 per cent to foreign, making an item of \$45. Ordinary "Wire plant expenses" amounted to \$520 and a small part of this should be met by foreign lines. According to the engineers' valuation, the distribution system, both cost new and present value, divides about 80 per cent to rural and 20 per cent to village. The wire plant expenses will be proportionate to the property used in each service. On this basis, 80 per cent of \$520, or \$416, is a rural expense. Out of the total rural distribution system cost new, \$502 is property owned by applicant but used by foreign lines. This is 6.5 per cent of the total and gives a wire plant expense of \$27 chargeable to foreign lines. Apportionment of interest, depreciation, and taxes has been based upon the cost new of the property in the following manner:

APPORTIONMENT OF INTEREST, DEPRECIATION AND TAXES.

	Rural, less foreign.	Per cent	City.	Per cent.	Foreign.	Per cent.	Total.	Per cent.
Cost new.....	\$8,333 00	71	\$2,848 00	24	\$631 00	5	\$11,812 00	100
Depreciation.....	\$546 70	.....	\$184 80	.....	\$36 50	.....	\$770 00	.....
Taxes.....	53 25	.....	18 00	.....	3 75	.....	75 00	.....
Interest (7 per cent on present value) ..	426 00	.....	144 00	.....	30 00	.....	600 00	.....
	\$1,025 95	.....	\$346 80	.....	\$72 25	.....	\$1,445 00	.....

SUMMARY OF EXPENSES APPORTIONED TO FOREIGN.

Central office	\$388.70
Rent of R. C. lines.....	45.00
Wire plant	27.00
Depreciation	38.50
Taxes	3.75
Interest	30.00
	\$532.95

According to the engineer's inspection there are 241 foreign phones directly connected to applicant's switchboard. These 241 phones should bear the expense of switching. Dividing the \$532.95 by the 241 gives a switching fee of \$2.20. No allowance has been included in here for general and commercial expenses. Allowing for these would bring the charge per phone up to about \$2.50. Since the applicant's books have not been kept according to the Commission's classification and it has been necessary to construct an income account, the switching expenses can not be determined with absolute certainty. It is apparent, however, from the analyses made that a \$4 charge per phone is excessive and that the \$3 rate now charged is ample.

Allowing a uniform switching fee of \$3 and considering 205 foreign phones as actually paying, gives the applicant a revenue from this source amounting to \$615. When the \$15 paid to the Gotham exchange is deducted, there remains a net revenue from switching of \$600.

ESTIMATED EARNINGS.

Assuming a switching charge of \$3 and assuming other changes as indicated, the following revenues result:

Rental from 84 village phones.....	\$1,008.00
Rental from 103 rural phones.....	1,236.00
Increase of \$3 each on business phones.....	90.00
Wisconsin tolls	75.00
Company's own toll.....	63.00
Misc. increases on extension sets, etc.....	10.00
Revenue from switching.....	600.00
	\$3,082.00

The total expenses, exclusive of interest, we found were \$2,637, and, comparing these with earnings, there is a balance of \$445 available for dividends. This amount is 5 per cent on the present value of the property and 12 per cent on the par value of stock. Since we are informed by the secretary of the company that the stockholders look for good service rather than dividends, this return is probably sufficient. Should a full 7 per cent return be desired by stockholders, it will be necessary to readjust the entire schedule. Such procedure does not seem warranted at this time.

It should be noted here that the applicant's present practice of rebating to stockholders is unlawful under the terms of sec. 1797m—92. All subscribers, whether stockholders or not, must be charged the regular telephone rental as per company's schedule. If there are any profits, a portion of such rental would be returned in the form of dividends.

APPLICATION FOR OTHER ADJUSTMENTS.

1. Business telephones ordinarily pay a higher rate than residence telephones. A study of rates on file with this Commission indicates that a difference of \$3 between the two is entirely reasonable.

2. The applicant seeks also to make an extra charge of 25 cts. per month for phones in for less than one year. There are a number of cheese factories which have no occasion to use phones during that part of the year when the factories are not running. When the factory closes, they want the phone taken out to be put in again next year. It is only fair to allow an extra charge for such interrupted service. A ruling on this point has been made *In re Free and Reduced Rate Telephone Service*, 2 W. R. C. R. 521, 545: "Telephones installed or used for short periods of time, such as telephones in summer cottages, temporary business places, etc., may justly be charged a higher rate than the proportional part of the regular annual rate for the respective classes of service."

3. A rate is asked for extension telephones and extension bells. It is customary to allow an extra charge for such extensions. The extension phone meant in this instance is a talking phone without a bell. An additional charge of 50 cts. a month will be allowed. For extension bells an additional charge of 15 cts. a month is sufficient. These additional charges will have very little effect on the applicant's revenues.

4. An application is made to charge \$18 a year for business telephones when put on a metallic circuit. The applicant intends to put a metallic system in throughout the village. It does not seem advisable to make provision for this charge until it has actually been completed.

5. The request for a differentiation in the switching fee, charging a half fee in some instances, is not approved. It appears more equitable to make a uniform charge of \$3 per phone per year on all connecting lines.

Toll Charges.

The applicant's practice is to make no toll charges excepting against outsiders who come to the central office booth. Such persons are charged 10 cts. a message. Where it is necessary to send a messenger out, 10 cts. is charged against the person called. These charges may be retained.

Substation Equipment.

From information supplied by applicant's secretary it seems that there are about seven renters (nonstockholders) who own their telephones. Practically all, if not all instruments used by stockholders are owned by the individuals. In the latter case the phones were offered as part payment of a share of stock and the transaction is proper, but in the former there is no reason why the equipment should be furnished by the subscribers. In all instances where nonstockholders own their instruments, an annual rental should be paid, equivalent to interest on the investment. An annual rental of 50 cts. a year will about cover this. Since all phones are maintained and replaced by the applicant, no rental to cover depreciation need be paid the renters who own telephones.

The suggestion made in the brief for the connecting lines that one of the Pier lines be used as a through line is not practicable as all four of these lines connect with Muscoda only. As regards the Wisconsin Telephone Company's proportion of expenses, this matter is not at issue in this case.

THEREFORE, IT IS ORDERED:

1. That the application of the Muscoda Mutual Telephone Company, insofar as it seeks to fix a \$4 annual switching fee per phone, be dismissed.
2. That the application for a special charge for business phones on a metallic system be dismissed until a metallic system shall have been installed. When such installation of a metallic system has been completed, the Commission will hear further application for adjustment in rates.
3. That those portions of the application seeking to establish a \$15 rate for business telephones, an extra charge of 25 cts. per month for telephones in less than a year, and an extra charge for extension telephones and extension bells, be granted.

4. That the applicant pay to the owner of the Muscoda end of the Richland Center through lines an annual rental of \$65.

5. That the applicant pay to nonstockholders owning their telephones an annual rental of 50 cts. per phone.

6. That the applicant's present schedule of rates be abandoned and the following substituted therefor:

Residence telephones—village	\$12.00 per year
Residence telephones—rural	12.00 per year
Business telephones—village	15.00 per year
Extension talking phone—additional.....	.50 per month
Extension bell—additional .....	.15 per month
Additional charge where phone is in less than a year .....	.25 per month
Switching charge per phone assessed against all connecting lines that ring the applicant's exchange directly	3.00 per year
Toll charge for users who are not regular customers of applicant or of its directly connecting lines (to any part of applicant's system or lines it exchanges with).....	.10 per message
Messenger fee .....	.10 per call

7. That free telephone service now given to the local post office and the railway station be discontinued.

IN RE INVESTIGATION, ON MOTION OF THE COMMISSION, OF
THE SERVICE FURNISHED BY THE BAYFIELD MUNICIPAL
WATER AND LIGHT PLANT.

Submitted Feb. 20, 1913. Decided April 30, 1913.

The Commission, on its own motion, investigated the service furnished by the Bayfield Mun. W. & Lt. Plant in the town of Bayfield, Bayfield county, Wis. The utility desires to make a number of changes in equipment to enable the plant to furnish additional service and to effect certain economies in operation. The plant is scarcely equal to the present load. The voltage regulation is very poor, due to the obsolete equipment in use, and some change in equipment is necessary in order to furnish electric current for day service. A depreciation fund was established only a year ago and notes or bonds must be issued to obtain the necessary funds. The cost of the installation was investigated and it was stated that annual amounts with interest can be paid out of earnings, removing the indebtedness within six years.

Held: The present service is inadequate and it is ordered that the utility install the improvements and replacements of equipment as approved by the Commission.

The Commission, on its own motion, investigated the service furnished by the Bayfield Municipal Water and Light Plant, following a complaint of the board of water and light commissioners for the town of Bayfield, in Bayfield county, Wis., that the service now being furnished is inadequate, insufficient and unreasonable.

A hearing was held on February 20, 1913, in the town hall at Bayfield, Wis. *John J. Fisher* appeared for the Bayfield water and light commission.

It appears from the testimony of the manager of the Bayfield Municipal Water and Light Plant that the plant was installed in 1895. Much of the original equipment is still in use. In 1909 an appraisal and investigation of the plant was made by the Commission's engineering staff and certain changes were suggested looking toward better service and economy in operation. In 1910, following the suggestions of the Commission, a lot adjoining the station was purchased and a concrete addition erected. Two new 150 horse power boilers were installed. The

old boilers were removed and the old boiler room was remodeled to serve as an office and store room. Our engineer reports that with the exception of these improvements, the station equipment is the same to-day as it was in 1909. This equipment is as follows: Two simple Corliss engines, one 12x36 and the other 16x36, are belted to an overhead jackshaft located in the attic; two obsolete type a. c. 133 cycle generators, located near the engines are belted to this jackshaft at an angle of about 45 degrees.

The testimony shows that the plant is scarcely equal to the present load, and that the equipment will have to be replaced in the near future. At present no day service of electric current is furnished, but it was shown that some demand exists for such service to operate fans and various kinds of machinery. Current for this purpose cannot be satisfactorily furnished with the existing equipment, for the reason that a 133 cycle current cannot be used with 60 cycle motors unless they are rewound. This rewinding involves considerable expense. It was pointed out that to furnish day service with 133 cycle current would result in additional expense should the plant be changed to a 60 cycle system at some time in the future. It was stated that the voltage regulation is very poor, due to the obsolete equipment now in use. To enable the plant to furnish day service and to effect certain economies in operation, the board of water and light commissioners desire to make a number of changes in equipment, substantially along the line of those suggested by the Railroad Commission's engineering staff in 1909. The changes proposed are as follows:

1. Remove the present 133 cycle generators.
2. Replace the 16 x 36 Corliss engine with a 100 kv-a. tandem compound, high speed, direct connected unit. Generator to be 60 cycle.
3. Install a 50 or 60 kv-a., 60 cycle belted type generator, operated from the 12x36 Corliss engine.
4. Install a motor driven triplex geared pump to be operated during the day.
5. Replace the present obsolete switchboard.
6. Install a series Mazda street lighting system.

The economies to be effected by these changes were pointed out by the manager of the plant. The large loss of power due

to the friction on the jackshaft would be eliminated. By operating an electric pump during the day when the load is light considerable saving in fuel would be made. By installing a modern switchboard the labor required to constantly adjust the voltage on the obsolete switchboard now in use could be dispensed with. The series Mazda street lighting system would use much less current than the existing lighting system. It was stated that the installation of a 60 cycle system would necessitate the replacement of 50 per cent of the transformers now in use. This would result in a redistribution of transformers and the installation of larger ones by which considerable saving in current could be accomplished.

An estimate of the cost of the proposed installations ready for operation was submitted by the manager of the water and light plant as follows:

One 120 kw. high speed tandem compound unit complete...	\$4,200.00
One 60 kw. belted revolving field generator.....	725.00
One three-phase three-panel switchboard complete.....	1,400.00
One 150 gal. motor driven pump.....	1,000.00
One station lightning arrester.....	200.00
New transformers	600.00
New electric meters.....	400.00
New street lighting system.....	1,000.00
Foundations, removing partition, floor, etc.....	1,000.00
Total	<u>\$10,525.00</u>

Our engineer has examined the plant and reports that from the standpoint of increased efficiency and better service the following improvements should be made:

1. The overhead jackshaft should be eliminated entirely either by installing a direct connected unit or belting direct from the present engines.
2. New 60 cycle generators should be installed. The capacity of these units should be such as to best handle the load.
3. A motor driven pump should be installed, but not until after a day load has been supplied for a sufficient length of time to obtain reliable data on the amount of day load available. This will make possible the choice of the most serviceable pump. If possible the pumping should be done at a time that would give the best load factor. The present duplex steam pumps should be kept as a reserve.

4. The present switchboard should be replaced by a board with marble or slate panels and modern instruments. Station lightning arresters should also be installed.

5. A series Mazda street lighting system should be installed.

6. Transformers should be rebuilt or replaced to handle 60 cycle current. They should also be arranged so as to operate on the most economical load.

The engineer reports that these improvements can be made for the amount estimated by the manager of the plant, namely \$10,525. It appears that up to a year ago no depreciation fund had been set aside from earnings, so that notes or bonds must now be issued to obtain the funds needed to make the necessary replacements. It was stated that there is no debt against the plant, and that its operation yields a net profit of \$2,500 a year on the present basis. It was estimated that the cost of the proposed improvements and replacements could be met by annual payments of \$2,000 with interest out of earnings, thus removing the indebtedness within six years.

In the light of the testimony and of our engineer's report, we find the service rendered by the Bayfield Municipal Water and Light Plant to be inadequate. The improvements and replacements as recommended by our engineer we regard as necessary to adequate service.

NOW, THEREFORE, IT IS ORDERED, That the board of water and light commissioners of Bayfield improve the equipment of the Bayfield Municipal Water and Light Plant as follows:

1. Eliminate the overhead jackshaft by installing a direct connected unit or belting direct from the present engines.
2. Install new 60 cycle generators.
3. Install a motor driven pump, suitable to the amount of day load available.
4. Install a switchboard with marble or slate panels and modern instruments.
5. Install station lightning arresters.
6. Install a series Mazda lighting system.
7. Rebuild or replace transformers to handle a 60 cycle current, arranged so as to operate on the most economical load.

Ninety days is considered a sufficient time within which to comply with this order.

IN RE APPLICATION OF THE VILLAGE OF ELKHART LAKE FOR
AUTHORITY TO READJUST RATES.

Submitted Feb. 18, 1913. Decided May 1, 1913.

The village of Elkhart Lake asks that equitable meter rates be established for the municipal water utility. The village desires to furnish and install meters. A valuation was made and the revenues and expenses were investigated. The expenses were apportioned between fire and general service. An estimate of the cost of furnishing meters was added to the expenses of general service.

The valuation of the physical property, as of date Jan. 1, 1912, shows a cost new of \$9,142 and a present value of \$8,425.

Held: All consumers including the railway and public buildings are to be supplied on a meter basis. The village is ordered to put in effect the water rates provided by the Commission.

A charge is provided for reconnection in all cases where service has been discontinued for a period of less than one year.

It is the duty of the utility to provide meters unless exempted by the Commission. It is ordered that the village acquire the meters now in use, and install and own all meters put in service.

The village is to keep an accurate record of consumption.

This application was filed with the Commission on September 27, 1912. Applicant is operating a water plant supplying both fire protection and general service in the village of Elkhart Lake, Wis. The application states that the lawful rates of the applicant are as follows:

Flat rates—\$5 per year.

Sprinkling rates for summer only—\$6 per year.

C. M. & St. P. Ry. Co.—75 cts. per locomotive tank.

Meter rates—20 cts. per 100 cu. ft.

The application states further that the village desires to furnish, install and maintain meters for all consumers, that it wishes to have rates so adjusted as to make the plant self-sustaining, and that it desires to have approximately even and equitable meter rates established for all consumers. The applicant does not ask for any specific schedule of rates but asks that the Commission establish such rates as are reasonable.

Hearing was held at Madison, February 18, 1913. Appearances were as follows: *John F. Kramer*, village president, and

C. C. Robertson, chairman of the water commission. No appearances were entered in opposition.

Testimony introduced at the hearing has been carefully analyzed and considered fully in connection with the matters involved in this case.

Following is a statement of the value of the physical property as determined by the Commission, and of the apportionment of that property between fire and general service:

	Cost new	Present value
Fire	\$5,361	\$5,040
General	3,781	3,385
Total	\$9,142	\$8,425

Reports which have been made to the Commission as to the financial condition of the utility have not been such that they can be used in this case. Since June 30, 1912, however, the utility records have been kept in accordance with a system of accounts prescribed by this Commission. Accurate records of the transactions of the utility were obtained by the accounting staff of the Commission, covering the period from June 30, 1912, to April 1, 1913. Based on the report for nine months, the following appears to be very nearly the income account for a year:

REVENUES:

Commercial sales	\$719.76
Industrial sales	247.00
Hydrant rentals	165.00
Street sprinkling	100.00
Total revenues	\$1,231.76

EXPENSES:

Pumping	\$862.33
Distribution	97.64
Commercial	124.32
General	27.17

Total of above.....	\$1,111.46
Depreciation	129.60

Total expenses	\$1,241.06
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Deficit for year.....	\$9.30
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It appears from the testimony that water is supplied to the C. M. & St. P. Ry. Co. at the rate of 75 cts. per locomotive tank. Of this amount 25 cts. per tank is paid to the M. & F. R. V.

Ry. Co. for pumping, in addition to \$65 per month for regular pumping; 25 cts. per tank is retained by the village, and 25 cts. is paid to the water works superintendent for supervising the filling of tanks. Tanks are filled by means of a hose attached to a standpipe at some distance from the right of way to the railroad supplied.

The testimony indicates that the railway company would probably use much more water if it were able to secure it at meter rates at its coaling station.

The valuation summarized above is the revised valuation as of January 1, 1912. The balance sheet of the utility as of April 1, 1913, shows that the total cost of extensions since that date was \$56.01, although there are references in the testimony to a number of other extensions. For practical purposes the effect of extensions has been so slight that we may use the valuation as of January 1, 1912, for the purposes of this case.

The bonds which were issued to secure funds for the construction of the plant have all been paid off, but the village officials feel that the village should be allowed to earn a reasonable rate of interest upon the value of the property. From the statement of operating expenses shown above, as accurate an apportionment of expenses as the lack of more detailed information would permit, has been made. No attempt has been made to distinguish between capacity and consumer expenses, as the lack of definite and complete consumer data makes such a distinction of little value.

Of the total operating expenses, exclusive of any allowance for taxes, depreciation, or interest, \$530.33 are output expenses and \$581.13 may be classed as capacity expenses. Of the total output expenses virtually none are chargeable to fire protection. Of capacity expenses it appears that \$274.43 may properly be charged to fire protection and \$306.70 to general service.

Interest, depreciation, and taxes should be provided for at the rate of perhaps 6 per cent on a value about equal to the cost new of the property, which would amount to about \$548.52. Of this amount 58.6 per cent, or \$321.43, is chargeable to fire protection and 41.4 per cent, or \$227.09, to general service. This is based upon the apportionment of the physical property. The total cost of the fire service is, therefore, very nearly \$595.86, and of general service, \$1,064.12.

Up to the present time it appears to have been the policy of the village to require consumers to furnish their own meters. The application in this case asks that rates be fixed on such a basis that the village may own all meters. It is the duty of the village to furnish and own all meters unless exempted by the Commission. At the hearing in this matter, representatives of the village asked that the order be made to require the village to own all meters.

Under these conditions it will be necessary to add to the cost of general service, as shown above, the cost to the utility which will be incurred because of the ownership of meters. The consumer records of the utility have not been properly kept and it was found impossible to obtain even approximately accurate records of the amount of water used by metered consumers. Because of the defective records it is not possible to state whether or not rates have been properly applied, but the records of consumption were so poor that it is not at all improbable that in some instances charges were incorrectly made.

Aside from showing the number of consumers as of April 1, 1913, the consumer records are practically worthless. It appears that there were about sixty-eight commercial and industrial users on April 1, 1913. City uses are confined to use for fire protection, street sprinkling, and for a schoolhouse and a jail. Part of the commercial consumers use water for the summer only, apparently about fifteen in all.

From the facts presented with regard to the size of service connections, it appears that practically all will need only $\frac{5}{8}$ " meters. There are two 2" meters now in service and one or two other large meters may be required. In the absence of any accurate information it may be sufficient to add about \$125 to the cost of general service as shown above, in order to meet the additional expenses involved in the ownership of meters. From this it appears that the total cost of general service, including street sprinkling and water for public buildings, is practically \$1,189.12, or very nearly \$1,200 per year.

The city at present pays \$100 per year for street sprinkling. This appears to be a reasonable payment, but the records of the use of water for street sprinkling are not complete and no accurate statement of the amount used can be made. The amount used by the railroad appears to have been approximately 800,000

gallons. If a meter were installed and water supplied to a tank on the railroad right of way, the testimony indicates that the use of water by the railroad would probably be increased. The present practice with regard to selling water to the railroad is not satisfactory, both because it does not enable the village to keep an accurate record of the amount and because the inconvenience is so great as to discourage the use.

With regard to the general users of water, there is almost nothing upon which to base an estimate of consumption. For this reason the rates fixed in this case must be regarded as tentative only. With proper records of consumption a year's operation should be sufficient to indicate what changes will be necessary.

With some sixty-nine consumers aside from the railroad and the sprinkler, of whom fifteen are part-year users, it may be fair to estimate that the consumption for a year for these consumers will not be far from 2,500,000 gallons. This is somewhat above the usual consumption for such consumers, but it appears that there is a rather large amount of water used for sprinkling lawns and that some other consumers use large amounts. Rates should probably be computed on the assumption that the village will take reasonable measures to increase its business, particularly its sales to the railroad. How much of an increase can be made cannot be foretold, but the probability of such an increase may be taken into consideration.

It appears, then, that aside from the street sprinkling the probable annual use of water under present conditions is about 3,300,000 gallons. With expenses of slightly less than \$1,100 per year after deducting the revenue from street sprinkling, it appears that the average revenue required to support this branch of the business is about 33 cts. per 1,000 gallons, or between 24 and 25 cts. per 100 cubic feet. Because of the possibility of developing the business and because of the difficulty of making a satisfactory estimate of the water used it will probably be best to make the average rate somewhat less than this and to fix a relatively low rate for uses in excess of a moderate quantity, in order to give some stimulus to the growth of the business.

From such facts as are available it appears that a schedule of rates as outlined below should be adopted. With the pres-

ent business these may fall somewhat short of producing revenue enough to meet the full cost of the business, but with such development as may be anticipated they will probably be sufficient. After accurate records have been kept for some time such revision may be made as appears necessary. The rates which appear reasonable are as follows:

Minimum quarterly charges, one consumer on a meter.

5/8" meter	\$1.50	1 1/2" meter	\$4.00
3/4" "	2.00	2" "	5.00
1" "	2.50	3" "	7.00
1 1/4" "	3.00	4" "	10.00

Charges for water:

First 500 cubic feet per quarter—minimum charge.
 Next 1,000 cubic feet per quarter—20 cts. per 100 cubic feet.
 Next 3,500 cubic feet per quarter—16 cts. per 100 cubic feet.
 Next 20,000 cubic feet per quarter—12 cts. per 100 cubic feet.
 All over 25,000 cubic feet per quarter—10 cts. per 100 cubic feet.

Additional consumer charge:

For each additional consumer supplied through a meter—\$1.00 per quarter.

IT IS THEREFORE ORDERED:

That the applicant, the village of Elkhart Lake, discontinue its present schedule of water rates and substitute therefor the following schedule:

1. Fire protection—\$600 per year.
2. Street sprinkling—present rates.
3. General service:

Minimum quarterly charges, one consumer on a meter:

5/8" meter	\$1.50	1 1/2" meter	\$4.00
3/4" "	2.00	2" "	5.00
1" "	2.50	3" "	7.00
1 1/4" "	3.00	4" "	10.00

Charges for water:

First 500 cubic feet per quarter—minimum charge.
 Next 1,000 cubic feet per quarter—20 cts. per 100 cubic feet.
 Next 3,500 cubic feet per quarter—16 cts. per 100 cubic feet.

Next 20,000 cubic feet per quarter—12 cts. per 100 cubic feet.
All over 25,000 cubic feet per quarter—10 cts. per 100 cubic feet.

Additional consumer charge:

For each additional consumer supplied through a meter—\$1.00 per quarter.

IT IS FURTHER ORDERED:

1. That the village shall acquire all meters now in use and shall, in the future, install and own all meters put in service, and that the village shall supply all consumers, including the C. M. & St. P. Ry. Co. and public buildings, on a meter basis. Three months from the date of this order is considered sufficient time for the village to comply with this section of the order.
2. The village shall keep an accurate record, in permanent form, of the quarterly consumption of each consumer.
3. A charge of \$1.50 shall be made for reconnection in all cases where service has been discontinued for a period less than one year.

IN RE APPLICATION OF THE VIKING TELEPHONE COMPANY
FOR AUTHORITY TO INCREASE RATES.

Submitted April 15, 1913. Decided May 1, 1913.

Application is made by the Viking Tel. Co., operating in the town of Clay Banks, Door county, Wis., for authority to increase the rate for telephone service.

Held: The proposed increase is reasonable and the applicant is authorized to put the desired rate into effect.

Application in this matter was dated February 14, 1913. The applicant is a telephone utility engaged in the management and operation of a telephone system in the town of Clay Banks, Door county, Wis. The petition shows that the rates for telephone service now in effect are \$3.50 per year per phone, of which \$3.00 per phone is paid to the Wisconsin Telephone Company for exchange service, leaving a balance in the treasury of the applicant of 50 cts. per phone per year.

Hearing in this matter was held on April 15, 1913, at Madison, Wis. *L. L. Johnson* appeared for the applicant. There were no appearances in opposition.

At the hearing it was stated that there was no opposition among the subscribers to the proposed increase and that the increase was considered necessary in order for the company to be in a position to properly maintain its system. It appears from the report of the utility for the year ending June 30, 1912, that there were on that date a total of sixty-one subscribers, all on rural lines. The total receipts of the utility as shown by the report amounted to \$88.23. The portion of the telephone rentals which was paid to the Wisconsin Telephone Company for exchange service was apparently not included in the statement of earnings. Just what elements enter into the \$88.23, aside from the 50 cts. per year obtained from the regular rates for rural service, does not appear, but these are probably miscellaneous earnings arising from classes of service not covered by the regular \$3.50 per year charge.

It appears to be the practice of the company to require subscribers to furnish a certain amount of labor each year in addition to the rate charged for service. It also appears to have been the practice in some cases to accept a payment in lieu of labor. No extended analysis of the finances of the applicant appears to be necessary. The cost of the property according to the report for the year ending June 30, 1912, was \$2,440, and at the hearing the representative of the applicant estimated the value of the property to be about \$3,000. It seems to be evident that the proposed increase will not be in any way unreasonable. In fact, it is almost certain that this increase, even if the company continues the practice of requiring each subscriber to furnish a certain amount of labor, will not enable the company to earn much, if any, return upon the property above the actual costs of keeping it in a condition to furnish service. In view of this condition and of the fact that there appears to be no opposition to the increase, it seems entirely reasonable to authorize the increase as asked for in this application.

IT IS THEREFORE ORDERED, That the applicant in this case, the Viking Telephone Company, may discontinue its present rate of \$3.50 per phone per year and substitute therefor a rate of \$4.00 per phone per year.

FLAMBEAU PAPER COMPANY

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY,
MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILWAY COM-
PANY.

Submitted March 11, 1913. Decided May 1, 1913.

The petitioner alleges that the rate exacted on carload shipments of wood pulp over respondents' lines from Ellis Junction to Park Falls, Wis., was excessive and discriminatory. A lower rate was in effect for a similar haul to a competitor at Ladysmith. The character of the shipment, the heavy loading per car, and the comparatively low value of the commodity are among the elements to be considered in fixing a reasonable rate.

The power of the Commission to grant a refund, in the present case, is questioned on the ground that no case of damage to the petitioner from the rate exacted is shown, and attention is called to certain decisions of the interstate commerce commission. Under the Wisconsin statute the Commission is to find whether the rate charged was "erroneous, illegal, unusual, or exorbitant" (sec. 1797—37m) and nothing is said about the damage the complainant may have sustained in competition with other manufacturers and dealers. The interstate commerce commission, directed by the statute (Interstate Commerce Act, sec. 16) to find whether the complainant has suffered damages, may require some showing of special damage; but in view of the difference between the two statutes the holdings of the interstate commerce commission on the matter of reparation cannot be a precedent for this Commission. A rate held to be unreasonable for the future must be shown to have been unreasonable at the time the shipments moved before a refund can be authorized and the question of damages may sometimes be of value as an evidentiary fact tending to show what the situation has been during the period for which refund is asked.

Held: The rate exacted was excessive and a reasonable rate would have been 6.5 cts. per cwt. Refund is ordered.

The petitioner, a corporation engaged in the operation of a paper mill at Park Falls, Wis., on the line of the respondent Minneapolis, St. Paul & Sault Ste. Marie Railway Company, complains of the rate of 9 cts. per 100 lb. on carload shipments of wood pulp from Ellis Junction, on the Chicago, Milwaukee & St. Paul line, to Park Falls, over the lines of the respondent carriers, and asks that the rate be reduced to 6.5 cts. per 100 lb., and that a refund be authorized upon its shipments since

April 15, 1912, on the basis of 6.5 cts. per 100 lb. The present rate is alleged to be excessive, and also to be discriminatory as compared with a joint rate of 6.5 cts. per 100 lb. charged by the same carriers from Ellis Junction to Ladysmith, Wis.

The separate answers of the respondent railway companies deny the unreasonableness of the rate complained of, and the respondent "Soo" line alleges that a rate of 6.5 cts. would be entirely too low.

The hearing was held in the office of the Commission March 11, 1913. The petitioner was represented by *W. D. Hurlbut*, the respondent Chicago, Milwaukee & St. Paul Railway Company by *J. N. Davis*, and the respondent Minneapolis, St. Paul & Sault Ste. Marie Railway Company by *A. H. Lossow*.

The distance from Ellis Junction to Park Falls is 179 miles. The shipments in question moved from Ellis Junction to Pembine, 29 miles, over the Chicago, Milwaukee & St. Paul line, and the remaining 150 miles over the "Soo" line, being transferred at Prentice from the Peninsular division of the "Soo" line to its Chicago division. The rate of 6.5 cts. to Ladysmith, with which comparison is made by the petitioner, covers an identical haul as far as Prentice, and since the distance from Prentice to Ladysmith is 10 miles greater than that from Prentice to Park Falls, the total haul on the 6.5 ct. rate covers a distance of 189 miles. From this it will be seen that the service of the Chicago, Milwaukee & St. Paul Railway Company is the same whether the final destination is Park Falls or Ladysmith, while the "Soo" line has a haul 10 miles shorter in the case of Park Falls than in the case of Ladysmith.

The respondent "Soo" line admitted at the hearing that conditions were such as to warrant the equalization of the rates to Park Falls and to Ladysmith, and that the 9 ct. rate complained of was excessive. It contended that the 6.5 rate to Ladysmith was inadequate and that a higher rate should be established for both points. An examination of various tariffs carrying joint rates on wood pulp, between the larger railway lines in this state, indicates that the rate of 9 cts. per 100 lb. is considerably out of line with the usual level of rates, and that some reduction is fully warranted by the rate situation as between different Wisconsin paper mill points. How great that reduction should be, however, does not appear clearly from a mere examination of

the tariffs and a comparison of the rates found therein. A factor of considerable importance is that the paper mill at Ladysmith enjoys the 6.5 ct. rate from Ellis Junction, and, as the testimony shows, that mill is a competitor of the petitioner and operates under somewhat similar conditions. This 6.5 ct. rate has been in force about two years, and, though the carriers contended at the hearing that it was unremunerative, not only has that rate been kept in effect, but the "Soo" line, during the same period, has had other rates as low, notably a 6.5 ct. rate from Ladysmith to Green Bay (203 miles) and a 6.5 ct. rate from Ladysmith to Little Rapids (191 miles) in effect in connection with the Chicago & North Western line.

The testimony shows that wood pulp is loaded to an average of fully 60,000 lb. per car and that 60 per cent of this weight consists of water. The pulp in its dry state is valued at about \$20 to \$25 per ton and thus its value is \$8 to \$10 per ton in the form in which it is shipped. This amounts to between 40 and 50 cts. per 100 lb. The commodity is thus one of heavy loading and therefore its transportation involves less expense to the carrier per ton than would a lighter commodity. At the same time, its value is somewhat lower than that of the average commodity, since it is shipped in a form which reduces its value per ton considerably below that of the dry pulp. The fact that the transportation involved in this case is carried on jointly over two railway lines is an element to be considered, but even after due allowance is made for this item, the circumstances surrounding the traffic are such as to indicate that the commodity should be given a fairly low rate. The data in possession of this Commission as to the cost of the transportation by the carriers involved in this proceeding indicate that a rate of 6.5 cts. per 100 lb. from Ellis Junction to Park Falls yields the carriers about as much in the way of return as they are entitled to receive under the circumstances. This fact, together with the existence of the 6.5 ct. rate from Ellis Junction to Ladysmith, seems to warrant the Commission in ordering a reduction of the present rate to Park Falls from 9 cts. to 6.5 cts.

With respect to the petitioner's request for a refund, it was seriously contended by the representative of the "Soo" line that the petitioner had not made out such a case of damage to it from the existence of the 9 ct. rate as would entitle it to a re-

fund. It was claimed that the representative of the petitioner at the hearing, who is traffic manager for a number of Wisconsin paper mills and who has his headquarters at Chicago, was incompetent to testify as to the damage, if any, which the petitioner had sustained, and that in the absence of direct evidence on this point the Commission could not grant a refund. In support of this argument, counsel cited a number of cases decided by the interstate commerce commission; but without going into an analysis of these cases to determine whether, as claimed, they require the complainant to show other damage than the unreasonableness of the rate, it is sufficient to call attention to the difference between the Interstate Commerce Act and the law under which this Commission operates. On the subject of reparation, the Interstate Commerce Act makes no mention of reparation as being a refund of freight paid on shipments; it refers only to "damages," and provides:

"That if, after hearing on a complaint made as provided in section 13 of this act, the commission shall determine that any party complainant is entitled to an award of damages under the provisions of this act for a violation thereof, the commission shall make an order directing the carrier to pay to the complainant the sum to which he is entitled on or before the day named; * * * All complaints for the recovery of damages shall be filed within two years from the time the cause of action accrues, and not after." (Interstate Commerce Act, sec. 16.)

The Wisconsin statute on the subject is quite different. It provides that:

"Within one year after the delivery of any shipment of property at destination, any person aggrieved may complain to the the commission that the charge exacted for the transportation of such property between points in Wisconsin * * * is erroneous, illegal, unusual or exorbitant, * * *. If upon such hearing, the commission shall decide that the rate or the charge exacted is erroneous, illegal, unusual, or exorbitant, it shall find, what in its judgment, would have been a reasonable rate or charge for the service complained of. If the rate or charge so found shall be less than the charge exacted, the carrier shall have the right to refund to the person paying such charge the amount so found to be excessive. * * *" (Sec. 1797—37m.)

The thing the Commission is to find under the Wisconsin statute is specific—that the rate charged was "erroneous, illegal,

unusual, or exorbitant.” Nothing is said about the damage the complainant may have sustained in competition with other manufacturers and dealers; the only requirement is that he shall be the one who paid the charge. It may well be that the interstate commerce commission, directed by the statute to find whether the complainant has suffered damages, may require some showing of special damage; but, in view of the difference between the two statutes, such a position on the part of the interstate commerce commission cannot be a precedent for this Commission.

It does not follow from what has been said that every time this Commission determines a rate to be unreasonable, the complainant is entitled to a refund. The position of the Commission on this point has been frequently stated, and is, in effect, that before a refund can be authorized it must appear that the rate was unreasonable at the time the shipments moved, and it does not necessarily follow that a rate which would be unreasonable for the future was unreasonable during the whole of a given period preceding the decision. Whether it is or not depends upon the facts of the case, and it is at this point that the matter of damages, to which the respondent alludes, may sometimes be of value as an evidentiary fact tending to show what the situation has been during the period for which refund is asked.

In the present case, all the circumstances point to the unreasonableness of the 9 ct. rate from Ellis Junction to Park Falls in the past as well as at the present time. The 9 ct. rate was conceded by the respondent “Soo” line to be too high, and the cost figures on which the Commission primarily bases the 6.5 ct. rate herein ordered for the future, cover a sufficient period of time to demonstrate the excessiveness of the 9 ct. rate for at least a year in the past. The fact that the petitioner is a competitor of the mill which during the past years has enjoyed the 6.5 ct. rate is of itself an important element tending to justify the granting of a refund on the 6.5 ct. basis. Under all the circumstances of this case, it seems that the petitioner is entitled to a refund of the amount paid by it during the past year in excess of 6.5 cts. per 100 lb. upon its pulp shipments from Ellis Junction to Ladysmith.

The shipments on which the petitioner asks a refund are rather numerous, and a detailed list of them need not be given here.

Such a list, showing, for each shipment, the charge paid, the charges which have been assessed under the 6.5 ct. rate, and the refund to be paid, will be served upon each of the parties with this decision and order. The total amount of the refund found to be due the petitioner is \$2,901.23.

We therefore find and determine that the rate of 9 cts. per 100 lb., exacted of the petitioner by the respondent railway companies on its shipments of wood pulp from Ellis Junction, Wis., to Park Falls, Wis., is unreasonable and exorbitant and that a reasonable rate to have been applied on such shipments would have been a rate of 6.5 cts. per 100 lb.

IT IS THEREFORE ORDERED, That the respondents, the Chicago, Milwaukee & St. Paul Railway Company and the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, discontinue their present joint rate of 9 cts. per 100 lb. on wood pulp from Ellis Junction, Wis., to Park Falls, Wis., and that they substitute in lieu thereof a joint rate of 6.5 cts. per 100 lb., subject to the same minimum weight and other regulations as are now in effect.

IT IS FURTHER ORDERED, That the respondents be and the same are hereby authorized to refund to the petitioner, the Flambeau Paper Company, the sum of \$2,901.23, being the amount paid by the Flambeau Paper Company upon its shipments of wood pulp from Ellis Junction, Wis., to Park Falls, Wis., between April 15, 1912, and February 26, 1913, in excess of the rate herein found to be reasonable.

INDUSTRIAL CLUB OF NEW RICHMOND

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY
COMPANY,

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

Decided May 2, 1913.

NOTE:—The Commission has vacated this decision and ordered a rehearing. For this reason the decision is not printed here.

NORTHERN WOOD COMPANY

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Decided May 3, 1913.

The petitioner alleges that the rate exacted on shipments of fuel wood from Wausaukee to Fond du Lac and Berlin, Wis., was excessive. A lower rate was subsequently established.

The shipments were delivered at destination more than one year prior to the filing of the claim for reparation. The claim would have been barred under sec. 1797—37m, except for the fact that ch. 66, laws of 1913, enlarged the time of filing such claims to two years. At the time of the enlargement of the statute, the bar had not yet run upon the shipments in question and reparation may be awarded.

Held: The reasonable rate would have been the rate of 3.75 cts. per cwt. subsequently made effective. Refund is ordered.

The petition herein alleges that on and between April 13 and 14, 1911, the petitioner made three shipments of fuel wood from Wausaukee to Fond du Lac and Berlin, Wis., on which shipments charges amounting to \$91.80 were paid; that the rate applied to such shipments was 4.75 cts. per cwt.; that at the time such shipments were made there was in effect a rate of 3.75 cts. per cwt. from Pembine, a point beyond Wausaukee on the same branch of respondent's line, to Fond du Lac and Berlin applicable on fuel wood, and which would have applied to the shipments complained of had such shipments originated at or been shipped directly from Pembine instead of from Wausaukee, and that such rate of 3.75 cts. per cwt. applicable from Pembine was made applicable from Wausaukee September 6, 1911, in respondent's supplement No. 6 to G. F. D. No. 5555—H. The petitioner prays for reparation in the sum of \$19.32, being the difference between the amount of charges actually paid and the amount that would have been paid had the rate of 3.75 cts. per cwt. been applicable.

Respondent, answering the petition, admits all the allegations thereof and signifies its willingness to make the reparation asked for in the petition.

The claim was submitted upon the pleadings, papers, documents, and vouchers on file.

The petition in this case was filed with the Commission on April 20, 1912. The paid freight bills for the shipments in question show that such shipments were delivered at destination more than one year prior to the filing of the claim with the Commission. The claim would therefore have been barred under section 1797—37m, except for the fact that the recent legislature has by amendment enlarged the time of filing claims to two years. (Ch. 66, laws of 1913.) At the time of the enlargement of the statute the bar had not run upon the shipments in question, and hence reparation may be awarded. *Mayer v. C. & N. W. R. Co. et al.* 1911, 8 W. R. C. R. 328, 329—330.

Complete reference to the shipments, the amount of overcharge claimed to be due, and the date of delivery at destination are as follows:

Date of W. B. 1911.	Car No.	Weight.	Rate.	Charges paid.	Charges on the same shipments based on rate from Pembine to same destinations.		Excessive charges claimed.	Date of delivery at destination.	
					Rate.	Charges.			
WAUSAUKEE TO FOND DU LAC.									
Apr. 3	49255	77760	4.75	\$36.94	3.75	\$29.16	\$7.78	Apr. 14, 1911	
WAUSAUKEE TO BERLIN.									
Apr. 4	201903	64500	4.75	\$30.64	3.75	24.19	6.45	Apr. 4, 1911	
14	28025	51000	4.75	24.22	3.75	19.13	5.09	Apr. 20, 1911	
Total excessive charges claimed.....							\$19.32		

Examination of tariffs on file with the Commission discloses that the petition sets forth all the facts relative to the rates involved. It is very evident that the rate applied in the instant case was maintained by respondents through oversight or error. The rate should have been no different from Wausaukee than from Pembine to the destinations involved in the petition and to other destinations in the same general territory.

We find and determine that the rate of 4.75 cts. per cwt. exacted of the petitioner by the respondent on the shipments of fuel wood is unusual, and that the reasonable rate that should have been in effect and applicable to such shipments is 3.75 cts. per cwt.

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 Northern Wood Company the sum of \$19.32.

MITCHELL LEWIS MOTOR COMPANY

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Decided May 5, 1913.

The petitioner alleges that the rate exacted on carload shipments of automobile gear frames over the C. M. & St. P. Ry., from North Milwaukee to Racine Jct., Wis., was excessive. Subsequently a lower rate was put in effect.

Held: The fact that a railway company voluntarily lowers a rate should not be deemed in all cases an admission of prior unreasonableness. The rate exacted, in the present case, was unreasonable and refund is ordered.

The petitioner is a corporation engaged in the manufacture, sale, and shipment of automobile gear frames and other parts of automobiles, with its principal office in the city of Racine, Wis.

It alleges that in the month of July 1912 it shipped four cars of auto gear frames from North Milwaukee to Racine Junction, Wis., on which the respondent charged a rate of 27 cts. per 100 lb., but that after the above shipments moved a rate of 11 cts. was made applicable; that the rate of 27 cts. is unreasonable, exorbitant, and unlawful, in the fact that if the rate of 11 cts. had been applied the charges would have been \$70.49 less than the sum charged. Wherefore, petitioner prays that the respondent be required to refund to it the sum of \$70.49.

The respondent, answering the petition, admits all the formal allegations thereof and states that at the time the shipments in question moved, the only lawful rate applicable was the rate of 27 cts. per 100 lb.; that after the shipment moved a rate of 11 cts. per 100 lb. for carload shipments, minimum weight 20,000 lb., was established in its G. F. D. No. 2323—D.

The claim was submitted upon the pleadings, tariffs, and documents on file.

The facts disclosed upon the investigation in this case are identical with those appearing in *Kaufmann & Co. v. Wis. & N. R. Co.* 1911, 6 W. R. C. R. 497, 498, where it was said:

“That the respondents in this case regarded the rate charged the petitioner unreasonable, is shown by the fact that a lower rate was put into effect by the respondent soon after the shipment in question moved.”

The fact that the railway company amended its tariff after the shipment moved should not be deemed in all cases as an admission on their part that the prior rate was unreasonable or exorbitant. Many changes in tariffs are necessary and made to meet the change of conditions in the commercial world. If railway companies were aware that they will be required to refund upon all shipments made within one year prior to the reduction in their tariffs, few reductions would voluntarily be made, each reduction being only secured by investigation and order of the Commission after complaint on part of the shippers. The object of the statute is to provide reasonable rates in cases of exceptional charges for services having been made, taking into consideration the cost of transportation and value of services rendered.

We therefore find that the rate charged the petitioner by the respondent on the shipments of automobile gear frames is unreasonable and exorbitant and that a reasonable rate to have exacted for the services rendered would have been 11 cts. per 100 lb.

NOW, THEREFORE, IT IS ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company be and it is hereby authorized to refund to the Mitchell Lewis Motor Company the sum of \$70.49, being the amount collected and found to be in excess of a reasonable charge for services rendered.

IN RE APPLICATION OF THE NEW GLARUS LIGHT AND WATER PLANT FOR AUTHORITY TO INCREASE RATES.

Decided May 7, 1913.

Application is made by the village of New Glarus, Wis., for authority to adopt the schedule of meter rates prepared for the municipal water utility. The village desires to install meters.

Held: The rates as specified appear to be reasonable and the applicant is authorized to put the meter rates into effect.

Application in this matter was filed on March 7, 1913. Applicant is a public utility operating a water plant in the village of New Glarus. The legal rates now in effect are set forth in the petition as follows:

Dwellings	\$3.60	per year
" with lawn	5.00	"
" " bath tub and closet.....	7.00	"
Hotels	12.00	"
" with bath tub and closet.....	16.00	"
Saloons	8.00	"
Blacksmith shop.....	4.00	"
Photograph gallery.....	4.00	"
Stables, per head, including carriage washing.....	1.00	"
Barber shop.....	3.00	"
Butcher shop.....	5.00	"
Drug store.....	3.00	"
Other rates.....		Special

The application states that the present rates are too low and that the village wishes to install meters in order to eliminate the waste of water. Application is made for authority to put in effect the following meter rates:

First 2,000 gallons per quarter	minimum bill
Next 5,000 " "	30 cts. per 1,000 gals.
" 5,000 " "	25 " "
All over 12,000 " "	20 " "
<i>Minimum bills:</i>	
$\frac{5}{8}$ " meter	\$1.25 per quarter
$\frac{3}{4}$ " "	1.50 "
1 " "	2.00 "
1 $\frac{1}{2}$ " "	2.50 "
2 " "	3.00 "

Hearing was set for April 15, 1913, but no formal appearances were entered.

This matter has been before the Commission for some time in an informal way. When the applicant decided to adopt the meter basis of selling water, the matter was taken up with this Commission and suggestions as to the type of schedule which should be adopted were made by the Commission. These suggestions were considered by the applicant's officials and certain changes were suggested in the rates as originally outlined, which changes, however, did not affect the type of schedule. This proceeding is an application for formal authorization of the schedule which was outlined in an informal way prior to the filing of this application.

There is very little information available which will enable us to determine what returns would be obtained from the proposed rate. Records have been poorly kept. The Commission now has under consideration the accounting requirements of the applicant and this matter will be so adjusted that future reports can be made to show the true condition of the business.

From what appears in this case there seems to be no reason to deny the application. The rates, in themselves, appear reasonable, and if certain consumers have their bills increased under the meter schedule it will be rather because of the defects in the present schedule of flat rates than because of any unreasonableness of the meter rates. The schedule submitted should be approved, at least until such time as experience shall disclose unreasonable features which are not apparent under present conditions. The schedule is of a proper type and the rates as specified appear reasonable.

IT IS THEREFORE ORDERED, That the applicant, the New Glarus Light and Water Plant, may adopt the schedule of meter rates mentioned in the application in this case.

E. W. JOHNSON ET AL.

vs.

LODI TELEPHONE EXCHANGE.

Submitted Feb. 20, 1913. Decided May 7, 1913.

Complaint is made that the service of the Lodi Tel. Exch., Lodi, Wis., is inadequate. The service is poor, due to overcrowding on certain portions of the system. The respondent has failed to provide for additional telephones requested, where the lines are heavily loaded and where an extension of line would be necessary.

Held: It appears that revenue from the additional business, likely to result from the proposed extensions, will provide for the increased expense. The grounded line between Lodi and Prairie du Sac used for both local and through business is inadequate. The respondent is ordered to construct a full metallic toll line from the central office at Lodi to the junction of its line with the Troy and Honey Creek Tel. Co., construction to begin as soon as the latter company agrees to erect its share of the line. The line is to be used exclusively for through business. The respondent is further ordered to provide an additional wire extending from Lodi to the T branch, a point on the boundary between sections 16 and 21 in the township of West Point; and to construct a pole line on the Poynette road for a distance of not less than three and one-half miles from Lodi.

The respondent is to collect a toll charge of 10 cts. per message on every call from Lodi to Prairie du Sac. In making settlements with the Troy and Honey Creek Tel. Co. the toll revenue may be divided equally between the two companies or in proportion to outgoing calls.

In order to retain certain subscribers near Poynette and Arlington as patrons of the Lodi exchange, the respondent exempted them from the toll charges exacted of all other subscribers for calling Poynette and points beyond. This practice is discriminatory and these subscribers are to be charged the regular toll rates.

Complaint against the Lodi Telephone Exchange, signed by twenty-six petitioners, was filed with this Commission on January 8, 1913. The matters complained of are as follows: (1) for several days at a time it is impossible to get service; (2) the service is very poor; (3) the lines and systems are not properly repaired; (4) the lines are overloaded; (5) the company refuses to install phones when requested; (6) no service is furnished during the night and on Sunday afternoon.

These six points are complaints set forth in the original petition of E. W. Johnson et al. At the hearing, February 20, 1913, an amendment to this complaint was read into the testimony. The supplementary complaint is to this effect:

“That the respondent company maintains a line between Lodi and Sauk City in conjunction with the Troy and Honey Creek Telephone Company; that such line is used for local business by patrons connected directly to it, and the amount of such local business is so great as to interfere materially with the use of a through line; and that the respondent should be ordered to run an additional wire between Lodi and Sauk City in connection with the Troy and Honey Creek Telephone Company, such wire to be used only for through business between Lodi and Prairie du Sac.”

Another complaint against the Lodi Telephone Exchange was filed in September, 1912, by Christian Falkenstein et al. This complaint was irregular as it had but eight signers. However, the matters complained of in that petition will be considered jointly with the complaint of E. W. Johnson et al. The petition of Christian Falkenstein et al. sets forth: (1) that the petitioners are all residents of Columbia county, and all farmers residing on one of the main roads leading from the village of Lodi to the village of Poynette, and at distances ranging from one-half mile to three and one-half miles from Lodi where the Lodi Telephone Exchange has its central office; (2) that the petitioners have long been desirous of having telephone connection with the Lodi Telephone Exchange and have at various times for several years requested that a line be run out to their homes; and (3) that the Lodi Telephone Exchange has repeatedly promised and agreed to give the telephone connection desired but has failed so to do up to the present time. The petitioners ask that the respondent be ordered to furnish them with telephone service.

In addition to these two petitions a number of informal complaints from residents of Lodi and nearby country have been received from time to time charging that telephone connections had been asked for without obtaining any satisfaction from the respondent's manager.

Hearing on all these matters was held at Madison on February 20, 1913. The appearances for the petitioners were E. W.

*Johnson, Christian Falkenstein, F. G. Richards, Adolph Lep-
tin, and A. W. Schroeder. W. T. Sparks, manager and pro-
prietor of the Lodi Telephone Exchange, appeared for the re-
spondent.*

E. W. Johnson testified that he is a farmer living in the town of West Point about seven miles from Lodi; that he was formerly a subscriber of the respondent exchange but had his telephone removed while he was on a prolonged absence from the state; that upon his return, some time in the spring of 1909, he requested of Mr. Sparks to have his telephone reinstalled. A connection, according to Mr. Johnson, was promised him by the respondent's manager on a number of occasions but no connection has been made as yet. The line to which this complainant desires to be connected goes past his house, and a wire still runs up to the house since the time when the complainant had a telephone. This line passing his house, it appears, is a party line with about eighteen subscribers. The reasons given by the respondent's manager for not making the connection were generally that he was very busy and not able to make the connection just at that time. It is Mr. Johnson's opinion that out of the twenty-six signers to this petition some seven or eight are willing to subscribe for telephones.

A. W. Schroeder testified that he lived in the town of Vienna about five miles from Lodi; that two years ago last March he asked to have a telephone put into his house; that the respondent's manager had promised to install one for him but had not done so; that one of the respondent's lines runs by his house only four or five rods away; that four or five of his neighbors desire connection and are ready to subscribe for telephones.

From the examination of Schroeder by the respondent's manager, it appears that the latter had been twice to the Schroeder home for the purpose of installing a telephone and that on the first occasion Schroeder was not ready for it and on the other he was not at home.

Christian Falkenstein, one of the signers of the irregular petition, testified that he is a farmer living about two miles east of Lodi; that there is at the present time no telephone line running by his farm; that he and his co-signers desire a new line to be built that will furnish them with telephone service; that the new line would get eight or nine subscribers; that the new

line would have to be about three and three-quarter miles long; and that he has been waiting for a telephone to be installed for seven years.

F. G. Richards, one of the signers on the Falkenstein petition, testified that he lives about a mile and a quarter from Lodi on the Arlington and Poynette road; that there is a section of line about three-fourths of a mile long in the town of Arlington which is in bad repair and mostly on the ground, and that this three-fourths of a mile has one subscriber on it who could be served by the proposed new line which would go directly by his house; that this would remedy the poor condition of that part of the line in Arlington and would save the expense of repairing the three-fourths mile that has fallen into such poor condition. It further appears that the nearest telephone within his reach is 100 rods away across fields.

The respondent's manager offered a map showing the lines of his system and the location of present subscribers. According to his description of the line that E. W. Johnson is interested in, this part of the system is made up of three lines. The one nearest to Lodi, No. 111, runs out about three miles and has twelve patrons; the second one, No. 120, parallels the first line and extends about three and one-half miles further, having ten patrons; while the third, No. 118, runs still further and adds about seven miles to the system with eighteen additional patrons. His testimony on these lines was to the effect that in order to take on more patrons on his No. 118 line, it would be necessary to relieve the congestion by stringing an extra wire some six miles in length. The expense of this extension seems to have been the cause for his not accepting new patrons on that part of the system.

Respondent's testimony relating to the proposed Falkenstein line sets forth that this was a very bad road to build on because of its crooked course and because of the heavy brush; that the lines would be about four miles long, but that although the road was a difficult one for building a line, it was his intention to build this extension in the spring.

As regards the Prairie du Sac connection, respondent testified that at present there was a rural grounded line between Lodi and Prairie du Sac, partly owned by respondent and partly owned by the Troy and Honey Creek Telephone Company.

This line, it appears, has a total of fourteen telephones and is used both for local and through business, no toll being charged at either end. The reason given for this free service was that the farmers between Lodi and Prairie du Sac do business with both towns and expect to be exempt from toll charges. Respondent pointed out that a toll charge to Prairie du Sac would cause dissatisfaction, but at the same time his exchange could not afford to construct a new line and maintain it free.

Following the hearing, an investigation of the traffic and financial conditions of the respondent was made. The scope of the investigation is covered in the ensuing paragraphs:

The Lodi Telephone Exchange is a privately owned enterprise with its central office in the village of Lodi. It furnishes service to a total of 353 patrons, 159 of which are village patrons and 194 are rural. The classification of the village subscribers and the rates charged each class are as follows:

Residence 2 party selective ringing, grounded, 40 phones at \$1.00 per month

Residence 1 party series, grounded, 66 phones at \$1.00 per month

Business 1 party series, metallic, 53 phones at \$1.50 per month.

The rural subscribers are distributed over eighteen lines, varying from a minimum of five subscribers to a maximum of seventeen subscribers per line, the average being eleven per line. Rural subscribers pay \$1.00 per month. Two of the rural lines are used as a connection between the Lodi exchange and the exchange of a foreign company. One of these runs to Merrimac and connects with the Farmers' Mutual Telephone Company at that point. The respondent has two or three subscribers just outside the Merrimac exchange and makes no toll charge for messages from Lodi to those subscribers. Calls that go to the Merrimac switchboard, however, pay 10 cts. each. The other line mentioned connects the Lodi exchange with the Troy and Honey Creek Telephone Company exchange at Prairie du Sac. No toll charge is made over this line.

In addition to the above mentioned rural lines there is one through grounded toll line from Lodi to Poynette connecting with the Poynette Telephone Company at that point. This line forms an outlet of business from the Lodi Telephone Company

to various towns with which the Poynette company connects, such as Portage, De Forest, Arlington, Morrissonville, Rio, etc. To all subscribers of the Lodi Telephone Company, except those on the rural line No. 113, the charge is 10 cts. or more, depending on which village is called out of the Poynette exchange. This No. 113 line has ten subscribers at the present time and runs toward Arlington. The reason given for charging no toll to the patrons of this line is that these patrons live nearest the village of Poynette and Arlington of any of the patrons of the Lodi exchange, and their business interests are divided between these various towns, hence the Lodi Telephone Company, in order to retain them as subscribers of its exchange, has given them this privilege. It would seem that this practice is a discrimination against the other subscribers of the Lodi company.

Since the case at hand does not involve a complaint of rates but is rather a request for extension of service, a valuation of the entire system has not been made, but only of that part of system complained of in the E. W. Johnson et al. petition. These lines are numbers 111, 118, and 120. Their summary valuation is given below:

VALUATION OF LINES 111, 118, AND 120.

	Cost new.	Present value.
A. Land.....		
B. Distributing system.....	\$1,505	\$993
C. Buildings and miscellaneous structures.....	15	10
D. Exchange equipment.....		
E. General equipment.....		
Total.....	\$1,520	\$1,003
Add 12 per cent (see note below).....	182	120
Total.....	\$1,702	\$1,123

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

Before taking up the question of specific extensions, we should first consider what are the present operating expenses and what is the return on the investment. Owing to the incompleteness of financial records, it has been difficult not only to make a true apportionment of expenses but even to determine

with certainty just what those expenses were. It is believed, however, that the schedule below is fairly representative of the revenues and operating expenses:

COMPARATIVE INCOME ACCOUNT.

	Year ending June 30, 1911.		Year ending June 30, 1912.	
REVENUES:				
Exchange telephone earnings.....	\$3,811 00		\$3,954 00	
Earnings from connecting lines.....	112 67		136 44	
Miscellaneous exchange earnings.....	212 75		196 20	
Total.....		\$4,136 42		\$4,286 64
EXPENSES:				
Central office.				
Operating labor.....	\$468 00		\$468 00	
Supplies and expenses.....	159 37		154 29	
Maintenance.....			14 91	
		\$327 37		\$637 20
Wire plant expenses.				
Operation.....	\$165 00		\$165 00	
Maintenance.....	723 27		645 73	
		888 27		810 73
Substation expenses.				
Operation.....	\$178 00		\$250 95	
Maintenance.....	165 00		282 85	
		343 00		533 80
Commercial expenses.....	\$76 22		\$79 08	
		76 22		79 08
General expenses.				
General office salaries.....	\$250 00		\$250 00	
Miscellaneous general office.....	13 50			
		263 50		250 00
Undistributed expenses:				
Operation of utility equipment.....	\$66 92		\$66 00	
Maintenance of utility equipment....	150 54		118 29	
Stationery and printing.....	21 50		24 50	
		238 96		208 79
Total of above.....		\$2,437 32		\$2,519 60
Net operating revenues.....		\$1,699 10		\$1,767 04
Taxes.....		\$96 95		\$99 29
Interest on floating debt.....		60 00		60 00
		\$156 95		\$159 29
Net income.....		\$1,542 15		\$1,607 75

The above income account does not show any allowance for depreciation. Some of the maintenance items should possibly be depreciation reserve charges if proper records had been kept, but as there were no abnormal charges and as construction items have been eliminated, the operating expenses can be accepted as given here. Operating revenues in this income ac-

count are taken from the reports to this Commission. These revenues are not entirely correct as they represent collections only. The true revenues have been compiled in the following manner:

Rentals computed from number of telephones and rate for each class	\$4,554.00
Wisconsin Telephone Company commission (1912).....	136.44
Local toll revenues.....	196.20
	<hr/>
Total revenues.....	\$4,886.64

If the total expenses of 1912, \$2,678.89 (including taxes and interest on floating debt), be deducted from \$4,886.64, there remains \$2,207.75 available for interest and depreciation. This amount constitutes 15 per cent on a hypothetical investment of \$14,718. The exact investment in the respondent's system is not known, as no construction records have been kept. The manager's own estimate places it at \$12,000. The above figure, \$14,718, on which there seems to be a return of 15 per cent for interest and depreciation, probably covers the actual investment.

As far as the lines 111, 118, and 120 are concerned, these bring a total revenue from their thirty-nine patrons amounting to \$468 a year. Allowing 15 per cent for interest and depreciation on an investment of \$1,700, allowing maintenance of substations at \$125 per station, and allowing maintenance of about fifteen pole-miles at \$8.25 per pole-mile, we get expenses for this part of the system amounting to \$427.50. There is still some margin to contribute toward central office expenses. This merely indicates that the respondent seems to be earning sufficient to provide for operating expenses, interest and depreciation.

Without a valuation of the entire system, this fact cannot, of course, be absolutely determined. It can be said with reasonable certainty, however, that the present business is bringing just about enough to allow 7.5 per cent depreciation and 7.5 per cent interest.

The next consideration is the amount of additional investment required to make the extensions asked for in this case.

1. Extension to Relieve Congestion on No. 118.

If E. W. Johnson and others adjoining that portion of the line No. 118 are to be taken on, something must be done to

relieve the overcrowded condition. This can best be done by running an extra line from Lodi for a distance of about six miles. Providing a part of an abandoned line is made use of, it has been estimated by the engineering department that this extra line, which will be strung on the poles already there, will cost \$68.22.

2. *Falkenstein Extension.*

In order to satisfy the demands of Christian Falkenstein et al., it will be necessary to build an entirely new pole line running northeast from Lodi for about three and one-half miles. The engineer's estimate of the cost of this extension, including four telephones in place, is \$305.10.

3. *Through Line to Prairie du Sac.*

The ordinary rural line now being used for both local and rural calls is overworked. This line is approximately twelve miles in length, seven miles of which are owned by the respondent and five of which are owned by the Troy and Honey Creek company. The respondent's portion of it has twelve subscribers and the remainder has two, making fourteen subscribers besides the two centrals that use this joint line. The line is already carrying a good loading for purely rural business and cannot be expected to handle the through calls as well. The expense of putting up a new line would be shared by the two exchanges. The Troy and Honey Creek Telephone Company has signified its willingness to build its part. Assuming that this line would be a full metallic toll line, the approximate cost of building it has been estimated as follows:

Respondent's share—7 miles.....	\$251.53
Troy and Honey Creek Tel. Co.—5 miles.....	182.38
Total	\$433.91

INCREASED EXPENSES FROM EXTENSIONS.

The principal question to determine, then, is whether the additional business likely to result from the proposed extensions will take care of the increased interest, depreciation, and maintenance. A summary of the cost of the extensions, together with an estimate of the extra expenses to be met, follows:

1. Estimated cost of extension in town of West Point.....	\$68.22
2. Estimated cost of extension Falkenstein line.....	305.10
3. Estimated cost of Prairie du Sac toll line.....	251.53
	<hr/>
Add four telephones for extension 1.....	48.00
	<hr/>
	\$624.85
	<hr/>
	\$672.85
	<hr/> <hr/>
Interest and depreciation 15%.....	\$100.00
Maintenance of 3.5 pole-miles on Falkenstein line (figured on average of maintenance of wire plant per pole-mile for last two years).....	30.00
Additional substation expenses, 8 telephones \$1.25 each (based on average of last two years).....	10.00
Maintenance of 14 miles of toll wire and maintenance of 6 miles of grounded rural wire.....	36.00
	<hr/>
Total additional expense to be met.....	\$176.00

In the above estimates, the maintenance of wire is based on the arithmetic average of maintenance of aerial wire for the Wisconsin Telephone Company in 1912—which is \$1.79 per mile of wire. These estimates are liberal and should be ample to cover all extra expenses. It is not considered likely that central office expenses will be increased appreciably and if there should be an increase at all, the above estimates are sufficient to cover them.

We have assumed so far that there would be eight additional subscribers taken on, four of them to be connected to the new wire in the town of West Point, and four to be connected to the new line on the Poynette road.

PROBABLE REVENUE FROM EXTENSIONS.

With eight new subscribers taken on, there would result an additional exchange earning of \$96 a year, which amount covers all but \$80 of the increased expenses. Most of the balance, if not all, will be disposed of through the toll earnings to come in from the Prairie du Sac line. Tickets to calls over the Prairie du Sac line covering four days' operation in the month of April show an average of thirteen calls a day. This would mean about six calls a day to Lodi's advantage, if tolls were divided evenly. Of course, the number of calls will drop off when a toll is imposed. It is therefore not possible to determine exactly how many calls will continue.

Some indication of the number of calls that might go over this Prairie du Sac line can be gained by considering the calls

going to Poynette. All patrons of the respondent, excepting those on line 113, who talk to Poynette, have to pay 10 cts. a call. In spite of this charge, there were fifty-nine outgoing calls to Poynette last March. Calls over the Lodi-Prairie du Sac line ought to be about the same. If we allow for Lodi's share an average of two calls a day on that line, we would have additional revenue of about \$70.

The addition of two or three more subscribers than have been estimated for the Falkenstein extension would bring the revenues to a point where all additional expenses are offset. It is not possible to determine with certainty just what new subscribers will be taken on, or just what volume of business will go over the toll line. Neither is it practicable to determine exactly what the increased expenses would be. However, as nearly as we have been able to make a test, it appears that the three extensions proposed will not work a hardship on the respondent, and will in fact be compensated for in increased revenues.

The stringing of the toll wire and of the fourth wire in the town of West Point are matters that are required because of the overloaded condition of the respondent's lines and its consequent inability to take on new subscribers to certain parts of its system. The Falkenstein extension is needed in order to give service to farmers living on the Poynette road.

An order directing these three extensions to be made seems to be a fair disposition of the complaints.

One other improvement, not yet referred to, could easily be made. This relates to the toll line to Merrimac. There are at present two dead No. 8 wires running from Lodi to Merrimac. These two wires used to be a toll line—now abandoned. One of these dead wires could be used as the second wire of a full metallic circuit to replace the grounded line now used. This change would not involve very large expense and it is recommended that the improvement be made at the earliest opportunity.

The order in which this work should proceed seems to be as follows: (1) toll line; (2) West Point township line; (3) Falkenstein extension. By building the toll line first any effect which the toll charges might have on members in that country locality can be observed. Since the chief petition in this case is presented by E. W. Johnson et al., and since the heaviest loading of lines is in West Point township, it is only fair that relief

be given these parties prior to Christian Falkenstein et al. Each piece of work should follow closely upon the preceding job so that the extensions can all be completed by July 1, 1913.

The complaint of E. W. Johnson et al. to the effect that no service is furnished during the night and on Sunday afternoon, does not appear entirely substantiated. The respondent's switchboard is provided with a night bell which rings in the manager's apartments above the exchange office, and we are informed that night calls are answered. Sunday afternoon service is not given at the present time, but this Commission does not consider it advisable to order Sunday afternoon service at this time. Such extra service would mean some additional central office expenses which probably could not be met without adjusting rates.

THEREFORE, IT IS ORDERED, That the respondent in this case, the Lodi Telephone Exchange,

1. Proceed to construct a full metallic toll line from the central office at Lodi to the point of junction of its line No. 116 with the Troy and Honey Creek Telephone Company, the construction to commence as soon as the latter shall have agreed to construct its share of the toll line;

2. Collect a toll charge of 10 cts. per message on each and every call outgoing from Lodi to Prairie du Sac;

3. Utilize the Lodi-Prairie du Sac toll line exclusively for through service;

4. Have the option, in making settlements with the Troy and Honey Creek Telephone Company, of dividing the toll revenue from the Lodi-Prairie du Sac toll line half and half or in proportion to outgoing calls, according as agreement shall be made between the two lines;

5. Erect an additional wire extending from Lodi to the so-called T branch, being a point in the town of West Point on the boundary between sections 16 and 21, and so apportion its subscribers as to limit the number on one line so far as possible to ten;

6. Construct a pole line on the Poynette road for a distance of not less than three and one-half miles from Lodi; and

7. Abandon its practice of giving free toll service to patrons on line No. 113 calling Poynette or points beyond, and charge them the regular toll rates for such service.

IT IS FURTHER ORDERED, That July 1, 1913, shall be considered sufficient time within which to comply with these provisions.

A. H. STANGE CO.

vs.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

Decided May 9, 1913.

The petitioner alleges that an excessive rate was exacted on shipments of logs over the C. M. & St. P. Ry. from Smith's Spur to Merrill, Wis. The rate provided in the tariff was published in error, and a lower rate was subsequently made effective.

Held: The rate charged was exorbitant and refund is ordered.

The petitioner is a corporation engaged in the manufacture and shipment of logs and lumber products with offices at Merrill. It alleges that between January 9, 1912, and September 12, 1912, it made 195 shipments of logs over respondent's line from Smith's Spur to Merrill; that a rate of \$1.50 per M feet was charged under its tariff G. F. D. 8197—F which was published in error, but that after the shipment moved, respondent issued its tariff G. F. D. 8197—G which named a rate of \$1.25 per M; that it has been required to pay on the shipments, through this error, the sum of \$284.35 more than it would have paid had the lower rate been applied; wherefore, petitioner prays that the respondent railway company be required to refund to it the sum of \$284.35, the amount charged in excess of that which it should have paid had the rate, subsequently made effective, been applied.

No answer was filed by the respondent. The claim was submitted upon the pleadings, papers, vouchers, and documents on file.

The facts in this case are identical with those set forth in *Kaiser Lbr. Co. v. C. M. & St. P. R. Co.* 1910, 5 W. R. C. R. 196, and for the reason there assigned reparation will be awarded in the instant case.

We therefore find and determine that the charge of \$1.50 per 100 lb. exacted of the petitioner for the shipments of lumber is

exorbitant and that a charge of \$1.25 per M feet is a reasonable charge for the transportation services rendered the petitioner.

NOW, THEREFORE, IT IS ORDERED, That the Chicago, Milwaukee & St. Paul Railway Company be and the same is hereby directed to refund to the A. H. Stange Co. the sum of \$284.35, being the excess charged for the shipments of lumber from Smith's Spur to Merrill, Wis.

VILLAGE OF PLOVER

vs.

GREEN BAY AND WESTERN RAILROAD COMPANY.

Submitted March 7, 1913. Decided May 13, 1913.

Complaint was made that the crossing on the G. B. & W. R. R. at First street in the village of Plover, Portage county, Wis., requires protection.

Held: The crossing is dangerous. The respondent is ordered to install and maintain an electric bell, plans for track circuits to be submitted for approval. The crossing is to be flagged during switching movements and when a train is uncoupled at the crossing.

The petitioner, a regularly organized village in Portage county, Wis., alleges in substance that a highway crossing on the respondent's line, known as First street, in the village of Plover, 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.

No formal answer was filed by the respondent.

A hearing was held on March 7, 1913, in the G. A. R. hall at Plover, Wis. *George B. Nelson* appeared for the petitioner and *C. H. Smith* for the respondent.

The testimony shows that First street, which is the main thoroughfare of the village of Plover, runs north and south, intersecting the main track and a sidetrack of the respondent's line approximately at right angles. From the south highway approach the view of trains in both directions is seriously obstructed by buildings. A warehouse is located close to the sidetrack on each side of the street and back of the warehouses are other buildings which obscure the vision, except for occasional glimpses between them. When cars are standing on the sidetrack they further obstruct the view. The sidetrack is only about fourteen feet from the main track, so that when cars are allowed to stand there, a team must be practically on the main track before its driver has a clear view of approaching trains.

From the north highway approach the view in both directions is partially obstructed by trees and dwelling houses. The testimony shows that cars are allowed to stand on the sidetrack much of the time. Cars are loaded from the warehouses for about ten months of the year, and while being loaded, frequently project beyond the end of the warehouses. Occasionally a train, waiting for another to pass it, is cut at the crossing and the cars left standing close to the street on either side.

First street is an important highway leading from Almond to Stevens Point. It also connects with the main road from Grand Rapids to Amherst. Between Plover and Stevens Point the road is in good condition and is much used by automobiles for pleasure drives. South of Plover the road is to be improved under the supervision of the highway commission. A traffic count was taken in the interest of the petitioner for three days between the hours of 7 a. m. and 6 p. m. with the following results:

Date	Pedestrians.	Single teams.	Double teams.	Total teams.
February 27, 1913.....	305	41	161	202
28, 1913.....	290	62	145	207
March 1, 1913.....	305	70	160	230

The witness who made this count testified that the weather was favorable and that the traffic was somewhat greater than normal for that season. In summer there were said to be fewer teams, but more automobiles. It was estimated that in season eighty or ninety automobiles cross at First street during a day. A witness who lives adjacent to the crossing testified that he saw forty-seven automobiles pass on a Sunday between five and six p. m. It was pointed out that many automobile drivers who use this crossing are strangers in Plover. The village clerk estimated that thirty children are obliged to cross the tracks at First street from two to four times a day. It appears that there is considerable traffic, consisting chiefly of automobiles, after dark. Our engineer reports that there are six regular, and usually two extra train movements over First street on week days, and four movements on Sundays. All of the regular trains except one pass between 6 a. m. and 7 p. m.; and all trains stop at the depot which is located about nine hundred feet from

First street. Some switching is done, but it is ordinarily completed before 7 a. m. Several narrow escapes from accident at this crossing were reported at the hearing.

Our engineer recommends, on the basis of an investigation on the ground, that bell protection be installed; that all switching movements over the crossing be flagged by the train crews; and that, when a train is cut at First street, some member of its crew flag the crossing.

After a careful consideration of the testimony and of our engineer's report, we find that the crossing in question is more than ordinarily dangerous and that further protection is necessary. Although the movement of trains is not frequent, and at relatively low speed, the obstructions to the view and the volume and character of the highway traffic are such as to necessitate additional protection. We believe that the installations and improvements recommended by our engineer will render the crossing reasonably safe under the existing traffic conditions.

NOW, THEREFORE, IT IS ORDERED:

1. That the respondent, the Green Bay & Western Railroad Company, install and maintain at the highway crossing on its line at First street in the village of Plover, Portage county, Wis., an automatic electric bell, plans for track circuits to be submitted to the Commission for approval.

2. That the respondent flag all switching movements over First street.

3. That the respondent protect First street by a flagman during all periods when a train is broken at the crossing to allow traffic to pass.

Ninety days is considered a sufficient time within which to comply with the first section of this order.

TOWN OF SOMERSET

vs.

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

Submitted Jan. 27, 1913. Decided May 13, 1913.

Complaint was made that "Stillwater road crossing" on the M. St. P. & S. S. M. Ry., about 2,800 feet west of Somerset station, in the town of Somerset, St. Croix county, Wis., requires protection.

Held: The crossing is dangerous and the respondent is ordered to install and maintain an electric bell with an illuminated sign, plans for track circuits to be submitted to the Commission for approval.

The petitioner, a regularly organized town in St. Croix county, Wis., alleges in substance that a highway crossing on the respondent's line in the town of Somerset, known as the "Stillwater road crossing" is dangerous to public travel on account of the surrounding physical conditions. The Commission is therefore asked to require the respondent to properly protect this crossing.

The respondent, in its answer, denies that the crossing in question is rendered dangerous by the physical surroundings, and therefore asks that the petition be dismissed.

A hearing was held on January 27, 1913, at the village hall, Somerset, Wis. *John Parnell* appeared for the petitioner, and *Kenneth Taylor* for the respondent.

It appears from the testimony that at the Stillwater road crossing the respondent's single track line is on a curve running in the general direction of east and west. The highway crosses at an acute angle, running southwest from the crossing. Approaching on the highway from the northeast, the view to the east is not seriously obstructed; the view to the west is limited by the banks of a cut. A witness testified that from the northeast approach a traveler can see a train to the west when he is about three hundred feet from the track, but that from that point until he comes within twenty-five feet of the crossing the view is cut off. This cut also obstructs the west view from the south-

east highway approach. It was stated that a clear view to the west cannot be had until a point about twenty feet from the track is reached. To the east the view is also very limited by the presence of high ground adjacent to the highway, on which grain is grown. Our engineer reports that the cut to the west is five feet deep one hundred feet from the crossing, twelve feet deep at three hundred feet, and sixteen feet deep at four hundred feet. East of the crossing there is a bank south of the tracks continuing from the west side cut. North of the track there is a bank about one hundred and thirty feet in length, beginning four hundred and twenty-five feet east of the crossing. There is another cut about eight feet deep beginning seven hundred and fifty feet east and continuing about six hundred feet.

A blue print, prepared by the respondent's engineers and offered in evidence at the hearing, shows that at points in the highway at the edge of the railway right of way the limits of vision are as follows:

Point in highway.	View east.	View west.
Northeast 100 feet.....	1,100 feet	1,100 feet.
Southwest 50	900 "	450 "

The highway in question connects Stillwater and New Richmond, the crossing being located about seven miles from New Richmond. Witnesses estimated that from fifteen to thirty teams use the crossing daily. It was said to be usual in season for from six to twenty automobiles to pass, the heaviest automobile traffic moving on Sundays. It appears that six or seven children cross the tracks on their way to and from school. Our engineer reports that there are eight regular train movements over the crossing, in addition to which a number of extra trains are run. Witnesses stated that some trains drift past with steam off, making little noise, and that when a west wind is blowing it is difficult to hear approaching trains. A narrow escape from accident was reported.

On the basis of an investigation on the ground, the Commission's engineer recommends that this crossing be given bell protection.

After a careful consideration of the testimony and the reports of our engineering staff, we find that the crossing in question is unusually dangerous and that additional protection is necessary. It is our judgment that bell protection, as recommended by our engineer, will provide for reasonable safety under the existing traffic conditions.

IT IS THEREFORE ORDERED, That the respondent, the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, install and maintain at the Stillwater road crossing, located on its line two thousand eight hundred feet west of Somerset station in the town of Somerset, St. Croix 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 reasonable time within which to comply with this order.

TOWN OF FRIENDSHIP

vs.

CHICAGO AND NORTH WESTERN RAILWAY COMPANY.

Submitted Dec. 4, 1912. Decided May 13, 1913.

Complaint was made that the first crossing south of the station at Van Dyne on the C. & N. W. Ry., in the town of Friendship, Fond du Lac county, Wis., requires protection.

Held: The crossing is dangerous. Three railway lines are crossed by the highway within a short distance and it is believed that the installation of a bell would increase rather than lessen the danger. The respondent is ordered to improve the view from the highway by the reconstruction of the stockyards and the relocation of buildings on its right of way, according to the specifications approved by the Commission.

The town of Friendship, a regularly organized municipality in Fond du Lac county, Wis., alleges in its petition that the first highway crossing south of the station at Van Dyne on the respondent's line is dangerous to public travel on account of the surrounding physical conditions. The Commission is therefore asked to require the railway company to properly safeguard this crossing.

The answer of the respondent denies that the crossing is unusually dangerous; and alleges that the installation of a bell there would increase the hazard because of the proximity of the tracks of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, which are crossed by the highway. It therefore asks that the petition be dismissed.

A hearing was held on December 4, 1912, in the Chicago & North Western depot at Van Dyne, Wis. *Joseph Carberry* appeared for the petitioner, and *C. A. Vilas* for the respondent.

It appears from the testimony that at the crossing under consideration the highway runs east and west, intersecting the tracks of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company, the Chicago & North Western Railway Company, and the Eastern Wisconsin Railway & Light Company approximately at right angles. The surrounding country is flat, and the rail-

way lines are straight for a long distance on each side of the crossing. From the west highway approach the first line to be crossed is the Minneapolis, St. Paul & Sault Ste. Marie Railway. There is no serious obstruction to the view from the west side of the crossing. The east approach of the highway crosses the single track of the electric line at a distance of about ninety feet from the Chicago & North Western tracks. The view of trains to the south on the North Western line is comparatively open, but it was stated by witnesses that corn is sometimes grown in the field south of the road and east of the tracks, limiting the view in this angle. The chief point of danger at the crossing appears to be on the east approach from south-bound trains. The view to the north is limited by the stockyards and several small buildings located on the respondent's right of way between its depot and the crossing. A further obstruction is offered by freight cars which are allowed to stand on the east sidetrack. A witness for the petitioner testified that there are usually four or five cars standing on this track, but a witness for the respondent stated that occasionally two or three cars are allowed to stand at the elevator or near the coal sheds. The limits of vision from the east highway approach are reported by a member of the Commission's engineering staff as follows:

Distance of point of observation in highway from track.	South view.		North view.	
	Clear.	Partial.	Clear.	Partial.
East 50 feet.....	Unobstructed	.....	75 feet	.....
.. 100 ..		.....	75 ..	600 feet.
.. 150 ..	1,000 feet	2,000 feet	75 ..	800 ..
.. 200 ..	700 ..	3,000 ..	75 ..	650 ..
.. 320 ..	500 ..	900 ..	50 ..	550 ..

The testimony indicates that the highway is an important road leading to Oshkosh and Fond du Lac. It is being improved under the supervision of the highway commission. A traffic count was made in the interest of the respondent for three days in October between the hours of 6:30 a. m. and 6:00 p. m., and for one day (October 10) between the hours of 9:30 a. m. and 6:00 p. m., with the following results:

Date	Pedestrians	Teams	Automobiles	Bicycles
Oct. 10, 1912.....	87	62	3	.....
Oct. 11, 1912.....	66	48	7	.....
Oct. 12, 1912.....	21	88	5	.....
Oct. 13, 1912.....	36	84	44	2

It was pointed out by witnesses that October 11 and 12 were rainy days and that the traffic was unusually light. Moreover, the road was being repaired at the time of the count, a condition which witnesses claimed would make the traffic subnormal. A considerable number of teams were said to pass early in the morning or in the evening during periods not covered by the count. The railway superintendent testified that there are twenty-seven train movements over the crossing on the North Western line, of which ten occur after dark. Few trains stop at Van Dyne, and those which do not stop there pass at high speed, in some instances fifty or sixty miles an hour. A serious accident occurred at this crossing on July 8, 1912, and there have been several narrow escapes.

On the basis of two investigations on the ground, and after a conference with representatives of the railway company at the crossing, our engineering staff reports that it is feasible to remodel the stockyards and to relocate the other buildings between the crossing and the depot in such a way as to satisfactorily clarify the view to the north. The engineer comments on these changes substantially as follows:

“There is no available location for the stockyards north of the depot, and it will therefore be impossible to move them. The obstruction can, however, be largely eliminated by cutting down the height of the board pen fences to a minimum, and replacing the boards with wire if it should later become necessary to restore the fences to their present height. The cattle shed can be reduced to a minimum height, and this will allow for a view of the upper part of engines and cars. The scale house and loading chute cannot be changed, but since the scale house is small and very close to the edge of the road, the little obstruction which it offers is of no importance. The two coal sheds can be readily rebuilt north of the elevator, and the old car body can be moved to another location.”

After a careful consideration of the testimony and of the reports of our engineering staff, we find that the crossing in question is more than ordinarily dangerous and that further protection is necessary. In view of the fact that three railway lines are crossed by the highway within a short distance, we believe that the installation of a bell on one line would be confusing, and would increase rather than lessen the danger from trains. The crossing is comparatively open, with the exception of the obstruction offered by the stockyards and buildings on the respondent's right of way. The remodeling of the stockyards and the relocation of the other buildings as suggested by our engineering staff will, in our opinion, render this crossing reasonably safe under existing traffic conditions.

IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, improve the highway crossing on its line immediately south of its station at Van Dyne, Wis., as follows:

1. Reduce the height of the board fences around the cattle pens to a minimum, or install wire fences in their place.
2. Reduce the height of the cattle sheds to the minimum necessary to serve the purpose of a roof covering.
3. Remove the two coal sheds, now located on the right of way between the depot and the crossing, and if it is desired to erect new ones, locate them north of the depot or adjoining it on the south side.
4. Remove the old car body, now located on the right of way between the depot and the crossing, to some point north of the depot.

Sixty days is considered a sufficient time within which to comply with this order.

TOWN OF ST. JOSEPH

vs.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY.

Submitted Feb. 21, 1913. Decided May 13, 1913.

Complaint was made that "Baker's crossing" on the C. St. P. M. & O. Ry., about two and one-half miles northeast of the station at Burkhart and in the town of St. Joseph, St. Croix county, Wis., requires protection.

Held: The crossing is dangerous. The respondent is ordered to remove the trees on its land east of the tracks and southeast of the highway, and to grade down the banks of earth in each of the four corners of the crossing.

The town of St. Joseph, a regularly organized municipality in St. Croix county, Wis., alleges in its petition that a highway crossing on the respondent's line, about two and one-half miles northeast of the station at Burkhart and in the town of St. Joseph, is dangerous to public travel on account of the surrounding physical conditions and the volume of traffic at that point. The Commission is therefore asked to require the respondent to properly safeguard this crossing.

The answer of the respondent admits that the crossing in question is rendered partially unsafe by the existence of certain mounds of earth and trees in the vicinity, which obstruct the view. It states that the railway company is willing to cooperate with the town board in removing these obstructions.

A hearing was held on February 21, 1913, at the Burkhart Hotel, Burkhart, Wis. *R. Baker* appeared for the petitioner and *C. D. Stockwell* for the respondent.

The testimony shows that the crossing in question is known locally as "Baker's crossing." The highway runs east and west and the railway northeast and southwest. From the east highway approach the view to the south is obstructed by trees and by a bank of earth on the railway right of way. To the north trains are obscured by the bank of a cut to such an extent that travelers must be very close to the track before a southbound

train is visible. From the west highway approach the view of trains approaching from either direction is obstructed by the banks of the cut. The chairman of the town board testified that the view afforded a traveler approaching from the west is satisfactory until he is within twenty or twenty-five rods of the track, after which the view is obstructed until he is very close to the track. A witness for the respondent stated that from a point in the highway fifty feet east of the track a train may be seen from 1,200 to 1,300 feet to the north.

The limits of vision at the crossing are reported by a member of our engineering staff as follows:

Distance of point of observation in highway from the track.	View to the northeast.	View to the southwest.
West 30 feet.....	609 feet	600 feet.
.. 100 ..	0 ..	0 ..
.. 150 ..	600 ..	600 ..
.. 200 ..	600 ..	600 ..
East 30 ..	400 ..	440 ..
.. 200 ..	0 ..	900 ..

It appears from the testimony that the highway in question is the principal road between Richmond and Stillwater, and is used to a considerable extent by automobiles and by teams hauling heavy loads to a market located some four or five miles to the east. The town chairman estimated that about forty automobiles a day pass over the crossing during the summer months. He stated that at some seasons as many as twenty or thirty teams a day pass, but that throughout the year a fair daily average for teams would be about ten. Ten regular trains are scheduled over this crossing, of which three are night trains.

The improvement of the crossing by the removal of the obstructing trees in the southeast angle and by grading down the banks of the cut was suggested by the respondent's representative at the hearing. The town chairman thought that, while these changes would improve conditions, they would not render the crossing safe for the use of the public. The cost of the suggested alterations was estimated by a witness for the railway company at about \$125. Some question was raised as to the ownership of the land southeast of the crossing on which the obstructing trees stand. The railway's representative was unwilling to agree to

make the proposed alterations at the time of the hearing, but subsequently the company expressed its willingness to remove the trees in the southeast angle and grade down the banks of earth in all four corners of the crossing. The Commission's engineer reports that these improvements will render the crossing reasonably safe.

In the light of the testimony and of the report of our engineer, we find that the crossing in question is more than ordinarily dangerous and that it requires additional safeguards. The improvements suggested by the railway company and approved by our engineer will, in our opinion, adequately provide for the safety of the traveling public under the existing traffic conditions.

NOW, THEREFORE, IT IS ORDERED:

1. That the respondent, the Chicago, St. Paul, Minneapolis & Omaha Railway Company, remove the trees on its land located east of the tracks and southeast of the highway at the crossing on its line in the town of St. Joseph, St. Croix county, Wis., situated about the two and one-half miles northeast of Burkhart, so as to give travelers on the highway a sufficient view of approaching trains.

2. That the respondent grade down the banks of earth located in each of the four corners of the crossing described above, so as to enable travelers on the highway to view approaching trains at a reasonable distance from the crossing.

August 1, 1913, 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 Oct. 7, 1912. Decided May 14, 1913.

The petitioner alleges that grade separation is necessary for the adequate protection of the crossings on the C. & N. W. Ry. at Mound ave. and Maple street, Racine, Wis.

Held: The crossings are dangerous, and heavy traffic on both highways and on the railway renders the present gate protection unsatisfactory and inadequate. In view of the fact that the crossings are only 130 ft. apart and that Maple street is a comparatively unimportant street, grade separation at each crossing is not deemed necessary. The respondent is ordered to construct and maintain a subway at Mound ave., plans to be submitted for approval. The actual cost of the subway is apportioned 20 per cent to the city and 80 per cent to the C. & N. W. Ry. Co. It is further ordered that the crossing at Maple street be closed upon the completion of the subway.

The petitioner is a municipal corporation and alleges, in substance, that two highway crossings on the respondent's line at Mound avenue and Maple street in the city of Racine are dangerous to human life on account of the physical surroundings and the heavy traffic over both the railway and the highways. It states that public safety and convenience require the construction of subways for the use of the public at each of the crossings. The Commission is therefore asked to order the construction of subways at Mound avenue and Maple street.

The respondent, in its answer, denies that subways are necessary, in view of the fact that it maintains a subway under its tracks immediately adjacent to Mound avenue and Maple street. It alleges that both of the crossings in question are protected by gates, operated day and night.

The hearing was held on October 7, 1912, *E. R. Burgess* appeared for the petitioner and *C. A. Vilas* for the respondent.

The testimony shows that Mound avenue runs northeast and southwest, crossing the two main tracks of the respondent's line at an angle of about 45 degrees. Maple street runs east and west,

crossing two main tracks and the switch leads to the yards at an angle of about 90 degrees. Maple street and Mound avenue merge immediately east of the tracks. To one approaching on Maple street from the west the view of the tracks in both directions is obstructed by buildings until a point from twenty-five to forty feet from the tracks is reached; on approaching from the west on Mound avenue, the view to the north is obstructed by buildings. On the east approach, which is the same for both crossings, the view to the north is obstructed by buildings and by cars standing in the yards. The crossings are so located with reference to the yards that much switching is done over them. Both crossings are conceded to be hazardous by the respondent, and they are at present protected by gates operated day and night by a watchman from a shanty between the two crossings and west of the tracks.

In the testimony much emphasis was placed upon the heavy traffic obtaining on both of the highways and on the respondent's line. A count of the traffic was made for two days on Mound avenue and for one day on Maple street between the hours of 6:30 a. m. and 9 p. m. The result of this count follows:

	Pedestrians.	Vehicles.	Trains.
Mound avenue			
Oct. 2, 1912.....	991	188	134
Oct. 4, 1912.....	935	154	67
Maple street			
Oct. 5, 1912.....	451	57	62

It was stated by the witnesses who took the count that the number of trains given does not include short switching movements of which there are a great many. A more definite idea of the total number of train movements may be had by noting the number of times the gates were lowered, a record of which was also kept. The count was as follows:

Mound avenue	Oct. 2, 1912	91
" "	" 4, 1912	90
Maple street	" 5, 1912	105

When it is considered that often more than one train passes while the gates are down, it becomes evident that the railroad

traffic is extremely heavy. The highway traffic was said to be seriously delayed by the conditions at these crossings. A record was kept of the total period during which the gates were down on the days of the count, as follows:

Mound avenue	Oct. 2, 1912	6 hrs.
“ “	“ 4, 1912	5 “ 20 min.
Maple street	“ 5, 1912	5 “ 40 “

The testimony shows that a shirt and overall factory is located near the Mound avenue crossing and that about seventy-five female operatives are obliged to cross the tracks several times a day. Many of these women workers, rather than be late to their employment, at times dodge under the gates and cross in front of switch engines. Other adults and children also make a practice of going under or around the gates to avoid long delays.

It appears that the operation of the gates is extremely unsatisfactory. The location of the watchman's shanty makes it impossible for him to see traffic approaching on Maple street from the west until it reaches the gates. Witnesses stated that the gates are frequently dropped over horses heads, and that drivers occasionally have to back up suddenly, in order to avoid descending gates. It was also pointed out that the gates on one side of the crossing are sometimes lowered before the gates on the other side, a condition which makes it possible for a team to be caught between the gates. In some instances the gates have not been lowered until the pilot of an approaching engine was on the crossing. One serious accident and a number of narrow escapes occurred.

A railway official testified that a change in freight service is contemplated which will eliminate the greater part of the switching movements at Mound avenue and Maple street. Should this change be accomplished, he said, only such switching movements as are necessary for spotting cars on the team track and at the freight house would occur at the crossings. He offered the opinion that with this improvement, the protection now afforded would be entirely adequate.

From the facts developed at the hearing and reported by our engineer it is evident that the crossings at Mound avenue and Maple street, even though protected by gates operated continu-

ously, are unusually dangerous and require further protection. The improvement in the switching conditions, as outlined by the railway company, would without question alleviate the danger to some extent, but it would not insure adequate safety for the traveling public. Pedestrians would doubtless continue to dodge between the gates and the objections to the present operation of the gates would remain. Moreover, the traffic over the railway would still be large, as would also the highway travel; and the dangers from this source would inevitably increase with the further growth of the community. Under the circumstances, we are convinced that the public safety requires the separation of grades at these crossings.

Three methods of grade separation were suggested at the hearing. It was proposed that the Maple street crossing be closed and that Mound avenue be diverted east of the tracks in such a way as to pass through the subway now in use at West Sixth street. The testimony shows that the city several years ago took steps to bring about this change, but found it impossible for the reason that it necessitated the vacation of portions of Maple street and Mound avenue, for which action the legally necessary consent of property holders could not be secured. The same obstacles would be raised at present to this proposal. Moreover, the testimony shows that the proposed change would create certain dangerous features at the junction of the new street and West Sixth street on account of the steep grade which would be necessary. Our engineer reports that from the proposed extension of Mound avenue to West Sixth street the view of eastbound traffic on West Sixth street would be necessarily obstructed by the railroad embankment and by the subway. He expresses the opinion that this plan would merely transfer at least a part of the danger from the present crossings to the junction of the proposed extension of Mound avenue and West Sixth street.

A second method of separation suggested is the construction of two subways, one at Mound avenue and one at Maple street. This solution was proposed in the petition, but in its brief submitted after the hearing the city concedes that two subways are unnecessary. In view of the fact that the crossings are only 130 feet apart, and that Maple street is a comparatively unimportant street less than four blocks in length, we believe that a subway at each street is not necessary.

The most desirable method of grade separation appears to be the construction of a single subway at Mound avenue, and the closing of the crossing at Maple street. The construction of such a subway is feasible and would create no unusual danger for travelers. The Commission's engineer reports that the construction of a subway under the tracks at Mound avenue, and the closing of Maple street east of the tracks will eliminate the existing dangers and will not introduce any new dangerous conditions. The city of Racine, in its brief, concurs with this view as follows: "We believe that the construction of the subway at the Mound avenue crossing is the simplest, easiest and safest solution of the problem for all parties concerned". Our engineer estimates the total cost of a subway at Mound avenue, including the damages to adjoining property as estimated by the board of public works of Racine, at \$51,000.

After a careful consideration of the testimony and of our engineer's report, it is our judgment that public safety requires the separation of grades at the crossings in question. We believe that the construction of a subway at Mound avenue will provide adequately for the traffic which now goes over both Mound avenue and Maple street, and that it will eliminate the dangerous features of the existing crossings. We regard as equitable an apportionment of the cost of such a subway whereby the city of Racine shall pay 20 per cent and the Chicago & North Western Railway Company 80 per cent thereof.

1. IT IS THEREFORE ORDERED, That the respondent, the Chicago & North Western Railway Company, construct and maintain a subway at Mound avenue in the city of Racine in accordance with the following conditions:

- (a) Grades on the approaches are to be 6 per cent.
- (b) The subway is to be so constructed as not to restrict the present width of the street.
- (c) The vertical clearance from the crown of the pavement to the low steel is to be fourteen feet.
- (d) The level portion of the depressed street is to be paved with brick laid on a concrete base, or other pavement acceptable to the city of Racine.
- (e) Ample drainage facilities are to be provided.
- (f) The structure is to be waterproofed and so constructed that water, grease, cinders, live coal, etc., will not drop upon traffic in the street.

(g) The respondent is to furnish all labor and material necessary to complete this work to the entire satisfaction of the Commission.

(h) Detailed plans for this work are to be submitted in duplicate for the approval of the Commission.

2. IT IS FURTHER ORDERED, That the actual cost of the subway ordered above is hereby apportioned as follows: the city of Racine to pay 20 per cent thereof, and the Chicago & North Western Railway Company 80 per cent thereof.

3. IT IS FURTHER ORDERED, That when the subway shall be completed, the portion of Maple street crossing the railroad at grade, between right of way lines of the railway company, be closed and the railway company is hereby directed to enclose this street with continuous fence, so that the same cannot be used by the public.

January 1, 1914, is regarded as a reasonable date by which the subway shall be completed and opened for the use of the public.

MENASHA WOODENWARE COMPANY

vs.

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

Decided May 14, 1913.

The petitioner alleges that an excess charge was exacted on shipments of logs and bolts from Wisconsin points on the M. St. P. & S. S. M. Ry. to Menasha, Wis. The cars furnished could not be loaded to the minimum weights provided and a subsequent tariff made the necessary changes in the minimum.

Held: The charge was excessive and refund is ordered on the basis of the rate applied to the minimum weights subsequently established.

The petitioner is engaged in the manufacture of woodenware and cooperage at Menasha, Wis. It alleges that between February 19 and December 20, 1912, there was shipped to it over respondent's lines eighty-seven cars of logs and bolts under tariff G. F. D. No. 14555, which provided for a minimum of not less than 90 per cent of the marked capacity of cars; that cars were furnished on which it was a physical impossibility to load either logs or bolts to marked capacity; that respondent, discovering its error, issued its G. F. D. No. 14824 and supplements thereto providing for a minimum on a sliding scale; that petitioner has been required to pay in excess of a reasonable charge the sum of \$339.86, and that the respondent is willing to make reparation in that sum upon authority given to do so.

No answer was filed by the respondents. The claim was submitted upon the pleadings, papers, documents, and vouchers on file.

The shipments in question moved under tariff G. F. D. No. 14555, which provides for a minimum of not less than 90 per cent of marked capacity of cars, which in itself would have been just if cars of small capacity had been supplied, but unfortunately the respondent had acquired on its lines a number of foreign cars of 80,000, 90,000 and 100,000 lb. capacity, and the shippers, not noticing the error, loaded these cars. The re-

spondent applied G. F. D. No. 14555 to the shipments but when its attention was called to the unfairness of the charge, which occurred entirely through the acts of respondent, it expressed a willingness to make reparation on the basis of G. F. D. No. 14824 and supplements thereto, providing a minimum on a sliding scale. Had G. F. D. No. 14824 been applied, the charge would have been \$1,618.55, making an overcharge of \$345.86.

An error was discovered in computing the amount of refund claimed. The correct amount is \$345.86.

We therefore find that the sum of \$1,964.41, exacted of the petitioner for the shipment of eighty-seven cars of logs and bolts over respondent's lines, was unusual and exorbitant, and that a reasonable charge for the services rendered would have been \$1,618.55.

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 petitioner the sum of \$345.86, being the sum exacted of petitioner in excess of the rate herein found to be reasonable.

FRANK WINTER

vs.

LA CROSSE TELEPHONE COMPANY,
WISCONSIN TELEPHONE COMPANY.

Submitted Jan. 3, 1912. Decided May 14, 1913.

The petitioner prays for an order requiring physical connection between the systems of the La Crosse Tel. Co. and the Wis. Tel. Co. in La Crosse, Wis. Connection is desired so that the subscribers of either exchange may have access to the toll service of the other company. Connection between the city subscribers of the two exchanges is not under consideration. The local company, in competition with the Bell company, has secured the larger number of subscribers. Practically the only inducement to patronize the Bell company is the advantage of connection with its extensive toll system. If this advantage is extended to the subscribers of the local company, it would result in decreasing the number of Bell subscribers. The long distance calls over the Bell line would be increased, but it is contended that this would not compensate for the loss of the local subscribers.

Held: Before telephone utilities, in any case, may be required to make physical connection under the statute (sec. 1797m—4) it must appear that the connection is required by public convenience and necessity; that it will not result in irreparable injury to the owner or users of the facilities of such utilities; and that no substantial detriment to the service will result. If administered according to its obvious intent and purpose, no property rights will be impaired and no injury inflicted upon anyone. It is evident that, in the present case, public convenience and necessity requires the connection for the interchange of toll service. The possibility that the local exchange of the Bell company will be deprived of its patronage if its toll line facilities are made available to the patrons of the competing exchange, is an important consideration. The owner must be compensated for damage to property employed in furnishing one class of service, even though the change may result in an increase in the revenue from another class of service. The subscriber of one company desiring toll service over the lines of the other company is to pay an additional charge as a reasonable compensation for the additional service. Neither company will be permitted to absorb such additional charge. This will not result in any discrimination between the subscribers of the same exchange, but will result in a just and necessary discrimination between the subscribers of the different exchanges which will preserve the interests of both companies. It appears that no irreparable injury will result to the owner or other user of the facilities of the respondent companies, and that no material detriment to the service of either company

will result. It is ordered that the respondent companies make such physical connection between their toll lines or systems as is required for the furnishing of toll service to the subscribers of each company. The expense of making and maintaining the connection is to be apportioned equally between the companies.

The petitioner is a resident of the city of La Crosse and alleges that in the city of La Crosse two telephone systems are in operation, one known as the "Bell system," belonging to the Wisconsin Telephone Company, and the other operated by the La Crosse Telephone Company, which company is owned and controlled by local capital; that he is a user of three telephones of the La Crosse Telephone Company, but is not a subscriber of the Wisconsin Telephone Company; that as such subscriber of the La Crosse company he finds it to his interest to use almost daily the toll lines of the Wisconsin Telephone Company; that the Wisconsin Telephone Company's toll lines extend into many towns and villages and to telephone systems not reached by the La Crosse Telephone Company, and between which no direct communication may be had; that public convenience and necessity require a physical connection between the toll lines of each of the companies and the exchange system of the other; that such connection would greatly extend the use of telephones of each, and be of great advantage to subscribers of both systems. Wherefore, petitioner in behalf of himself and other citizens of La Crosse asks that an investigation be made of the matter and an order be made directing physical connection of each of the systems with the toll lines of the other, determining and prescribing the conditions and compensation for such joint use, and by whom the expense of making and maintaining such connection shall be borne.

The respondent, the Wisconsin Telephone Company, answering the petition, admits all the formal allegations thereof, but denies that public convenience or necessity requires a physical connection of the toll lines and the telephone system of the Wisconsin Telephone Company with the toll lines and telephone system of the La Crosse Telephone Company, or that the Railroad Commission of Wisconsin has jurisdiction, right or authority to take any proceedings upon the petition or make any order with relation to any of the matters referred to or any of the allegations contained therein, but alleges that any order, directing such physical connection to be made, will deny the Wisconsin Tele-

phone Company the equal protection of law and of trial by jury, and will be the taking of its property without due process of law and without due compensation; and that such connection will result in substantial detriment to service furnished by both or either of said companies. Wherefore, the respondent, the Wisconsin Telephone Company, prays that the petition be dismissed.

The hearing was held January 3, 1912, at the capitol, in the city of Madison. *Frank Winter* appeared in his own behalf, *L. G. Richardson* and *Hunt Chipley*, attorneys, and *Edwin S. Mack*, of counsel, appeared for the Wisconsin Telephone Company.

It appears that there are two telephone companies operating in the city of La Crosse; the Wisconsin Telephone Company, commonly called the Bell company, and the La Crosse Telephone Company, the latter being owned and controlled by local capital. The local system was installed because the subscribers of the Bell system believed they were charged exorbitant rates and the farmers in the vicinity of La Crosse, owning their own lines, were not able to secure connections with the Bell lines, and also because of the demand by the Bell company for increased toll when connections outside of La Crosse were given.

The La Crosse company had the advantage over the Bell system, as local people did not dare to patronize a foreign concern which was in competition with an enterprise controlled by local capital, and although rates of the Bell system were lower than those of the local system, subscribers of the former system changed to the local system after the latter was installed. In consequence the local system rapidly increased the number of its subscribers with a corresponding decrease in the number of subscribers of the Bell system. The better class of subscribers as a rule took the phones of the local system, and these are the greater users of the toll lines. The effect of the competition may be fully appreciated when we consider that originally the Bell system had 2,500 subscribers, which at the time of the hearing was reduced to 1,650, while the subscribers of the local system numbered 4,000. The toll calls amounted in one month to \$6,000 for the Bell system, and to about \$4,500 for the local system.

All toll lines extending out of La Crosse and owned or leased by the competing companies, are the Kneen system, Teasdale system, and the Gaveney system. The toll lines entirely within

the state owned by the Wisconsin Telephone Company and extending out of La Crosse, are La Crosse-Eau Claire, La Crosse-Black River Falls, La Crosse-Sparta, La Crosse-Tomah, La Crosse-Mauston, La Crosse-Viroqua, La Crosse-Madison, La Crosse-Milwaukee, and La Crosse-Coon Valley. Connection is also made by the Wisconsin Telephone Company with the American Telephone & Telegraph Company's lines, the La Crosse-Minneapolis, and the La Crosse-Tomah lines, and with other lines running into Minnesota known as the La Crosse-Minneapolis, La Crosse-Winona, and La Crosse-Houston lines, which belong to the Northwestern Telephone Company. The La Crosse Telephone Company is connected with local farmers' lines running to Viroqua, Coon Valley, Westby, Sparta, Tomah, and Galesville. It also connects with the La Crosse Interurban Telephone Company on the southwest, and has one circuit to Sparta, one to Viroqua, and another to Prairie du Chien. It connects with the Tri-State company on the west, and with the Standard company on the southwest.

The chief operator of each of the competing exchanges has installed upon his desk a telephone of the other exchange, which is the only connection between the two exchanges, but neither of these telephones is connected with the switch board of the subscribing telephone company.

Relative to the physical possibility of making connection between the competing systems for toll service, it appears that the new building of the La Crosse Telephone Company is located about four blocks from the office of the Bell system. A connection could be made at any one of three junction points. The central could be located at Main street, in which street the conduits of both companies are laid parallel to each other. In the conduit of the La Crosse company there is sufficient room to accommodate a twenty-five pair cable, which is deemed sufficient to handle the business. The increase of business would not require any additional poles or arms, but some additional office equipment would be needed.

When two systems are connected, quicker connections are obtained through the single exchange than through the double exchange, because the first connection is made by the receiving operator, while in the second case it is trunked across to another operator. In cities where two exchanges are operated and con-

nected by trunking from one exchange to the toll board of the other, the second exchange is supervised by the operator taking the call, so that it is handled precisely as if it were a connection through one exchange. It was shown that where a connection is desired by an independent operator for a toll on the Bell lines, where there is physical connection, the trunking throughout can be supervised by the operator of the independent company; but where there is no such connection, as in the instant case, and a toll message is received over Bell lines for a subscriber of the independent system, who has not also a Bell phone, the line is disconnected until the party can be reached by messenger or otherwise, when a connection must again be made with the toll lines. Calls thus delayed are always a greater expense to the company than calls immediately responded to, and for this reason the expense of toll calls, when a physical connection is established, is not as great as in cases where no physical connection exists.

It was also maintained that the efficiency of service might be impaired by the connection because of the use of different apparatus by the two companies. Although the Bell company uses the Western Electric receiver and transmitter, while the La Crosse Telephone Company uses the Vote-Berger apparatus, it was shown that connections are now being made in different cities between the Bell company and other telephone companies using different receiving and transmitting apparatus without any difficulty, and with apparently satisfactory results. However, some of the employes of the Bell company were of the opinion that the transmission from such a connection was not as clear as that coming from stations using the same apparatus; but the consensus of opinion of telephone engineers is that no material deterioration will result in the service because of such connection.

The greatest trouble in establishing clear connections over two lines, it was found, usually occurred in cases where messages were transmitted over the American Telephone & Telegraph lines, due partly, it is believed, to the use of different transmitting apparatus, but principally to the fact that the batteries at the substations of the connecting lines are not kept up to standard. This difficulty can, however, readily be corrected by order of the Commission requiring the batteries to be maintained in efficient operating condition.

In support of the contention that a physical connection would result in ruining the exchange business and decreasing the number of its subscribers, with a corresponding increase in the list of subscribers of the La Crosse Telephone Company, it was pointed out in behalf of the Wisconsin Telephone Company that those using both phones now would only need one phone when such connections were formed, and the local company naturally would be favored. As it is now, 450 establishments maintain both phones, and although the long distance calls over the Bell system would be increased, the cost of operation would be correspondingly increased, and the increase would not compensate for the loss of the local subscribers. To meet the objection it was suggested that a rule be adopted discontinuing the toll service in cases where one now using the Bell system discontinued the use after the connection of the two systems, but it was urged that such a rule would not affect those not making heavy use of the tolls, as they would find it more advantageous to maintain only one phone. While this objection is vital, it is not insurmountable, as we shall see later.

It will also be noticed that the La Crosse system maintains more than twice as many phones as the Bell system maintains. This, it is claimed, would result in great benefit to the Bell system, because by merely connecting the trunk lines of the two systems all the subscribers of the local company would have toll access to the Bell line. The better class of patrons, those using the toll lines to a greater extent, have the La Crosse instruments in their homes, and as 25 per cent of the toll business is done in the evening after people have reached their homes, it is said that a large amount of toll business would originate on the La Crosse system at a time when the Bell toll lines are least employed.

It must be conceded that the public of La Crosse would be greatly benefited by a physical connection between the switchboard of the La Crosse company and the toll lines of the Bell system. It would result in a great saving of time to subscribers having only the La Crosse company's phones, which are the greater number. Only 8 per cent of the total telephone subscribers in La Crosse have both phones. Twelve or fifteen large business houses have an interior system connected with the trunks of both systems.

The cost of outgoing messages varies with circumstances, depending upon salaries of the operators and local conditions. The cost of one call is determined by taking the total receipts of in and out toll business, together with the expense of giving the service, and the number of calls received and sent. By this method of reckoning, the cost of an outward message from La Crosse to Sparta is found to be about 4 cts. The expense of an outward call is somewhat greater than an inward call.

Four toll operators are employed at present by the Bell company at La Crosse, but with additional connections, resulting through a physical connection, additional operators would be required. At the present time only one is retained after 10:00 p. m.

The foregoing resume of the testimony, which is quite voluminous, contains all the salient facts brought out upon the hearing and necessary to a decision of the controversy between the parties. In the light of such facts we must determine whether involuntary action in the matter at issue may be required of the respondent telephone companies.

The statute provides that (sec. 1797m—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 line 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 1797m—64 to 1797m—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.

Unless these conditions exist simultaneously, the utilities are free to make or to refuse to make connection of their lines, as their action in the matter in such event lies entirely within their discretion. Notwithstanding the contention of respondents that

the statute transgresses certain constitutional guaranties of property rights, it was manifestly framed with great care and with a view of protecting the utilities in the enjoyment of all their legal rights and privileges, while at the same time compelling an involuntary enlargement of the use of their facilities when necessary and required for the public welfare. There is nothing in the letter or in the spirit of the law that savors of confiscation, and if administered according to its obvious intent and purpose, no property rights will be impaired and no injury inflicted upon anyone. That great difficulty will be encountered, in certain instances, in prescribing such terms and conditions upon which the connection shall be made, as will safeguard the rights and interests of all concerned, is evident to every one conversant with the complexity of the situation presented by the numerous competing and conflicting telephone utilities now engaged in serving the public with their facilities and disturbing its tranquility with their strifes. But mere inconvenience in the application of the terms of a statute to the facts of some intricate case that may arise, is not a ground for invalidating the statute. Some constitutional limitation or restriction must be violated by the provisions of a statute before legislation can be set at naught. The act here under consideration is, in our judgment, free from the imputation of any such infirmity.

Passing to the merits of the case, we are first met with the issue whether public convenience and necessity require a physical connection of respondents' lines or systems for the purpose of toll service. The question of such connection for the purpose of rendering local service of a character that would give the subscribers of one exchange telephone connection with the subscribers of the other exchange within the city of La Crosse was eliminated from the case by stipulation of the parties.

The term "public convenience and necessity" is indeterminate. It is usually found in statutes requiring some act to be performed or creating some new public obligation not imposed by the common law which interferes with private rights. As a justification for such interference there must be a public exigency demanding it, which is always a question of fact depending upon a variety of considerations.

In the case before us it appears that the city of La Crosse has a population of 30,000. Within the city are two competing local

telephone exchanges. Each has toll connections with other lines and systems. The subscribers of one exchange often require the toll service of the other exchange. This can now be had only by a subscriber installing phones of both exchanges, or, when needing the toll service of the exchange to which he is not a subscriber, going to some public station of such exchange. The loss of time and inconvenience thus occasioned is often embarrassing as well as expensive.

As the Bell system is connected with lines and systems covering the entire country, the demand for the service of the Bell toll lines by the subscribers of the local company is naturally greater than the demand for the services of the toll lines of the local company by the subscribers of the Bell company. This is reflected in the toll revenues of the companies, respectively. While the number of subscribers of the Bell company is approximately 1,500, and that of the local company approximately 4,500, the annual toll revenues of the former amounts to about \$6,000, and of the latter to about \$4,500. Without reviewing at length the evidence adduced upon the hearing upon this phase of the case, suffice it to say that in the light of all the facts and circumstances disclosed in the investigation, the conclusion in our judgment is inevitable that public convenience and necessity require that a physical connection of the respondents' systems or lines be so made that the subscribers of each exchange may, through the telephone installed by them in their residences or places of business, communicate with persons over the toll lines of both exchanges.

In this connection it may be well to consider the apprehension of the Bell company that its local exchange would be deprived of its patronage if its toll line facilities were made available to the patrons of the competing exchange. It is evident that the only inducement to subscribe to the Bell system is the fact that thereby the subscriber is connected with a great telephone system covering like net work the entire country. The contention of petitioner that no consideration should be given to this fact, but that the toll lines should be treated separately and not as an adjunct of the local exchange, does not seem tenable when we estimate the consequences to property rights that are likely to flow from such course. For the purpose of accounting and ascertaining equitable rates to be charged the public for serv-

ices, it is essential to make such separation and to treat each exchange and class of service as a separate entity, although a common ownership of the property devoted to the different classes of service exists. But separating the property for the purpose of devoting one part to a use which will result in injury or damage to the use of the other part is entirely another matter and cannot be done without compensating the owner for the damage thus sustained. No subterfuge can be indulged under the statute which will have the effect of depriving any private property employed in a public service of its earning capacity.

In the peculiar situation found in the instant case, it is possible to prescribe terms and conditions which will preserve the interests of the utilities, respectively, after the connection has been made. The subscriber of one company desiring toll service over the lines of the other company must pay in addition to the rate charged the patrons of the latter company a reasonable compensation for the additional service. Neither company will be permitted to absorb such additional charge, but the same must be paid by the patrons of either company using the toll lines of the connecting company. This will not result in any discrimination between subscribers of the same exchange, but will result in a just and necessary discrimination between the subscribers of the different exchanges. A subscriber, who has not installed the telephones of both exchanges, is not entitled to the toll service of both exchanges without paying an additional charge to the exchange with which he is not connected when desiring to use its toll line facilities.

There is no evidence showing that any irreparable injury will or can result to the owner or other user of the facilities of the respondent companies. Under the terms and conditions outlined above the business of neither company will be disturbed, and their relations to each other with respect to existing local business will be the same as at present. Certainly neither can suffer any injury under the circumstances.

It is practically conceded that no material detriment will result to the service of either company should the connection sought in this case be made.

For the reasons assigned it is the judgment and finding of the Commission:

1. That public convenience and necessity require a physical connection of respondents' telephone lines or systems in the

city of La Crosse for the purpose of enabling the subscribers of each exchange to avail themselves of the toll line facilities of the other exchange from the telephone stations installed in their residences or places of business;

2. That such connection will not result in irreparable injury to the owner or other users of the facilities of such public utilities; and

3. That such connection will not result in any substantial detriment to the service to be rendered by such public utilities.

The cost of making the connections and thereafter maintaining them will be small and under the circumstances will be apportioned equally between the companies.

Now, THEREFORE, IT IS ORDERED, That the La Crosse Telephone Company and the Wisconsin Telephone Company make such physical connection or connections between their toll lines or systems as is required for the furnishing of toll line service to the subscribers of each company, at the stations installed in their residences and places of business, over the toll 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 apportioned equally between said companies.

Thirty days is deemed a reasonable time within which the companies shall comply with the terms of this order.

IN RE APPLICATION OF THE CASCO AND BRUSSELS TELEPHONE
COMPANY FOR AUTHORITY TO INCREASE RATES.

Decided May 17, 1913.

Application is made by the Casco & Brussels Tel. Co. for authority to charge 15 cts. for all toll calls for the reason that the present rates based on distance are confusing to operators.

Held: The information furnished by the utility is very incomplete, and it is not clear why distance should not be a factor in determining toll rates. The reason given is not sufficient to justify a change in rates and the petition is dismissed.

Application in this matter was filed with the Commission on March 3, 1913. Applicant is a telephone utility operating an exchange in Casco, Wis., and toll lines in connection therewith. It appears from the application that the toll rates now in effect are 10 cts. and 15 cts., according to the distance over which the message is transmitted. The applicant seeks to abolish the 10 ct. rate for distances of less than five miles and to charge 15 cts. on all toll calls, for the reason that the present rates based on distance are confusing to operators.

Hearing was set for April 15, 1913, but no appearances were entered.

An examination of the report of the utility for the last fiscal year fails to indicate that the utility is in need of more revenue, nor would the proposed change, apparently, produce much more revenue. According to the statement submitted by the applicant the revenues from the 10 ct. charge were \$3.80 for the month of February, and from the 15 ct. charge \$14.25. According to these figures the increase in revenue would be very slight.

Data submitted by the utility, in response to inquiries from the Commission, were so incomplete that the records in this case are not very complete with regard to the extent of the toll system or the reasons why the distance should not be recognized as a factor in determining rates. The reason advanced by the utility, that the present rates are confusing to operators, does

not appear to be sufficient to justify the proposed change in rates.

Attention should be called to the fact that the utility appears to be charging \$2.00 per month for single party business phones, although the legal rate on file is \$2.25. As this change has constituted a reduction, it is authorized.

The application to increase toll rates will not be granted, and the case is dismissed.

W. J. BUERGIN, JR., ET AL.

vs.

SOUTHERN WISCONSIN RAILWAY COMPANY.

Submitted March 12, 1913. Decided May 19, 1913.

The petitioner alleges that the service on the South Madison line of the So. Wis. Ry. Co., Madison, Wis., is inadequate and asks that ten minute service be extended to the corner of Park and Erin sts. The order in *Elver v. So. Wis. Ry. Co.* 1912, 11 W. R. C. R. 67, provided for ten minute service as far as Mound st. The additional equipment required to extend the ten minute service to the city limits, as requested, would be adequate to furnish the service to the end of the line.

Held: Adequate service requires a more frequent schedule on the line in question. It is ordered that the respondent install a passing track on its South Madison line at a point which will permit the operation of cars on a ten minute headway, and on and after July 1, 1913, maintain a headway of ten minutes on the entire South Madison line.

Petitioners allege that the respondent company does not maintain adequate service on its South Madison line between Mound street and the corner of Erin and Park streets; that in the decision of the Commission which took effect January 15, 1913, requiring a ten minute service on this line as far as Mound street, not enough consideration was given to the needs of the residents of the territory between Mound street and the city limits at Erin and Park streets; that this part of the line is the only part of the company's line within the city limits of Madison not having a ten minute service at the present time; that the patrons of St. Mary's Hospital are entitled to as good service as that supplied to patrons of the General Hospital; that at Erin and Park streets there is a waiting and lunch room available for the accommodation of patrons who desire to wait for a South Madison car, and that such accommodation cannot be had at Mound street.

The respondent, in its answer, alleges that the service now provided between Mound street and the corner of Park and Erin streets is adequate; that the additional service petitioned

for would make necessary the installation of additional track-
age at an expense greater than the returns to be derived there-
from would justify; and that the traffic in the designated dis-
trict is insufficient to warrant more frequent service.

A hearing on this matter was held at the office of the Commis-
sion at Madison on March 12, 1913, at which *W. J. Buergin, Jr.*,
appeared for the petitioners and *E. J. B. Schubring* for the re-
spondent.

At the hearing the testimony introduced by the petitioners was
limited to general observations as to the service, and to an ex-
pression of the opinions and desires of the residents of the neigh-
borhood affected by the proposed change in schedule. No sta-
tistics or other data were submitted. The respondent's superin-
tendent contended in his testimony that the traffic does not
warrant the extension of the ten minute service to Erin street.

Subsequent to the hearing, the respondent furnished the Com-
mission with traffic data on the South Madison line for sixteen
days, from March 20 to April 4, 1913, inclusive. The count
was taken in the following manner:

(a) On southbound South Madison cars, passengers on car
after leaving Mound street and also after leaving Erin street;

(b) On northbound cars from South Madison, passengers on
car arriving at Erin street and passengers arriving at Mound
street;

(c) On the Mills street cars running as far as Mound street,
the number of passengers discharged at Mound street upon ar-
rival and the number of passengers aboard as the car left Mound
street on the return trip.

The average number of passengers per day for the sixteen
day period covered by the respondent's count, as summarized by
the engineers of the Commission, are included in the following
tabulation:

Pass. on southbound (So. Madison) cars leaving Mound street...	520
“ “ northbound “ “ approaching Mound st..	529
“ “ southbound “ “ leaving Erin street....	274
“ “ northbound “ “ approaching Erin st....	296
“ discharged from Mills st. cars at Mound street.....	184
“ boarding “ “ “	180

Additional observations were taken by the Commission's en-
gineers at the corner of Mound and Mills streets on April 30,

May 1, and May 2, 1913. These observations show the following average results per day:

Pass. on southbound So. Madison cars approaching	Mound st....	621
“ “ “ “ “ leaving	“	555
“ “ northbound “ “ approaching	“	529
“ “ “ “ “ leaving	“	618
“ discharged from Mills st. cars at	“	170
“ boarding “ “	“	176

It will be noted that the three day count by the Commission's engineer checks very closely with the corresponding count over a sixteen day period by the street railway company.

The following deductions in average passengers per day may be drawn from the two sets of observations above recorded:

Pass. leaving southbound So. Madison cars betw. Mound & Erin*	246
“ “ “ “ at Mound	66
“ “ “ Mills st. “ “	183
“ boarding northbound So. Madison cars betw. Mound & Erin*	233
“ “ “ “ at Mound	89
“ “ “ Mills st. “ “	180

* Note:—Includes Erin st.

It is reasonable to suppose that since the Mills street cars discharge an average of 183 passengers per day at Mound street while the same number of South Madison cars discharge only 66, that the difference, or 117, would have left these cars at some point south of Mound street had the Mills street cars been run through. Likewise, since the Mills street cars picked up an average of 180 passengers at Mound street, while the same number of South Madison cars picked up only 89, it appears that 91 of the 180 passengers would have boarded the Mills street cars south of Mound street had these cars come through from the city limits or South Madison.

Adding 117 to the 246 passengers discharged from South Madison cars between Mound and Erin streets and adding 91 to the 233 passengers picked up by northbound South Madison cars between Erin and Mound streets, the following figures are obtained by revision on the basis that all cars now turning back at Mound street are to go at least as far as Erin street:

Pass. on southbound So. Madison cars leaving Mound st.....	642
“ leaving “ “ between Mound and Erin..	363
“ on northbound “ “ approaching Mound st.....	620
“ boarding “ “ between Erin and Mound..	324
Per cent southbound discharged between Mound and Erin.....	56
“ northbound boarding “ “ “	52

These percentages are subject to a slight correction for the southbound cars, as there is a small amount of transferring from Mills street cars to South Madison cars. It is probable that most of those transferring at Mound street would ride beyond Erin street on the South Madison cars.

From this compilation it appears that approximately 50 to 55 per cent of all passengers riding beyond Mound street would board or leave the cars between Mound and Erin streets. The other 45 or 50 per cent would board or leave the cars near the end of the line in the vicinity of the South Madison station of the C. & N. W. Ry. Co.

This percentage may change upon the establishment of a ten minute service beyond Mound street, as it appears that the residents of a part of the territory between Mound and Erin streets can walk to the business center of the city in less time than it would take on a South Madison car running on a twenty minute service, unless they made close connections. The more frequent service would probably increase the traffic from this section to some extent, but it is impossible to state just what the effect would be.

It is considered that when a line is serving a community having tributary traffic as large as that on the South Madison line in a city having the characteristics of Madison, the time interval between cars during the major part of the day should not be greater than ten minutes.

The complaint in this case involves only the question of extending the ten minute service from Mound street to Erin street, but the figures compiled from passenger counts seem to indicate that only about 50 to 55 per cent of all passengers using the service south of Mound street would be benefited if the ten minute service were extended only as far as Erin street. The extension of the ten minute service beyond Mound street involves the use of one additional car and the installation of an additional passing track. The same equipment would be required whether this service is extended to the corner of Park and Erin streets only, or to the South Madison terminal. If the former point were made the limit of the ten minute service, it would be necessary to hold the car there for a ten minute period, during which the car and crew would be idle. From an operating standpoint this is not considered good practice and it would be prefer-

able to keep the car in operation and extend the ten minute service through to the end of the line. This agrees with the position taken by the superintendent of the company at the hearing.

While the traffic on the South Madison line is not equal to that on the other city lines, observations indicate that it compares very favorably, considering the service rendered. It is also worthy of note that at certain times the traffic on this line is exceptionally heavy. It has been demonstrated that increased frequency of service has stimulated traffic elsewhere in the city and it seems probable that this principle will also hold good on the line under consideration.

In view of the facts as developed at the hearing and in the subsequent investigations referred to above, we are of the opinion that adequate service requires a more frequent schedule on the South Madison line. It appears advisable, therefore, to modify our former order with regard to the line in question (*Elver v. So. Wis. Ry. Co.* 1912, 11 W. R. C. R. 67) and require the operation of cars on a ten minute headway to the end of the line.

IT IS THEREFORE ORDERED, That the respondent, the Southern Wisconsin Railway Company, install a passing track on its South Madison line at a point which will permit the operation of cars on a ten minute headway, and on and after July 1, 1913, maintain a headway of ten minutes on the entire South Madison line.

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.

Telephone toll charges, additional charge, subsequent to physical connection, not to be absorbed by either company, *see* RATES, 121.

ACCOUNTING.

COST ACCOUNTING—ELECTRIC UTILITIES.

Determination of unit costs—Apportionment of value of physical property among the different departments or branches of the service.

1. In the present case an apportionment of the value of the property was made as between commercial service and street lighting. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 201.

Determination of unit costs—Apportionment of expenses over output, capacity and consumer expenses.

2. In the present case the expenses were apportioned over output and capacity expenses. *In re Appl. Village of Arcadia*, 1912, 11 W. R. C. R. 216, 220.

3. An apportionment of expenses in the present case was made over output and capacity. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 459.

Determination of unit costs—Apportionment of expenses over output, capacity, and consumer expenses—Further apportionment among the different departments of the service.

4. In the present case an apportionment of expenses was made over output and capacity expenses and a further apportionment was made among the different departments of the service. *In re Appl. El. Rates, New Glarus Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 53, 55-56.

5. In the present case the output portion of the operating expenses was divided among commercial lighting, street lighting, municipal pumping, and commercial power, on the basis of estimated output. *In re Appl. El. Rates, New Glarus Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 53, 57.

6. In the present case an apportionment of expenses was made over output and capacity and a further apportionment as between commercial and street lighting service. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 203-204.

7. In the present case the capacity expenses were apportioned between commercial and street lighting on the basis of the station demand of each respective service, and the output expenses were apportioned on the basis of the amount of current consumed by each service. *In re Appl. Village of Arcadia*, 1912, 11 W. R. C. R. 216, 220-221.

8. In the present case the operating expenses were apportioned over output and demand and a further apportionment was made among the different departments of the service. *In re Appl. Chetek Lt. & P. Co.* 1912, 11 W. R. C. R. 227, 231-232.

9. In apportioning the expenses over the different classes of service, the capacity expenses were apportioned on the basis of the demand made by each and the output expenses on the basis of current used by each. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 460.

Determination of unit costs—Apportionment of expenses over output, capacity, and consumer expenses—Further apportionment among different departments of service—Consumption expenses.

10. In the present case the consumption expenses were apportioned on the basis of demand among commercial lighting, street lighting, and commercial power. *In re Appl. El. Rates, New Glarus Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 53, 56-57.

Determination of unit costs—Apportionment of expenses over output, capacity, and consumer expenses—Further apportionment among different departments of the service—Distribution system expenses.

11. In the present case the distribution expenses were apportioned on the basis of demand among commercial lighting, street lighting, and commercial power. *In re Appl. El. Rates, New Glarus Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 53, 56-57.

Determination of unit costs—Apportionment of expenses over output, capacity and consumer expenses—Further apportionment among the different departments of the service—Interest, depreciation and taxes.

12. In the present case, interest and depreciation were apportioned over commercial lighting, street lighting and commercial power. Interest on land was divided on the basis of demand, as were also interest and depreciation on buildings and miscellaneous structures. In the case of transmission and distribution system, and plant equipment, a direct separation was made in the valuation between street lighting and commercial lighting. The interest and depreciation, therefore, on these items was given directly to street lighting on its portion as per valuation and the remainder was apportioned between commercial lighting and commercial power on the basis of demand. Interest and depreciation on the 12 per cent allowance was treated as an overhead on total interest and depreciation among the three classes. *In re Appl. El. Rates, New Glarus Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 53, 57.

Determination of unit costs—Apportionment of expenses over output, capacity, and consumer expenses—Further apportionment among the different departments of the service—Power generation expenses.

13. In the present case the capacity portion of power generation was apportioned among commercial lighting, street lighting, municipal

pumping, and commercial power on the basis of demand. *In re Appl. El. Rates, New Glarus Mun. El. Lt. & W. Plant, 1912, 11 W. R. C. R. 53, 56-57.*

Determination of unit costs—Apportionment of expenses over output, capacity and consumer expenses—Further apportionment among the different departments of the service—Apportionment of expenses for street lighting between the ornamental and the series system.

14. In view of the fact that there are two distinct classes of street lighting and that each operates on a different schedule, it is necessary to separate the expenses between the two. Accordingly the operating expenses, including the portion of the fixed charges of the station apportioned to street lighting, have been assessed to each on the basis of their respective demands and outputs; and interest, depreciation, and taxes on the street lighting systems have been assessed on the basis of investment in each. *In re Appl. Columbus W. & Lt. Comm. 1913, 11 W. R. C. R. 449, 463.*

Determination of unit costs—Prorating of output, capacity and consumer expenses.

15. Prorating the commercial output expenses over the current delivered to consumers, and prorating the commercial capacity expenses over the active connected load, the unit cost per kw-hr. for commercial service is found. *In re Invest. Evansville Mun. El. Lt. & W. Plant 1912, 11 W. R. C. R. 197, 204-205.*

16. An equitable distribution of the street lighting expenses, it seems, would be obtained by prorating the capacity expenses over the number of lamps in use, and the output expenses according to the total consumption. *In re Appl. Village of Arcadia, 1912, 11 W. R. C. R. 216, 221.*

17. In determining the cost of commercial lighting the output expenses were divided by the energy consumed in order to find the output cost per kw-hr. The capacity expenses were divided by the active load to get the capacity cost per kw. per year. This amount divided by 365 gives the cost per kw-hr. if the plant is operated only one hour each day. Combining these units a table of costs for different hours daily operation may be found. *In re Appl. Columbus W. & Lt. Comm. 1913, 11 W. R. C. R. 449, 462.*

18. In determining the cost of commercial power in the present case the capacity cost was divided by the connected load which gives the cost per h. p. per year. The output cost divided by the number of kw-hr. sold to power users during the year gives the output cost per kw-hr. *In re Appl. Columbus W. & Lt. Comm. 1913, 11 W. R. C. R. 449, 463.*

COST ACCOUNTING—JOINT UTILITIES.

Determination of unit costs—Apportionment of value of physical property among the different plants—(electric and water utilities.)

19. In the present case the value of the physical property was apportioned among the different plants of the joint utility. *In re Invest. Evansville Mun. El. Lt. & W. Plant, 1912, 11 W. R. C. R. 197, 201.*

Determination of unit costs—Apportionment of expenses among different plants—(electric and water utilities.)

20. In the present case the expenses for the joint utility were apportioned among the different plants. *In re Invest. Evansville Mun. El. Lt. & W. Plant, 1912, 11 W. R. C. R. 197, 203.*

21. In the present case an apportionment of expenses of the joint utility was made as between the electric and water departments. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 457.

Determination of unit costs—Apportionment of expenses among different plants—(electric and water utilities)—General and undistributed expenses.

22. The items under general and undistributed expenses have been apportioned to each utility on the basis of the total direct expenses as is the usual custom. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 459.

Determination of unit costs—Apportionment of expenses among different plants—(electric and water utilities)—Interest, depreciation and taxes.

23. In the present case the interest, taxes and depreciation for the joint utility were apportioned between the electric and water plants on the basis of the value of the property and the nature of the equipment for each plant. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 203.

24. Interest and taxes were assessed to each utility directly on the basis of value, and depreciation as actually computed for each. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 459.

COST ACCOUNTING—RAILROADS.

Determination of unit costs—Apportionment of expenses among the different departments or branches of the service.

25. In the present case the operating expenses, including interest charges at the rate given, are apportioned between the different departments of the service. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 390.

Determination of unit costs—Apportionment of expenses among the different departments or branches of the service—Further apportionment between terminal and movement expenses.

26. In the present case the expenses were further apportioned between terminal and movement expenses, *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 390.

Determination of unit costs—Prorating of expenses over units of service performed.

27. Unit costs represent the results obtained when the operating expenses, including interest charges at the rates given, are apportioned between the different departments of the service and between the terminal and the movement portions of such service, and when the latter items are in turn distributed over the proper traffic and operating units. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 365, 390.

COST ACCOUNTING—STREET RAILWAYS.

Determination of unit costs—Apportionment of expenses among the different localities.

28. In the present case an apportionment of the total expenses of the entire system was made as between the two cities involved. *Superior Commercial Club et al. v. Duluth St. Ry. Co.* 1912, 11 W. R. C. R. 1, 24.

Determination of unit costs—Prorating of expenses over units of service.

29. In the present case the total cost of service was prorated over the various units of service according to the number of passengers carried, the car-miles, the car-hours, and the track-miles. *Superior Commercial Club et al. v. Duluth St. Ry. Co.* 1912, 11 W. R. C. R. 1, 24-25, 28.

COST ACCOUNTING—TELEPHONE UTILITIES.

Determination of unit costs—Apportionment of expenses between toll and exchange—Apportionment of exchange expenses among the different exchanges—Apportionment between fixed and variable expenses—Further apportionment among the different departments of the service, urban, rural and rural connecting lines—Central office expenses.

30. In the present case the central office expenses were apportioned among the city, the rural, and the rural connecting lines on the basis of the percentages obtained from the traffic analysis. *In re Appl. Muscoda Mut. Tel. Co.* 1913, 11 W. R. C. R. 666, 681.

Determination of unit costs—Apportionment of expenses between toll and exchange—Apportionment of exchange expenses among the different exchanges—Apportionment between fixed and variable expenses—Further apportionment among the different departments of the service, urban, rural, and rural connecting lines—Interest, depreciation and taxes.

31. In the present case the interest, depreciation, and taxes were apportioned on the basis of the cost new of the property among the city, and rural, and the rural connecting lines. *In re Appl. Muscoda Mut. Tel. Co.* 1913, 11 W. R. C. R. 666, 681.

Determination of unit costs—Apportionment of expenses between toll and exchange—Apportionment of exchange expenses among the different exchanges—Apportionment between fixed and variable expenses—Further apportionment among the different departments of the service, urban, rural, and rural connecting lines—Rental for through lines.

32. In the present case the annual rental for the through lines was apportioned according to use among the city, the rural, and the rural connecting lines. *In re Appl. Muscoda Mut. Tel. Co.* 1913, 11 W. R. C. R. 666, 681.

Determination of unit costs—Apportionment of expenses between toll and exchange—Apportionment of exchange expenses among the different exchanges—Apportionment between fixed and variable expenses—Further apportionment among the different departments of the service, urban, rural, and rural connecting lines—Wire plant expenses.

33. The wire plant expenses in the present case were apportioned among the city, the rural, and the rural connecting lines according to

the property used in each service. *In re Appl. Muscoda Mut. Tel. Co.* 1913, 11 W. R. C. R. 666, 681.

COST ACCOUNTING—WATER UTILITIES.

Determination of unit costs—Apportionment of the value of physical property among the different departments or branches of the service.

34. In the present case an apportionment of the value of the property was made as between fire protection and commercial service. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 201.

35. In the present case an apportionment of the value of the physical property was made as between fire and general service. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 254.

36. In the present case 53 per cent of the plant value was made necessary by the fire service and 47 per cent by all other service. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 467.

37. In the present case the physical property was apportioned 58.6 per cent to fire and 41.4 per cent to general service. *In re Appl. Village of Elkhart Lake*, 1913, 11 W. R. C. R. 690, 691–692.

Determination of unit costs—Apportionment of expenses over output, capacity and consumer expenses.

38. In the present case the total expenses were apportioned between output and capacity expenses. *Rollins et al. v. Village of Montfort*, 1913, 11 W. R. C. R. 278, 284.

39. In the present case the expenses were apportioned over capacity and output expenses. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 499, 466.

40. In the present case the expenses were apportioned as between output and capacity expenses. No attempt was made to distinguish between capacity and consumer expenses on account of the lack of definite consumer data. *In re Appl. Village of Elkhart Lake*, 1913, 11 W. R. C. R. 690, 692.

Determination of unit costs—Apportionment of expenses over output, capacity and consumer expenses—Further apportionment among the different departments of the service.

41. In the present case the expenses were apportioned over output, capacity and consumer expenses and a further apportionment was made as between fire and general service. *In re Appl. City of Neenah*, 1912, 11 W. R. C. R. 119, 122–123.

42. In the present case the direct expenses of the water department are divided among demand, output, and consumer costs, and these groups are apportioned between fire and general service. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 208.

43. In the present case the fixed expenses are divided between fire and general service in proportion to the division of the investment, and the share allotted to general service is divided between demand and output in accord with the division of the direct expense. No material part of this fixed expense is a consumer cost, as the consumers have, up to this time, paid for the services and meters. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 208.

44. In the present case an apportionment of the expenses was made as between fire service and general service. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 259.

45. In the present case the output and capacity expenses were divided between fire and general service. *Rollins et al. v. Village of Montfort*, 1913, 11 W. R. C. R. 278, 284.

46. In making a separation between fire and general service in the present case output expenses have all been charged to general service. The capacity expenses have been divided between fire and general service. *Rollins et al. v. Village of Montfort*, 1913, 11 W. R. C. R. 273, 285.

47. In order to show the costs for each class of service a further apportionment of the output and capacity expenses is necessary. Briefly stated, the capacity expenses other than interest, depreciation, and taxes have been apportioned on the basis of maximum demands. Output expenses, other than interest, depreciation, and taxes, have been apportioned on the basis of water used. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 467.

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.

48. In the present case interest, depreciation and taxes were apportioned on the basis of the cost new of the property among the different departments of the service. *In re Appl. City of Neenah*, 1912, 11 W. R. C. R. 119, 123.

49. Depreciation has been apportioned between fire and general service on the basis of the apportionment of depreciable property. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 254.

50. Interest, depreciation, and taxes, in the present case, follow the same apportionment as the physical property, or about 60 per cent to fire and 40 per cent to general service. *Rollins et al. v. Village of Montfort*, 1913, 11 W. R. C. R. 273, 285.

51. Interest, depreciation, and taxes, both capacity and output, have been apportioned upon the basis of the investment for each branch of service. *In re Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 467.

Determination of unit costs—Prorating of output, capacity and consumer expenses.

52. In the present case consumer expenses will be increased also by fixed charges on meters and this portion of the cost should be distributed among the consumers according to the size of the meter and the investment. The remaining demand expenses plus the output expenses should be prorated over the commercial service on the basis of water used. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 210-211.

UNIFORM ACCOUNTS—TELEPHONE UTILITIES.

In general—Keeping of accounts—Conformity to Public Utilities Law required.

Rates, advance in, deferred until accounting data of utility conforms to the standards prescribed by Commission, see RATES, 102.

Operating expense accounts—Depreciation accounts.

53. In the present case the company is to establish a depreciation reserve making regular yearly charges against income and credits to the depreciation reserve account on the basis approved by the Commission. *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 194.

Operating expense accounts—Substation expenses—Exchange.

54. In the present case rentals paid for telephone instruments not owned by the company are to be reported as an operating expense under the account heading of Substation expense—exchange. *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 194.

UNIFORM ACCOUNTS—WATER UTILITIES.

In general—Keeping of accounts—Conformity to Public Utilities Law required.

55. In connection with a complaint that the water rates of the village of Montfort, Wis., were inequitable the petitioner alleged that the records of the village are not properly itemized so as to enable the full cost of operating the plant to be determined. *Held:* The present accounting procedure of the utility is inadequate. The water works department is ordered to conform its accounting procedure to meet the requirements of the Commission. For this purpose assistance will be furnished by the Commission in preparing the fiscal report and in revising the accounting system. *Rollins et al. v. Village of Montfort*, 1913, 11 W. R. C. R. 278, 292.

ADVANCE IN RATES.

See RATES.

ADVANTAGE.

See DISCRIMINATION.

AESTHETIC CONSIDERATIONS.

As ground for exercise of police power by municipality, purely aesthetic considerations not sufficient ground for exercise. *see* ELECTRIC UTILITIES, 2-3.

AGRICULTURAL IMPLEMENTS.

Rates, reasonableness of, Wisconsin points, *see* RATES, 51.

ALLOWANCES.

See also REBATES or CONCESSIONS.

Allowance for weight of car stakes, in determining reasonableness of rates, *see* RATES, 65.

Failure to make allowance for weight of car stakes, as ground for refund, *see* REPARATION, 25.

Rebates or concessions, allowance to customer of water utility on account of ownership of instrument or facility, rate concession prohibited, *see* REBATES or CONCESSIONS, 1.

Rebates or concessions, allowance to subscriber of telephone utility on account of ownership of instrument or facility, rate concession prohibited, *see* REBATES or CONCESSIONS, 2-5.

Rental for equipment, paid by utility to subscriber of telephone utility, reasonable rental permitted, *see* RATES, 92-94, 106-107, 111-113.

Transit privileges, allowance of, *see* TRANSIT PRIVILEGES, 1.

ANNUNCIATORS.

Annunciators, for protection of railroad crossings, *see* RAILROADS, 12.

APPORTIONMENT.

Apportionment of value of physical property among the different plants.

In the determination of unit costs for joint utilities, apportionment between electric and water utilities, *see* ACCOUNTING, 19.

Apportionment of value of physical property among the different departments or branches of the service.

In the determination of unit costs for electric utilities, *see* ACCOUNTING, 1.

for water utilities, *see* ACCOUNTING, 34-37.

Apportionment of expenses among different localities.

In the determination of unit costs for street railways, *see* ACCOUNTING, 28.

Apportionment of expenses among different plants.

In the determination of unit costs for joint utilities, apportionment between electric and water utilities, *see* ACCOUNTING, 20-24.

Apportionment between electric and water utilities, apportionment of depreciation, *see* ACCOUNTING, 23-24.

of general expenses, *see* ACCOUNTING, 22.

of interest, *see* ACCOUNTING, 23-24.

of taxes, *see* ACCOUNTING, 23-24.

of undistributed expenses, *see* ACCOUNTING, 22.

Apportionment of expenses over output, capacity and consumer expenses.

In the determination of unit costs for electric utilities, *see* ACCOUNTING, 2-3.

for water utilities, *see* ACCOUNTING, 38-40.

Apportionment of expenses over output, capacity, and consumer expenses, further apportionment among the different departments of the service.

In the determination of unit costs for electric utilities, *see* ACCOUNTING, 4-14.

In the determination of unit costs for electric utilities, apportionment of consumption expenses, *see* ACCOUNTING, 10.

of depreciation, *see* ACCOUNTING, 12.

of distribution system expenses, *see* ACCOUNTING, 11.

of interest, *see* ACCOUNTING, 12.

of power generation expenses, *see* ACCOUNTING, 13.

of expenses for street lighting between the ornamental and the series system, *see* ACCOUNTING, 14.

In the determination of unit costs for water utilities, *see* ACCOUNTING, 41-51.

In the determination of unit costs for water utilities, apportionment of depreciation, *see* ACCOUNTING, 48-51.

of interest, *see* ACCOUNTING, 48, 50-51.

of taxes, *see* ACCOUNTING, 48, 50-51.

Apportionment of expenses among different departments or branches of the service.

In the determination of unit costs for railroads, *see* ACCOUNTING, 25.

In the determination of unit costs for railroads, further apportionment between terminal and movement expenses, *see* ACCOUNTING, 26.

Apportionment of expenses among different departments or branches of the service, apportionment of expenses between toll and exchange, apportionment of exchange expenses among the different exchanges.

In the determination of unit costs for telephone utilities, apportionment between fixed and variable expenses, further apportionment among the different departments of the service, urban, rural, and rural connecting lines, apportionment of central office expenses, *see* ACCOUNTING, 30.

apportionment of depreciation, *see* ACCOUNTING, 31.

of interest, *see* ACCOUNTING, 31.

of rental for through lines, *see* ACCOUNTING, 32.

of taxes, *see* ACCOUNTING, 31.

of wire plant expenses, *see* ACCOUNTING, 33.

Apportionment of expenses for railway crossings.

Among the different parties, *see* RAILROADS, 5-6.

APPRAISAL.

Methods of appraisal of the property of public utilities, *see* VALUATION, 13-27.

ARBITRARIES.

Reasonableness of arbitrary, *see* RATES, 53.

AUTO GEAR FRAMES.

Refund on shipment, North Milwaukee to Racine Jct. Wis. *See* RATES, 52; REPARATION, 31.

AUTOMATIC CROSSING ALARM.

Installation of, *see* RAILROADS, 7, 9, 12-17, 19-31.

BARK.

See TANBARK.

BARLEY.

See GRAIN.

BILLING.

Telephone switching charges, bills rendered directly to connecting rural companies, *see* RATES, 114.

Telephone toll rates on rural lines, bills rendered either to connecting companies or to individual users, *see* RATES, 123.

BINDER TWINE.

Classification under agricultural implements, *see* RATES, 51.

BLANKET RATES.

Group or blanket rates, *see* RATES, 38-39.

BLOCK SIGNAL SYSTEM.

Manual block signal system for street railway, *see* STREET RAILWAYS, 1.

BOLTS.

See LOGS AND BOLTS.

BOXES.

Rates, reduction of, Milwaukee to Wisconsin points. *See* RATES, 53.

BRAKES.

Hand brake, adequacy of for small-sized street cars, *see* STREET RAILWAYS, 6.

BULK OF COMMODITIES.

Bulk of commodities in relation to weight as matter considered in determining reasonableness of railway rates, *see* RATES, 50, 79.

BUSINESS RATES.

Business and residence rates for telephone utilities, *see* RATES, 88, 90-91.

CABBAGES.

Railway car service, Sylvania, Wis., *see* RAILROADS, 47.

CAPACITY COSTS.

- As element considered in making rates for electric utilities, *see* RATES, 7-10.
 for gas utilities, *see* RATES, 23.
 for water utilities, *see* RATES, 131-133.

CAPACITY EXPENSES.

- Apportionment of capacity expenses in the determination of unit costs for electric utilities, *see* ACCOUNTING, 2-14.
 for water utilities, *see* ACCOUNTING, 38-51.
 Prorating of capacity expenses in the determining of unit costs for electric utilities, *see* ACCOUNTING, 15-18.
 for water utilities, *see* ACCOUNTING, 52.

CAPITALIZATION.

- Over-capitalization, valuation for rate-making purposes, based on earning value instead of fair value of plant and business, *see* VALUATION, 3.
 Public utilities, what constitutes a reasonable return for public utilities, relation of return to capitalization, *see* RETURN, 1.

CAR SERVICE.

- Preference in furnishing cars, *see* DISCRIMINATION, 4.
 Railway car service, *see* RAILROADS, 45-47.
 Street railway car service, *see* STREET RAILWAYS, 1-5.
 Street railway car service, frequency of cars, *see* STREET RAILWAYS, 5.

CAR STAKES.

- Allowance for car stakes in determining reasonableness of rates, *see* RATES, 65.
 Failure to make allowance for car stakes as ground for refund, *see* REPARATION, 25.

CARLOAD RATES.

See RATES.

CARLOAD SHIPMENTS.

- Increase of, effect on demand for terminal facilities, *see* RATES, 25-26, 29-31.

CARLOAD WEIGHTS.

See WEIGHTS.

CARRIERS.**CONTROL AND REGULATION OF COMMON CARRIERS.**

- Power of state to regulate charges, *see* RATES.
 Power of state to regulate service and facilities. *See* INTERURBAN RAILWAYS; RAILROADS; STREET RAILWAYS.

CARS.

See RAILROADS; STREET RAILWAYS.

- Minimum carload weights; *see* WEIGHTS, 1-11.
 Preference in distribution of various sized cars, *see* DISCRIMINATION, 4.

CATTLE STANCHIONS.

Mixture privilege with agricultural implements, *see* RATES, 51.

CENTRAL OFFICE EXPENSES.

Apportionment of central office expenses in the determination of unit costs for telephone utilities, *see* ACCOUNTING, 30.

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY.

Granted to the Fox River Milling and Power Co.

1. Application was made by the Fox River Mill. & P. Co. for a certificate of public convenience and necessity authorizing it to operate an electric light and power utility in the town of Wyocena, Columbia Co., Wis., over a line extending from the south line of the corporate limits of Pardeeville and formerly used by the Columbia Co. El. Lt. & P. Co. It appears that the directors of the Columbia Co. El. Lt. & P. Co. officially determined to abandon or sell its Pardeeville line and that they sold the greater part of the material equipment to the applicant who bought it unofficially contingent upon the approval of the Commission for a certificate. It appears the residents along the proposed line have no other means of securing service, and that this line would not come into competition with any other line furnishing light and power. *Held:* The applicant should be allowed to extend its service as outlined in the application. A certificate of public convenience and necessity is granted. *In re Appl. Fox River Mill. & P. Co.* 1913, 11 W. R. C. R. 552-553.

CHANGE IN CLASSIFICATION.

See CLASSIFICATION.

CHANGE IN TARIFFS.

See SCHEDULES OR TARIFFS.

CHARGES.

See MINIMUM CHARGES; RATES; TERMINAL CHARGES.
Switching charges, *see* DISCRIMINATION, 5; RATES, 68, 72, 83-84.
Transit privilege, charge for allowance of, *see* RATES, 85.

CITIES.

See MUNICIPALITIES.

CLASS RATES.

See RATES.

CLASSIFICATION.

Rates, advance in, through change in classification, *see* RATES, 51.

CLASSIFICATION SHEET.

See SCHEDULES OR TARIFFS.

COMBINATION RATES.

Combination business and residence rates for telephone utilities, discriminatory tendency of, *see* RATES, 91.

COMMERCIAL CONDITIONS.

As a factor in fixing minimum weights, *see* WEIGHTS, 1-2.

Disturbance of commercial conditions through change in group rates,
see RATES, 38-39.

Rates, reduction in, effect on commercial conditions, *see* RATES, 82.

COMMISSION.

See RAILROAD COMMISSION.

COMMODITIES.

See various commodity subject headings.

COMMODITY RATES.

See RATES, *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, 44-48.

COMPETITION.

Competitive conditions as matter considered in determining reasonable-
ness of railway rates, *see* RATES, 79.

COMPOSITE LIFE.

Of electric plant, *see* DEPRECIATION, 6-7.

Of street railway, *see* DEPRECIATION, 8.

Of telephone plant, *see* DEPRECIATION, 9-13.

Of water plant, *see* DEPRECIATION, 14-17.

CONCENTRATION RATES.

See RATES.

CONCESSIONS.

See REBATES OR CONCESSIONS.

CONNECTING CARRIERS.

Joint or through rates, *see* RATES, 59, 71, 75.

CONNECTIONS.

See SWITCH CONNECTIONS; TRAIN SERVICE.

Telephone lines, physical connection of, *see* TELEPHONE UTILITIES, 2-11.

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 making rates for electric utilities, *see* RATES, 7-10.

for gas utilities, *see* RATES, 23.

for water utilities, *see* RATES, 131-133.

CONSUMER EXPENSES.

Apportionment of consumer expenses in the determination of unit costs for electric utilities, *see* ACCOUNTING, 2-14.

for water utilities, *see* ACCOUNTING, 38-51.

Prorating of consumer expenses in the determination of unit costs for electric utilities, *see* ACCOUNTING, 15-18.

for water utilities, *see* ACCOUNTING, 52.

CONSUMPTION EXPENSES.

Apportionment of consumption expenses in the determination of unit costs for electric utilities, *see* ACCOUNTING, 10.

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, 2-3.

COST OF REPRODUCTION.

Cost of reproduction new as matter considered in the valuation of public utilities, *see* VALUATION, 4-12.

Determination of the value of public utilities, through their cost of reproduction new, *see* VALUATION, 27.

COST OF SERVICE.

As element in making rates for electric utilities, *see* RATES, 5-10.

for gas utilities, *see* RATES, 23.

for railways, *see* RATES, 41-42.

for water utilities, *see* RATES, 129-133.

As matter considered in determining reasonableness of railway rates, *see* RATES, 49-50.

Cost of service of electric utilities, *see* ACCOUNTING, 1-18, 19-24.

of railroads, *see* ACCOUNTING, 25-27.

of street railways, *see* ACCOUNTING, 28-29.

of telephone utilities, *see* ACCOUNTING, 30-33.

of water utilities, *see* ACCOUNTING, 19-24, 34-52.

CREAM SEPARATORS.

Mixture privilege with agricultural implements, *see* RATES, 51.

CROSSINGS.

See INTERURBAN RAILWAYS; RAILROADS.

CRUSHED STONE.

See GRAVEL AND CRUSHED STONE.

CUSTOMARY RATES.

Customary rates for street railways, *see* RATES, 86.

DEAD ENDS.

Water mains, flushing of hydrants on dead ends, *see* WATER UTILITIES, 10.

“DEAD WEIGHT.”

As matter considered in determining reasonableness of railway rates, *see* RATES, 79.

Proportion of “dead weight” in carload as compared to less than carload freight, *see* RATES, 25, 29, 30.

DEFINITIONS.

See specific headings.

DEPOTS.

See STATION FACILITIES.

DEPRECIATION.

Apportionment of depreciation in the determination of unit costs for electric utilities, *see* ACCOUNTING, 12, 23–24.

for telephone utilities, *see* ACCOUNTING, 31.

for water utilities, *see* ACCOUNTING, 23–24, 48–51.

As element considered in making rates for electric utilities, *see* RATES, 8–9.

for water utilities, *see* RATES, 131.

As element in the valuation of public utilities, *see* VALUATION, 5.

Depreciation account of telephone utilities, *see* ACCOUNTING, 53.

Elimination of depreciation as element in making rates for municipal electric utilities, discrimination in favor of consumers as against taxpayers, *see* DISCRIMINATION, 2; RATES, 9.

IN GENERAL.*Necessity of allowance for depreciation.*

1. Depreciation is a part of every utility's operating expenses and its importance in the income account cannot be too strongly emphasized. *Rollins et al. v. Village of Montfort*, 1913, 11 W. R. C. R. 278, 283.

DEPRECIATION FUND.*Establishment of fund.*

2. In the present case the applicant is to establish and maintain a depreciation reserve fund in accordance with sec. 1797m—15, ch. 499, laws of 1907. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 475.

Purpose of fund.

3. In order that the city will have sufficient money to keep its investment intact and to rehabilitate its plants when necessity demands, it is deemed advisable that the city be required to establish a depreciation fund based on the above rates and as prescribed in sec. 1797m—15 of ch. 499, laws of 1907. The city will at least be able to get 2 per cent interest on whatever money it has in such fund, which, together with the yearly addition, should be sufficient to meet the needs of the plants. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 456.

Use of fund.

4. As under normal conditions investors are entitled to have their property or investment kept intact, it follows that the amounts, which have been properly set aside for such purposes, or for depreciation, in accordance with the provisions of the law and the rules of the Commission, should in the instant case be included in the amount upon which returns are allowed. On the other hand, amounts earned for depreciation but withdrawn or used for other purposes than provided by law should not be so included. *Superior Commercial Club et al. v. Duluth Street Ry. Co.* 1912, 11 W. R. C. R. 1, 21.

DEPRECIATION RESERVE CHARGE.

Necessity for reserve charges.

5. Depreciation which can not be made good by current repairs is continually taking place. Current repairs are not sufficient, but in addition a definite allowance for other depreciation must be regularly set aside by charges to income and credits to a reserve. To ward against depreciation not covered by current repairs, a depreciation reserve must be carried on the books of the company (Wis. Stat. sec. 1797—15). Another reason why this reserve is so indispensable is that it equalizes depreciation charges. With a depreciation reserve, charges are evenly divided and one year's income is not obliged to bear the burden of a replacement for which several years' operation may have been responsible. *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 192.

RATE OF DEPRECIATION.

Rate of depreciation of electric plant.

6. The rate of depreciation of electric plants similar to the one under consideration is usually placed at 5 per cent on the cost new. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 456.

7. In the present case the rate of depreciation for the electric utility should not be less than 5 per cent. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 475.

Rate of depreciation of street railway.

8. In the present case depreciation was figured at 4.506 per cent on the average physical value, which is equivalent to 5.053 per cent on the depreciable property on the basis of estimated lives. *Superior Commercial Club et al. v. Duluth Street Ry. Co.* 1912, 11 W. R. C. R. 1, 19.

Rate of depreciation of telephone plant.

9. In the present case 6.5 per cent on the cost new was allowed for depreciation. *In re Appl. East Fond du Lac Tel. Co.* 1912, 11 W. R. C. R. 114, 116.

10. In the present case 6.5 per cent on the cost new was allowed for depreciation. *In re Appl. Random Lake Tel. Co.* 1912, 11 W. R. C. R. 130, 131.

11. In the present case an allowance of 6.5 per cent on the cost new was allowed for depreciation. *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 188.

12. In the present case the company is to make provision for depreciation of not less than 7 per cent on the cost of the plant. *In re Appl. Rockland Tel. Co.* 1913, 11 W. R. C. R. 402, 409.

13. In the present case depreciation was computed at 6.5 per cent of the cost of reproduction of the property. *In re Appl. People's Tel. Co.* 1913, 11 W. R. C. R. 499, 505.

Rate of depreciation of water plant.

14. In the present case depreciation was computed on a 2 per cent sinking fund basis on the depreciable property. The total annual allowance for depreciation, computed on this basis, is very nearly 1 per cent of the cost of reproduction of the total property. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 254.

15. One and one-half per cent on the cost new of depreciable property will probably be sufficient in the present case. *Rollins et al. v. Village of Montfort*, 1913, 11 W. R. C. R. 278, 283.

16. The rate of depreciation of water plants similar to the one under consideration is usually placed at 1 per cent on the cost new. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 456.

17. In the present case the rate of depreciation for the water utility should not be less than 1 per cent. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 475.

DEVELOPMENT COSTS.

As element in the valuation of public utilities, *see* VALUATION, 2-3.

DISADVANTAGE.

See DISCRIMINATION.

DISCOUNTS.

Discounts on bonds as element in the valuation of public utilities, *see* VALUATION, 6.

Regulations as to payment of rates for services rendered by public utility, provision for discounts, *see* RATES, 15, 99.

DISCRIMINATION.**AS BETWEEN CUSTOMERS.***Electric rates—Discrimination due to flat rates.*

1. That flat rates ordinarily lead to unjust distribution of the operating burden has been found repeatedly in other cases. It is hardly necessary to demonstrate the need of abandoning such rates when the utility is ready to eliminate them. *In re Appl. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 206.

Electric rates—Elimination of fixed charges as element in making rates for municipal electric utilities—Discrimination in favor of consumers as against taxpayers.

2. If such items as interest, depreciation and taxes are not considered by municipal plants in fixing rates for private consumers, it would seem that these consumers would be favored as against the taxpayers. There does not, on the whole, appear to be any equitable ground upon which such charges can be entirely eliminated in any industry or in connection with the services of any public utility. (*In re Appl. Madison City W. W.* 1909, 3 W. R. C. R. 299, 320.) *In re Appl. Village of Arcadia*, 1912, 11 W. R. C. R. 216, 218-219.

Water rates—Different rates to customers on account of ownership of instrument or facility.

3. The Public Utilities Law prohibits the granting of any lower rates to consumers who own their own meters than to those who do not. *In re Appl. City of Neeah*, 1912, 11 W. R. C. R. 119, 128.

AS BETWEEN SHIPPERS.

Carload minima—Preference in distribution of various sized cars.

4. Variations in the cubic space capacity of cars taking the same minimum weights must result in discrimination between shipments of any commodity that requires the maximum amount of space in order to load to minimum weight. *Barker & Stewart Lbr. Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 537, 545.

Switching rates—Rhineland, Wis.

5. Complaint was made that the switching charge exacted on shipments of lumber delivered by the C. & N. W. R. Co. from C. M. & St. P. tracks to the petitioner's mill at Rhineland, Wis., is unjustly discriminatory. Petitioner prays that the respondents be required to construct, maintain, and operate a joint log track to its mill such as is furnished to its competitors. *Held*: The discrimination practiced against the petitioner is unreasonable and unjust. The respondents are ordered to desist from charging the petitioner a greater charge for delivering logs to its mill than they exact for delivering like shipments to the mills of its competitors. *Stevens Lumber Co. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 476, 478-479.

AS BETWEEN SUBSCRIBERS.

Telephone rates—Different rates for stockholders and nonstockholders.

6. As the Public Utilities Law requires that all customers be treated alike, it is not possible to make a lower rate to stockholders than to the others. The only way in which they can be reimbursed is through dividends declared after allowance has been made for depreciation. *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 192.

7. The practice of charging a lower rate to stockholders than to non-stockholders is a discrimination in violation of sec. 1797m-90 of the Public Utilities Law. *In re Appl. Rockland Tel. Co.* 1913, 11 W. R. C. R. 402, 408.

8. It should be noted here that the applicant's present practice of rebating to stockholders is unlawful under the terms of sec. 1797m-92. All subscribers, whether stockholders or not, must be charged the regular telephone rental as per company's schedule. If there are any profits, a portion of such rental would be returned in the form of dividends. *In re Appl. Muscoda Mut. Tel. Co.* 1913, 11 W. R. C. R. 666, 683.

Telephone rates—Discrimination due to granting rebates for repairs and equipment rentals.

9. In the present case the company is granting a rebate for repairs and equipment rentals. This is unlawful according to sec. 1797m-90 of the Public Utilities Law 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; provided nothing herein shall be construed as prohibiting any public utility from renting any facilities incident to the * * * conveyance of telephone messages and paying a reasonable rental therefor * * *." *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 183-184.

10. The Commission has determined that a telephone company may have subscribers who own their equipment and pay them a reasonable rental therefor, but rebates in the form of repairs or equipment rentals are unlawful. (*In re Badger Tel. Co.* 1908, 3 W. R. C. R. 98, 112.) Some

adjustments must be made in the present rate schedule which will eliminate the rebate and substitute in its stead a proper rental paid by the respondent to its subscribers in consideration of equipment supplied by them for the use of respondent. *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 184.

11. It has already been pointed out that to allow a rebate for equipment or services furnished by subscribers is unlawful. It is permissible, however, for the utility to pay its customers a rental for instruments supplied by them. "The company may purchase or rent such instruments, or the subscribers may continue to own the instruments they now have and the company may purchase new instruments wherever necessary, but no subscriber can be allowed a lower rate on account of his owning an instrument." (*In re Badger Tel. Co.* 1908, 3 W. R. C. R. 98, 112.) *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 189.

Telephone rates—Discriminatory tendency of combination business and residence rate.

12. A so-called combined rate for a business telephone and a residence telephone which is less than the sum of the regularly published residence and business rates, is unlawful. (*In re Free and Reduced Rate Telephone Service*, 1908, 2 W. R. C. R. 521, 544.) *In re Appl. People's Tel. Co.* 1913, 11 W. R. C. R. 499, 506.

Telephone rates—Switching rates.

13. There appear to be no conditions in the present case which make it proper for the petitioner to perform switching service free for rural lines which have other connections, while those which have no other connections pay for the service, since the nature of the service furnished by the petitioner in the two cases is identical. *Boscobel Tel. Co. v. Crawford Co. F. Mut. Tel. Co.* 1912, 11 W. R. C. R. 32, 37.

Telephone service—Preference in calls as between city and rural subscribers.

14. In the present case complaint was made that the petitioner's operators gave local business the preference over the rural calls but no evidence was presented to support the claim. *Held*: In answering local and rural calls, the business should be handled as far as practicable in the order in which the calls come in. *Boscobel Tel. Co. v. Crawford Co. F. Mut. Tel. Co. et al.* 1912, 11 W. R. C. R. 32, 34.

DISK HARROWS.

See HARROWS.

DISTANCE TARIFF RATES.

See RATES.

DISTRIBUTION SYSTEM EXPENSES.

Apportionment of distribution system expenses in the determination of unit costs for electric utilities, *see* ACCOUNTING, 11.

DIVISION OF JOINT RATES.

See RATES.

EARNING VALUE.

Earning value as matter considered in the valuation of public utilities, *see* VALUATION, 3.

EARNINGS PER UNIT OF TRAFFIC.

For high grade freight, *see* RATES, 32-33.
 For low grade freight, *see* RATES, 32-33.

EASEMENTS.

Value claimed for easements over private right of way which subsequently became public streets, *see* VALUATION, 7.

ELECTRIC RAILWAYS.

See INTERURBAN RAILWAYS; STREET RAILWAYS.

ELECTRIC RATES.

See RATES.

ELECTRIC SIGNALS.

Installation of, *see* RAILROADS, 7, 9, 12-17, 19-31.

ELECTRIC UTILITIES.

Certificate 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, 1-18, 19-24.
 Depreciation, rate of depreciation of electric plant, *see* DEPRECIATION, 6-7.
 Discrimination as between customers of electric utility, *see* DISCRIMINATION, 1-2.
 Minimum charges for electric utilities, *see* MINIMUM CHARGES, 1-2.

ACCOUNTING.

See ACCOUNTING.

CONTROL AND REGULATION IN GENERAL.

Ordinance affecting rates or service of public utility—Reasonableness of ordinance within purview of Public Utilities Law—Review by Commission.

1. The section of the statute under which these proceedings were instituted (sec. 1797m-87) was designed to give the Commission the power to pass upon the reasonableness of any ordinance, contract or resolution of a common council directly affecting the rates or service of any public utility or indirectly tending to place an unnecessary burden upon the utility which might result in embarrassing it in the performance of its public function in the manner required by the Public Utilities Law. At least such is the view of the statute taken by the bar generally and the same has never heretofore been questioned. Under the circumstances, until the courts hold to the contrary, we shall continue to consider the statute as suspending previous statutory and ordinance provisions relating to the subject, and as vesting authority in the Commission to declare any contract, ordinance or resolution of the common council void which transgresses the limits of reasonableness within the purview of the Public Utilities Law. *In re Appl. Madison G. & El. Co.* 1913, 11 W. R. C. R. 293, 302-303.

Ordinance requiring removal of poles and wires of electric utility—Reasonableness of ordinance.

2. There appears to be no doubt that a municipality may not, in the supposed exercise of the police power, pass a valid ordinance resting

on purely aesthetic considerations. Such grounds may be given weight, and even much weight, but in themselves they are not sufficient. (*Wis. Tel. Co. v. City of La Crosse*, 1911, 7 W. R. C. R. 435, 444.) *In re Appl. Madison G. & El. Co.* 1913, 11 W. R. C. R. 293, 300.

3. Discretion should be exercised by municipalities in imposing burdens upon public service corporations through the exercise of the police power. When the health, morals or safety of the inhabitants are concerned, financial considerations are of less importance than where the object to be attained by police regulations is the mere convenience of a few citizens, or the desire of property holders to improve the appearance of a street upon which their property fronts. (*Wis. Tel. Co. v. City of Green Bay*, 1908, 3 W. R. C. R. 147, 162.) *In re Appl. Madison G. & El. Co.* 1913, 11 W. R. C. R. 293, 301.

4. The need of discretion in imposing burdens upon public service corporations, is obvious, since the cost of every alteration in the plant of a public service corporation, made in obedience to municipal requirements, and even though such alterations were not otherwise necessary, may ultimately become a charge upon the general public served by the corporation. *In re Appl. Madison G. & El. Co.* 1913, 11 W. R. C. R. 293, 301.

5. The rule that may be deduced from the best considered authorities on the subject is, that a municipality, in the exercise of its police power may, in a proper case when public safety, necessity or convenience requires the removal of telephone or electric poles from any thoroughfare and the wires to be placed in conduits or the poles to be moved to another location, by ordinance or resolution duly passed, require such change to be made. (*Wis. Tel. Co. v. City of La Crosse*, 1911, 7 W. R. C. R. 435, 448.) *In re Appl. Madison G. & El. Co.* 1913, 11 W. R. C. R. 293, 303.

6. A city has the right to enact reasonable ordinances, and to enforce them; but it is the conservator, not the autocrat, of the police power. It may originate the exercise of its useful authority and apply it by specific and valid regulations; but that exercise is not despotic, nor absolute, but is open to review, and an ordinance that upon its face is unreasonable and arbitrary is subject to judicial examination. When it is not bounded by a fair and wise administration of municipal authority, but is unreasonable and arbitrary, it will be declared void, and the municipality restrained from its enforcement. (*North Western Tel. Exchange Co. v. City of Minneapolis*, 1900, 81 Minn. 140, 149.) (*Wis. Tel. Co. v. City of La Crosse*, 1911, 7 W. R. C. R. 435, 447-448.) *In re Appl. Madison G. & El. Co.* 1913, 11 W. R. C. R. 293, 303.

7. As a general rule of law, when public safety, convenience or necessity requires such a change to be made, the common council may, by ordinance duly enacted, require poles to be removed from a certain street or streets, and the wires to be placed underground. *People ex rel. N. Y. Elec. Lines Co. v. Squire*, 1888, 107 N. Y. 593.) (*New York v. Squire*, 1892, 145 U. S. 175.) (*State ex rel. Wis. Tel. Co. v. Janesville Street R. Co.* 1894, 87 Wis. 72, 73.) (*City of Geneva v. Geneva Tel. Co.* 1899, 62 N. Y. Suppl. 172.) (*City of Marshfield v. Wis. Telephone Co.* 1899, 102 Wis. 604, 605-606.) *In re Appl. Madison G. & El. Co.* 1913, 11 W. R. C. R. 293, 303-306.

8. In the present case the respondent contends that the fact that placing electric wires underground may be expensive does not render an ordinance requiring such undergrounding unreasonable. It is doubtless true that such a fact does not necessarily in all cases render an ordinance unreasonable. It is also true that in many cases it is a factor which must be given weight and often much weight. In the present case it seems undeniably true that the expense is heavy, when the ends to be accomplished and the population to be served is considered. It is of course obvious that where population is dense per mile of street and

consumption of current correspondingly high, a different economic situation obtains than when the reverse is true. *In re Appl. Madison G. & El. Co.* 1913, 11 W. R. C. R. 293, 306.

9. In reaching the conclusion in the present case that the ordinance requiring the removal of poles and wires is unreasonable the Commission has not been unmindful of the general rule in cases of this character, that any possible doubt should be resolved in favor of the legality of the regulation imposed by the municipality upon the public utility. *In re Appl. Madison G. & El. Co.* 1913, 11 W. R. C. R. 293, 308.

10. Application was made by the Madison G. & El. Co. praying that the city ordinance requiring the removal of poles and wires in Madison, Wis., on Carroll st. between the Capitol Park and Langdon st. and on Langdon st. from Wis. ave. to Park st. be declared unreasonable and therefore void. It appears that the streets in question are residence streets, and while possibly somewhat more important as to traffic and appearance than the average residence streets of the city, are in no important particular different from numerous other sections of the city. It is difficult to see on what grounds other than aesthetic considerations it is desired to remove the poles and wires on the streets in question. Compliance with the ordinance would involve installing an underground system as it appears impracticable to furnish service from intersecting or adjoining streets. The contention of complainant's counsel that an underground system will never be justified on the streets in question would appear to take too much for granted. A substantial growth of the city in the future might quite possibly make the undergrounding of the wires either necessary or desirable from the standpoint of both the city and the company. *Held:* There appears to be no valid reason in the present case for requiring the consumers of current throughout the city to submit to any additional burden, however small, for the benefit of the residents on these streets. If it were possible to remove all the poles from the streets the position of the city would be more tenable, but when almost half the number of poles must remain for street lighting purposes it seems unreasonable to compel the expenditures of more than \$1,000 each for the remainder that can be removed. Should the city adopt some other system of lighting the streets, such as an ornamental one for instance, a different question would be presented. In that event the removal of all poles would not only be desirable, but might be necessary. Furthermore, compliance with the ordinance would not only mean an initial expenditure of many thousands of dollars on the part of the company, but a less economical system for the district involved as well, and a larger investment upon which the company might be entitled to a return from the consumers of current. At the present time no element of public safety, convenience or necessity requires the removal of the poles and wires in question. It is ordered that the ordinances requiring the Madison G. & El. Co. to remove its poles and wires from those portions of North Carroll st. and Langdon st. as in the ordinances specifically described, are declared null and void. *In re Appl. Madison G. & El. Co.* 1913, 11 W. R. C. R. 293, 301, 307-308.

OPERATION.

Management—Financial transactions.

11. Application was made by the Light and Water Commission of Lake Mills, Wis., for an investigation of its rules and practices in conducting the business of the Lake Mills municipal water works and electric light plant. It appears that the affairs of the department were conducted contrary to the express provisions of the statute (sec. 925-95b to 925-95f) (laws 1911, ch. 233). There was no charge of intentional wrong-doing and the matters were submitted to the Commission for con-

sideration and advice. The provisions of the trust deed executed by the city to secure the mortgage certificates for the electric plant were entirely ignored by the light and water commission. The trust deed provides that the income from the operation of the plant over and above the actual and necessary running expenses and maintenance shall be kept as a separate fund in the city treasury, out of which fund the interest on the certificates shall be paid. Contrary to the provisions of ch. 233, laws of 1911, which prescribes the manner in which the business of municipal plants shall be conducted, the commission permits the manager of the plant to collect all revenues and to make all the disbursements for the plants without any audit of the commission. The funds are kept in bank and drawn upon by him as manager of the plant. The city treasurer has no information whatever of the financial transactions of the water and light department. It is very clear that the water and light commission should change its method of caring for the finances of the plants. The man in charge of collecting the funds should deposit his collections daily with the city treasurer. All accounts against the department should be audited by the commission, and, if approved, should be paid by orders upon the city treasurer, issued and signed by the president and secretary of the commission (sec. 925—95b). The city treasurer should keep as a separate fund all income and revenue derived from the plants and any funds specifically provided therefor by the common council and pay therefrom all orders drawn upon him by the commission (sec. 925—95c). In accordance with the provisions of the statute (sec. 925—95e, subsec. 6) the commission should employ a superintendent who should have charge of both the lighting and water plants. There should also be an office man charged with the duty of keeping the books and accounts of the department, attending to complaints, collecting the revenues, and performing whatever additional duties the commission may find necessary to impose upon him. The plants should be treated as a business enterprise and kept separate from other municipal functions. It is recommended that the water and light commission adopt the suggestions made. *In re Appl. Lake Mills Lt. & W. Comm.* 1912, 11 W. R. C. R. 160, 163—164.

Requirements as to service and facilities—Adequacy of service.

12. The Commission, on its own motion, investigated the service furnished by the Bayfield Municipal Water and Light Plant, following a complaint of the board of water and light commissioners for the town of Bayfield, in Bayfield county, Wis., that the service now being furnished is inadequate, insufficient and unreasonable. It appears that the plant is scarcely equal to the present load; that the voltage regulation is very poor; and that the equipment will have to be replaced in the very near future. The utility desires to make a number of changes in equipment to enable the plant to furnish day service and to effect certain economies in operation. It appears that up to a year ago no depreciation fund had been set aside from earnings, so that notes or bonds must now be issued to obtain the funds needed to make the necessary replacements. It was estimated that the indebtedness for the cost of the proposed improvements and replacements could be met within six years. *Held:* The present service is inadequate and the applicant is ordered to improve the equipment as recommended by the Commission. *In re Invest. Bayfield Mun. W. & Lt. Plant*, 11 W. R. C. R. 686, 689.

RATES.

See RATES.

VALUATION.

See VALUATION.

ELECTROLYSIS.

Prevention of electrolysis, cost of prevention, as element considered in making rates for water utilities, *see* RATES, 129.

EMERGENCY RATES.

See RATES.

EQUIPMENT RENTAL.

Telephone utilities, rental for equipment.

Discrimination due to granting rebates for repairs and equipment rentals, *see* DISCRIMINATION, 9-11; RATES, 92-94.

Paid by subscribers of one company to reimburse another company owning part of instrument, *see* RATES, 106-107.

Paid by utility to subscriber, reasonable rental permitted, *see* RATES, 92-94, 106-107, 111-113.

EVIDENCE.

Substantial evidence in arriving at decision, *see* RAILROAD COMMISSION, 5.

EXCELSIOR BOLTS.

Rates, reasonbleness of, Wisconsin points on the C. M. & St. P. line, *see* RATES, 55.

EXCHANGE SERVICE.

Telephone switching rates for exchange service, free exchange of service, *see* RATES, 117-118.

EXORBITANT RATE.

See RATES.

EXPENSES.

Apportionment of expenses, *see* ACCOUNTING, 2-14, 20-24, 25-26, 28, 30-33, 38-51.

Prorating of expenses, *see* ACCOUNTING, 15-18, 27, 29, 52.

EXTENSION BELLS.

Extension bells for telephone utilities, rates for, *see* RATES, 103.

EXTENSION TELEPHONES.

Rates for, *see* RATES, 103.

EXTENSIONS.

Extension of telephone lines, *see* TELEPHONE UTILITIES, 1.

FARES.

See RATES.

FEED COOKERS.

Classification under agricultural implements, *see* RATES, 51.

Mixture privilege with agricultural implements, *see* RATES, 51.

FINANCIAL MANAGEMENT.

Financial transactions in the management of electric utility, *see* **ELECTRIC UTILITIES**, 11.
of water utility, *see* **WATER UTILITIES**, 1.

FIRE PROTECTION.

Apportionment of expenses between fire and general service in the determination of unit costs for water utilities, *see* **ACCOUNTING**, 41-51.
Apportionment of value of property between fire and general service in the determination of unit costs for water utilities, *see* **ACCOUNTING**, 34-37.

FIRE PROTECTION RATES.

Fire protection rates for water utilities, *see* **RATES**.

FIXED EXPENSES.

Apportionment of fixed or capacity expenses, *see* **ACCOUNTING**, 2-14, 38-51.
Prorating of fixed or capacity expenses, *see* **ACCOUNTING**, 15-18, 52.

FLAGMAN.

Flagman, for protection of railroad crossing, *see* **RAILROADS**, 9-14, 16-20, 22, 32-34.

FLAT RATES.

Electric rates, flat rates for electric utility, *see* **RATES**, 2-3.
Water rates, flat rates for water utility, *see* **RATES**, 126.

FOUNTAIN RATES.

Public fountain rates for water utilities, *see* **RATES**, 127.

FREE OR REDUCED RATE SERVICE.

Discrimination due to free or reduced rate service, *see* **DISCRIMINATION**, 3, 6-7.
Free or reduced rate service for telephone utilities, *see* **RATES**, 92-97.
for water utilities, *see* **RATES**, 128.

FREIGHT RATES.

See **RATES**.

FREIGHT SERVICE.

See **TRAIN SERVICE**.

FUEL WOOD.

See **WOOD**.

GALVANIZED IRON TANKS.

Mixture privilege with agricultural implements, *see* **RATES**, 51.

GAS RATES.

See **RATES**.

GAS UTILITIES.**RATES.***See* RATES.**VALUATION.***See* VALUATION.**GATES.**

Gates, for protection of railroad crossings, *see* RAILROADS, 10-12, 14, 35-36.

GENERAL EXPENSES.

Apportionment of general expenses in the determination of unit costs for electric utilities, *see* ACCOUNTING, 22.
for water utilities, *see* ACCOUNTING, 22.

GOING VALUE.

As element in the valuation of public utilities, *see* VALUATION, 2-3.
Method of appraising going value, *see* VALUATION, 13-26.

Nature of property—Going value distinguished from good will.

1. In the present case some confusion seems to exist in petitioner's brief between going value and good will, or, in other words, between the cost of building up a business and the value which accrues to a business because of the patronage given to it by customers who are free to patronize a competing business. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 243.

GOOD WILL.

Distinguished from going value, *see* GOING VALUE, 1.

GRADATION OF RATES.*See* RATES.**GRADE CROSSINGS.***See* INTERURBAN RAILWAYS; RAILROADS.**GRAIN.**

Refund on shipment, Owen to Milwaukee, Wis. *See* RATES, 56; REPARATION, 28.

GRAVEL AND CRUSHED STONE.

Rates, reduction of, Wisconsin points on the C. M. & St. P. line, *see* RATES, 54.

GRINDSTONES.

Mixture privilege with agricultural implements, *see* RATES, 51.

GROUP OR BLANKET RATES.

Extent of rate zones for railway group rates, *see* RATES, 38.
Nature of railway group rates, *see* RATES, 38.

HAND AGRICULTURAL IMPLEMENTS.

Mixture privilege with agricultural implements, *see* RATES, 51.

HARROWS.

Classification under agricultural implements, *see* RATES, 51.

HEADLIGHTS.

Locomotive headlights, merits of, *see* RAILROADS, 44.

HIGH GRADE FREIGHT.

High rate for carriage of, *see* RATES, 32-33.

HIGHWAYS.

Crossing by interurban railways, *see* INTERURBAN RAILWAYS, 1-5.

Crossing by railroads, *see* RAILROADS, 1-42.

HYDRANT RENTALS.

See RATES.

ICE.

Rates, reduction of, Silver Springs to Cudahy, Wis., *see* RATES, 57.

Reduction of rates and refund on shipment, Silver Springs to Milwaukee, Wis., *see* RATES, 58; REPARATION, 19.

ILLUMINATED SIGN.

Installation of, for protection of railway crossing, *see* RAILROADS, 7, 9, 12-17, 19-31.

IMPLEMENTS.

See AGRICULTURAL IMPLEMENTS.

INDETERMINATE PERMIT.

See FRANCHISES.

INDUSTRIAL TRACKS.

See SWITCH CONNECTIONS.

INSTRUMENT RENTAL.

See EQUIPMENT RENTAL.

INTANGIBLE VALUE.

See VALUATION.

INTEREST. . .

Apportionment of interest in the determination of unit costs for electric utilities, *see* ACCOUNTING, 12, 23-24.

for railroads, *see* ACCOUNTING, 25.

for telephone utilities, *see* ACCOUNTING, 31.

for water utilities, *see* ACCOUNTING, 23-24, 48-51.

As element considered in making rates for electric utilities, *see* RATES, 8-9.

for railroads, *see* RATES, 41.

for water utilities, *see* RATES, 131.

Elimination of interest as element in making rates for municipal electric utilities, discrimination in favor of consumers as against taxpayers, *see* DISCRIMINATION, 2; RATES, 9.

INTERRUPTED SERVICE.

Extra charges for temporary telephone service, *see* RATES, 119.

INTERURBAN RAILWAYS.

See also STREET RAILWAYS.

CONSTRUCTION, MAINTENANCE AND EQUIPMENT.

Crossings—Railroad by highway—Protection of.

1. Petitioner alleges that the highway crossing of the Chi. & M. El. Ry. with the Spring Brook road at Bain station in the town of Pleasant Prairie, Kenosha county, is dangerous. *Held:* Additional protection is necessary at this crossing. The respondent is ordered to install and maintain an automatic electric bell with illuminated sign for night indication, plans for track circuits to be submitted to the Commission for approval. The respondent is further ordered to replace the present board wing fence on its right of way with woven wire fences. *Town of Pleasant Prairie v. C. & M. El. R. Co.* 1913, 11 W. R. C. R. 557, 559.

2. Petitioner alleges that the two highway crossings of the C. & M. El. line at the Three Mile road and the Franksville road in the town of Caledonia, Racine county, Wis., are dangerous. *Held:* Additional protection is necessary at these crossings. Respondent is ordered to protect the Three Mile crossing by flaring the cut to the north, the flaring to be the full width of the right of way at the north highway fence and to taper out at a point 500 feet north of the crossing; to widen the driveway of its right of way to a width of 24 feet between the ditches; and to replace both wing fences on its right of way by woven wire fences. Respondent is further ordered to install and maintain at the Franksville road crossing an automatic electric bell with illuminated sign for night indication, plans for track circuits to be submitted for approval. *Town of Caledonia v. C. & M. El. R. Co.* 1913, 11 W. R. C. R. 564, 567-568.

3. The petitioner alleges that the crossings on the C. & M. El. Ry. at the Berryville road, Hansche road and the Burlington road, in the town of Somers, Kenosha county, Wis., are dangerous. The protection of the crossing at the Broesch road, also included in the petition, is reserved for further investigation. *Held:* The crossings require protection. The respondent is ordered to install and maintain an automatic electric bell with illuminated sign at the Berryville and the Burlington road crossings and to improve the highway crossing at the Hansche road by increasing the effective width of the highway to twenty-four feet, by planking the crossing to conform to this width, and by properly surfacing the highway, all within its right of way. *Town of Somers v. C. & M. El. R. Co.* 1913, 11 W. R. C. R. 581, 585.

Crossings—Railroad by highway—Protection of—Gates.

4. Petitioner alleges that the highway crossing at the intersection of the C. & M. El. R. line with Prairie avenue in Kenosha, Wis, is dangerous. *Held:* The bell protection now provided is insufficient. Respondent is ordered to install and maintain gates operated by a man stationed at the crossing or operated electrically and controlled from the interlocking tower. These gates are to be equipped with aprons and wing fences are to be constructed at the end of the gate arms protecting the walks. In case gates are operated from the tower house respondent is ordered to install and maintain an electric bell connected with the interlocking tower by overhead wire circuit and controlled by a manually operated switch in the interlocking tower for the purpose of warning travelers that the gates are about to be lowered. Plans for the installations are to be submitted for approval. *City of Kenosha v. C. & M. El. R. Co.* 1913, 11 W. R. C. R. 560, 562-563.

Crossings—Railroad by highway—Protection of—Improvement of highway.

5. Complaint was made of the dangerous condition of the M. N. R. crossing at Highway Five, otherwise known as the Cedarburg Plank Road in the town of Granville, Milwaukee Co., Wis. *Held*: The crossing in question is dangerous and requires some additional protection. The respondent is ordered to construct and maintain a roadway within its right of way with an effective width of twenty-five feet, retaining the present location of the crossing, and is further ordered to construct and maintain a wire wing fence within its right of way southeast of the crossing. *Town of Granville v. M. N. R. Co.* 1913, 11 W. R. C. R. 612, 614.

OPERATION.

Requirements as to service and facilities.

See STATION FACILITIES.

IRON PIPES.

Mixture privilege with agricultural implements, see RATES, 51.

JOINT RATES.

See RATES.

JOINT USE.

Telephone utilities, adjustment of rates upon physical connection, see RATES, 121.

Telephone utilities, physical connection, terms and conditions of joint use, see TELEPHONE UTILITIES, 2-11.

JURISDICTION.

Commission, jurisdiction of.

Authority in awarding reparation, see RAILROAD COMMISSION, 1-4.

Commission without jurisdiction over interstate rates, see RAILROAD COMMISSION, 6.

Commission without jurisdiction over interstate shipments, see RAILROAD COMMISSION, 6.

Over railway crossings, see RAILROAD COMMISSION, 7-9.

Over railway crossings, commission without power to require protection in proceedings instituted by an individual, see RAILROAD COMMISSION, 8.

Over railway crossings, petition as condition precedent, see RAILROAD COMMISSION, 9.

Power of commission to review reasonableness of municipal ordinance affecting rates or service of public utility within the purview of the Public Utilities Law, see RAILROAD COMMISSION, 10.

KILN WOOD.

See Wood.

LAMP RENEWALS.

Cost of lamp renewals as element considered in making rates for electric utilities, see RATES, 5-6.

LAND.

As element in the valuation of the physical property of public utilities, see VALUATION, 7.

LAUNDRY RATES.*See RATES.***LAWFUL RATE.***See SCHEDULES OR TARIFFS.***LESS THAN CARLOAD RATES.**Compared with carload rates, *see RATES*, 29-31.**LIFE OF PUBLIC UTILITY PLANT.**Of electric plant, *see DEPRECIATION*, 6-7.Of street railway, *see DEPRECIATION*, 8.Of telephone plant, *see DEPRECIATION*, 9-13.Of water plant, *see DEPRECIATION*, 14-17.**LIME.**Rates, reasonableness of, Waukesha to designated Wis. points on the C. M. & St. P. and the C. & N. W. lines, *see RATES*, 59.**LIMITATION OF STATUTE.**Refund, claim for, barred by the limitations of the statute, *see REPARATION*, 7-9.**LIQUOR.**Rates, reasonableness of, Milwaukee to Wis. points on the C. & N. W. and the C. M. & St. P. lines, *see RATES*, 60.**LITTER CARRIERS.**Mixture privilege with agricultural implements, *see RATES*, 51.**LOADING.**Minimum carload weights, *see WEIGHTS*, 1-11.**LOCAL RATES.***See RATES.***LOCOMOTIVE HEADLIGHTS.***See RAILROADS.***LOGS.***Refund on Shipment.*Smith's Spur to Merrill, Wis., *see RATES*, 61; *REPARATION*, 24.Valesco Jct. to Merrill, Wis., *see RATES*, 62; *REPARATION*, 30.Wisconsin points on the M. St. P. & S. S. M. R. to Burlington, Wis., *see RATES*, 63; *REPARATION*, 14.Wisconsin points to Appleton, Kimberly, Combined Locks and Kaukauna, Wis., *see RATES*, 65; *REPARATION*, 25.**LOGS AND BOLTS.**Refund on shipment, Wisconsin points on the M. St. P. & S. S. M. R. to Menasha, Wis., *see RATES*, 64; *REPARATION*, 17.**LONG DISTANCE RATES.***See RATES.*

LOW GRADE FREIGHT.

Low rate for carriage of, *see* RATES, 32-33.

LUMBER.*Rates.*

Discrimination in switching charges, Rhinelander, Wis., *see* DISCRIMINATION, 5.

Refund on shipment.

Athens to Viroqua, Wis., *see* RATES, 66; REPARATION, 29.

Kaiser to Stoughton, Wis., *see* RATES, 67; REPARATION, 23.

Ladysmith, Wis., *see* RATES, 68; REPARATION, 16.

Rhinelander to Star Lake, Wis., *see* RATES, 69; REPARATION, 22.

MAKING RATES.

See RATES.

MANAGEMENT.

Wages of management, as element considered in making rates for water utilities, *see* RATES, 130.

MEASURED RATES.

See RATES.

METER RATES.

Electric utility, meter rates for electric utility, *see* RATES, 11.

METERS.

Discrimination in rates on account of ownership of meters, prohibited under Public Utilities Law, *see* DISCRIMINATION, 3.

Duty of utility to provide meters, *see* WATER UTILITIES, 3-9.

Reduction in rates on account of the furnishing of meter by consumer, prohibited, *see* RATES, 128.

MILLING IN TRANSIT RATES.

See RATES.

MINIMUM CARLOAD WEIGHTS.

See WEIGHTS.

MINIMUM CHARGES.**ELECTRIC UTILITIES.**

Reasonableness of advance in electric rates in particular cases, minimum charges, *see* RATES, 18.

Purpose of minimum charge.

1. In previous decisions the Commission has outlined in detail the reasons why a minimum bill is a desirable part of a utility rate schedule, and the nature of the expenses which small electric lighting plants must meet in order to be prepared to furnish service to metered consumers. (*In re Appl. Lancaster El. Lt. Co.* 1910, 6 W. R. C. R. 53.) (*In re Appl. Greenwood Mun. Lt. Plant.* 1910, 6 W. R. C. R. 60.) (*In re Appl. Monticello El. Lt. Co.* 1913, 11 W. R. C. R. 265.

2. The minimum bill should make provision not only for the cost to

the utility of being in a position to serve, but for current used by such small consumers as pay the minimum bill. *In re Appl. Monticello El. Lt. Co.* 1913, 11 W. R. C. R. 265, 266.

MINIMUM LOADING REQUIREMENT.

See WEIGHTS.

MINIMUM RATES.

See RATES.

MINIMUM WEIGHTS.

See WEIGHTS.

MIXTURES.

Carload rates on mixtures, *see RATES*, 26-28, 31.

MOVEMENT EXPENSES.

Apportionment of movement expenses in the determination of unit costs for railways, *see ACCOUNTING*, 26.

As element considered in making railway rates, *see RATES*, 41-42.

MUNICIPALITIES.

See also CITIES, TOWNS AND VILLAGES.

Ordinance of municipality affecting rates or service of public utilities, reasonableness of ordinance within purview of Public Utilities Law, review by Commission, *see ELECTRIC UTILITIES*, 1; *RAILROAD COMMISSION*, 10.

Police power of municipality, ordinance requiring removal of poles and wires of electric utility grounds for exercise of power, *see ELECTRIC UTILITIES*, 2-10.

grounds for exercise of power, aesthetic considerations, *see ELECTRIC UTILITIES*, 2-3.

grounds for exercise of power, health, morals or safety, *see ELECTRIC UTILITIES*, 3-10.

Town board, petition of member of town board as condition precedent to jurisdiction of Commission over crossing of railroad by highway, *see RAILROAD COMMISSION*, 9; *RAILROADS*, 2.

Village board, petition of, as condition precedent to jurisdiction of Commission over crossing of railroad by highways, *see RAILROAD COMMISSION*, 9; *RAILROADS*, 2.

NESTING.

What constitutes a nest, *see RATES*, 51.

NON-DUPLICATION.

Of telephone utilities, adjustment of rates upon physical connection, *see RATES*, 121.

Telephone utilities, physical connection, terms and conditions of joint use, *see TELEPHONE UTILITIES*, 2-11.

NONSUBSCRIBERS.

Charges to nonsubscribers of telephone utilities, *see RATES*, 89.

OBSTRUCTIONS TO VIEW.

Removal of obstructions to view for protection of railway crossings, *see RAILROADS*, 18, 20-21, 39.

OCCASIONAL SERVICE RATES.

See RATES.

OPERATING EXPENSES.

Operating expense accounts of telephone utilities, *see* ACCOUNTING, 53-54.

OPERATION OF TRAINS.

See TRAIN SERVICE.

ORDINANCE.

Municipal ordinance, *see* MUNICIPALITIES.

OUTPUT COSTS.

As element considered in making rates for electric utilities, *see* RATES, 7-10.

for gas utilities, *see* RATES, 23.

for water utilities, *see* RATES, 131-133.

OUTPUT EXPENSES.

Apportionment of output expenses in the determination of unit costs for electric utilities, *see* ACCOUNTING, 2-14.

for water utilities, *see* ACCOUNTING, 38-51.

Prorating of output expenses in the determination of unit costs for electric utilities, *see* ACCOUNTING, 15-18.

for water utilities, *see* ACCOUNTING, 52.

OVERCHARGES.

See REPARATION.

PACKING BOXES.

See BOXES.

PARTY LINE RATES.

Party line rates in telephone service, *see* RATES, 90.

PASSENGER SERVICE.

See TRAIN SERVICE.

PASSENGERS.

Station accommodations, *see* STATION FACILITIES, 1-9.

Train service, *see* TRAIN SERVICE, 1-6.

“PAY WEIGHT”

As matter considered in determining reasonableness of railway rates, *see* RATES, 79.

Proportion of “pay weight” in carload as compared to less than carload freight, *see* RATES, 25, 29, 30.

PAVING.

Allowance for cost of paving in the valuation of property of public utilities, when the cost was not actually incurred, *see* VALUATION, 4.

PENALTIES.

Regulation as to payment of rates for services rendered by public utility, provision for penalties, *see* RATES, 102.

PHYSICAL CONNECTION.*Telephone utilities.*

Physical connection, continuation of, terms and conditions of joint use, *see* TELEPHONE UTILITIES, 2.

Physical connection, definition of, *see* TELEPHONE UTILITIES, 4.
establishment of, conditions precedent, *see* TELEPHONE UTILITIES, 3.

establishment of, terms and conditions of joint use, *see* TELEPHONE UTILITIES, 9-10.

Rates, adjustment of rates upon physical connection, *see* RATES, 121.

Rates, toll rates, additional expense of toll calls due to lack of physical connection, *see* RATES, 120.

Requirements of law providing for physical connection of telephone utilities not in violation of constitutional guarantees of property rights, *see* TELEPHONE UTILITIES, 5-7.

PHYSICAL PROPERTY.

As element in the valuation of public utilities, *see* VALUATION, 4-12.

Determination of the value of physical property of public utilities, *see* VALUATION, 27.

PILING.

Reduction of rates and refund on shipment, Buda, Hanley, Jarvis, Carlton, and Sycamore to Bagley Jct., Wis., *see* RATES, 70; REPAIRATION, 18.

POLICE POWER.

Of municipality, ordinance requiring removal of poles and wires of electric utility, grounds for exercise of power, *see* ELECTRIC UTILITIES, 2-10.

grounds for exercise of power, aesthetic considerations, *see* ELECTRIC UTILITIES, 2-3.

grounds for exercise of power, health, morals or safety, *see* ELECTRIC UTILITIES, 3-10.

POLES AND WIRES.

Ordinance requiring removal of poles and wires of electric utility, reasonableness of ordinance, *see* ELECTRIC UTILITIES, 2-10.

POTATO PLANTERS.

Classification under agricultural implements, *see* RATES, 51.

POWER GENERATION EXPENSES.

Apportionment of power generation expenses in the determination of unit costs for electric utilities, *see* ACCOUNTING, 13.

POWER RATES.

See RATES.

PREFERENCE OR PREJUDICE.

See DISCRIMINATION.

PRIVATE SIDETRACKS.

See SWITCH CONNECTIONS.

PRIVILEGES.

See TRANSIT PRIVILEGES.

PROPERTY RIGHTS.

Impairment of constitutional guarantees of property rights, rights not impaired by requirements of law providing for physical connection of telephone utilities, *see TELEPHONE UTILITIES*, 5-7.

Protection of property rights under constitutional guarantees, in the establishment of physical connection for telephone utilities, *see TELEPHONE UTILITIES*, 10.

PRORATING OF EXPENSES.

Prorating of expenses in the determination of unit costs

For electric utilities, *see ACCOUNTING*, 15-18.

For railroads, *see ACCOUNTING*, 27.

For street railways, *see ACCOUNTING*, 29.

For water utilities, *see ACCOUNTING*, 52.

PUBLIC CONVENIENCE AND NECESSITY.

See CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY.

Telephone utilities, physical connection for public convenience and necessity, *see TELEPHONE UTILITIES*, 2-11.

Definition of

1. The term "public convenience and necessity" is indeterminate. It is usually found in statutes requiring some act to be performed or creating some new public obligation not imposed by the common law which interferes with private rights. As a justification for such interference there must be a public exigency demanding it, which is always a question of fact depending upon a variety of considerations. *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748, 756.

PUBLIC CORPORATIONS.

See CITIES; MUNICIPALITIES; TOWNS; VILLAGES.

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.

PUBLIC UTILITIES LAW**SECTIONS CONSTRUED.**

Sec. 925-95b, electric utilities, municipal utilities, management, financial transactions, auditing of accounts, *see ELECTRIC UTILITIES.*

Sec. 925-95b, water utilities, municipal utilities, management, financial transactions, auditing of accounts, *see WATER UTILITIES.*

Sec. 925-95c, electric utilities, municipal utilities, management, financial transactions, income and revenues, to be kept as separate fund, *see ELECTRIC UTILITIES.*

- Sec. 925—95c, water utilities, municipal utilities, financial transactions, income and revenues, to be kept as separate fund, *see* WATER UTILITIES.
- Sec. 925—95e, Subsec. 6, electric utilities, municipal utilities, management, employment of superintendent, *see* ELECTRIC UTILITIES.
- Sec. 925—95e, subsec. 6, water utilities, municipal utilities, management, employment of superintendent, *see* WATER UTILITIES.
- Sec. 925—95b to 925—95f incl., electric utilities, municipal utilities, management, financial transactions, *see* ELECTRIC UTILITIES.
- Secs. 925—95b to 925—95f incl., water utilities, municipal utilities, management, financial transactions, *see* WATER UTILITIES.
- Sec. 1797m—4, subsec. 1, 2 and 3, telephone utilities, physical connection, establishment of, *see* TELEPHONE UTILITIES.
- Sec. 1797m—15, depreciation fund, establishment of, *see* DEPRECIATION.
- Sec. 1797m—15, depreciation fund, purpose of, *see* DEPRECIATION.
- Sec. 1797m—15, depreciation reserve, necessity for, *see* DEPRECIATION.
- Sec. 1797m—87, municipal ordinance affecting rates or service of public utility, reasonableness of ordinance within purview of Public Utilities Law, review by Commission, *see* ELECTRIC UTILITIES.
- Sec. 1797m—87, Railroad Commission, power of Commission to review reasonableness of municipal ordinance affecting rates or service of public utility within the purview of the Public Utilities Law, *see* RAILROAD COMMISSION.
- Sec. 1797m—90, rates, telephone rates, free or reduced rate service granted to subscriber of telephone utility on account of ownership of instrument or facility, prohibited by Public Utilities Law, *see* DISCRIMINATION; RATES.
- Sec. 1797m—90, rates, telephone rates, free or reduced rate service granted to subscriber of telephone utility on account of ownership of stock, prohibited by Public Utilities Law, *see* DISCRIMINATION; RATES.
- Sec. 1797m—90, rebates or concessions, free or reduced rate service granted to subscriber of telephone utility, on account of ownership of instrument or facility, prohibited by Public Utilities Law, *see* DISCRIMINATION; RATES; REBATES OR CONCESSIONS.
- Sec. 1797m—90, rental for equipment or facilities paid by utility to subscriber of telephone utility, reasonable rental permitted under Public Utilities Law, *see* RATES.
- Sec. 1797m—90, rental for equipment or facilities paid to utility by subscriber of telephone utility, prohibited under Public Utilities Law, *see* RATES.
- Sec. 1797m—92, rebates or concessions, free or reduced rate service granted to subscriber of telephone utility on account of ownership of stock, prohibited by Public Utilities Law, *see* DISCRIMINATION; RATES; REBATES OR CONCESSIONS.

PUBLICATION OF RATE SCHEDULES.

See SCHEDULES OR TARIFFS.

PUBLISHED RATE.

Departure from, prohibited, *see* SCHEDULES OR TARIFFS, 2.

PULP.

Reduction of joint rate and refund on shipment, Ellis Jct. to Park Falls, Wis., *see* RATES, 71; REPARATION, 20.

PULP WOOD.

See WOOD.

PULP WOOD LOGS.*See Logs.***PUMP JACKS.**Mixture privilege with agricultural implements, *see RATES*, 51.**RAILROAD COMMISSION.***Authority of Commission in awarding reparation.*

1. Under the statute, sec. 1797—37m, the Commission is without authority to award reparation for any shipment which moved more than one year prior to the filing of the complaint. *New Richmond Roller Mills Co. v. F. & N. E. R. Co. et al.* 1913, 11 W. R. C. R. 272, 273.

2. The power given the Commission to authorize refunds under section 1797—37m does not apply to shipments which moved more than one year prior to the filing of the petition. *Badger Basket & Veneer Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 492, 494—495.

3. Sec. 1797—37m of the statutes provides that "Within one year after the delivery of any shipment of property at destination, any person aggrieved may complain to the commission that the charge exacted for the transportation of such property between points in Wisconsin * * * is erroneous, illegal, unusual or exorbitant, * * * If upon such hearing, the commission shall decide that the rate or the charge exacted is erroneous, illegal, unusual, or exorbitant, it shall find what in its judgment would have been a reasonable rate or charge for the service complained of. If the rate or charge so found shall be less than the charge exacted, the carrier shall have the right to refund to the person paying such charge the amount so found to be excessive. * * *" *Flambeau Paper Co. v. C. M. & St. P. R. Co. et al.* 1913, 11 W. R. C. R. 699, 702.

4. The shipments on which a refund is asked were delivered at destination more than one year prior to the filing of the claim with the Commission. The claim would therefore have been barred under sec. 1797—37m, except for the fact that the recent legislature has by amendment enlarged the time of filing claims to two years. (Ch. 66, laws of 1913.) At the time of the enlargement of the statute the bar had not run upon the shipments in question, and hence reparation may be awarded. (*Mayer v. C. & N. W. R. Co. et al.* 1911, 8 W. R. C. R. 328, 329—330.) *Northern Wood Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 706, 707.

Evidence—Substantial evidence.

5. In the present case the Commission, as is its custom when deemed necessary in order to arrive at a full understanding of the matters involved in a case, made an independent investigation which resulted in the accumulation of a large amount of tabulations, correspondence, etc., which has been instructive though not entirely probative. (*Int. Com. Comm. v. Louis. & Nash. R. R.* 1913, 227 U. S. 93.) *Barker & Stewart Lbr. Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 537, 539.

Jurisdiction of Commission—Commission without authority over interstate shipments.

6. Interstate rates are beyond the jurisdiction of this Commission. *National Distilling Co. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 424, 428.

Jurisdiction of Commission—Over railway crossings.

7. Sec. 1797—12d of the statutes authorizes the Commission to order protection, "if upon such hearing it shall appear to the Commission

that the crossing complained of is unsafe and dangerous to human life." *Town of Wilton v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 598, 602-603.

Jurisdiction of Commission—Over railway crossings—Commission without power to require crossing protection in proceedings instituted by an individual.

8. A petition from the town or village authorities is necessary to give the Commission authority to order further protection at the crossing in question. *Laursen et al. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 627, 632.

Jurisdiction of Commission—Over railway crossings—Petition as condition precedent.

9. A petition from the town or village authorities is necessary to give the Commission authority to order further protection at the crossing in question. *Laursen et al. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 627, 632.

Power of Commission to review reasonableness of municipal ordinance affecting rates or service of public utility within the purview of the Public Utilities Law.

10. The section of the statute under which these proceedings were instituted (sec. 1797m-87) was designed to give the Commission the power to pass upon the reasonableness of any ordinance, contract or resolution of a common council directly affecting the rates or service of any public utility or indirectly tending to place an unnecessary burden upon the utility which might result in embarrassing it in the performance of its public function in the manner required by the Public Utilities Law. At least such is the view of the statute taken by the bar generally and the same has never heretofore been questioned. Under the circumstances, until the courts hold to the contrary, we shall continue to consider the statute as suspending previous statutory and ordinance provisions relating to the subject, and as vesting authority in the Commission to declare any contract, ordinance or resolution of the common council void which transgresses the limits of reasonableness within the purview of the Public Utilities Law. *In re Appl. Madison G. & El. Co.* 1913, 11 W. R. C. R. 293, 302-303.

RAILROAD COMMISSION ACT.

See RAILROAD LAW.

RAILROAD COMMISSION LAW.

See RAILROAD LAW.

RAILROAD CROSSINGS.

See RAILROADS.

RAILROAD LAW.

SECTIONS CONSTRUED.

- Sec. 1797-4a, schedules or tariffs, change in tariff, approval of Commission required, *see* SCHEDULES OR TARIFFS.
 Sec. 1797-4a, schedules or tariffs, departure from published tariffs prohibited, *see* SCHEDULES OR TARIFFS.
 Sec. 1797-6, rates, railway, concentration rates, legality of, *see* RATES.
 Sec. 1797-10m, railway car service, duty of consignee in unloading cars, *see* RAILROADS.

- Sec. 1797—11m, switch connections, establishment of, spur track, *see* SWITCH CONNECTIONS.
- Sec. 1797—12d, Railroad Commission, jurisdiction over railway crossings, *see* RAILROAD COMMISSION.
- Sec. 1797—12d, railway crossing, railroad by highway, protection of, jurisdiction of Commission, *see* RAILROADS.
- Sec. 1797—37m, Railroad Commission, authority of Commission in awarding reparation, *see* RAILROAD COMMISSION.
- Sec. 1797—37m, reparation, ground for recovery, damages, showing of not necessary to secure refund under statute, *see* REPARATION.
- Sec. 1797—37m, reparation, ground for recovery, reduction of rates, not to be construed as an admission of prior unreasonableness, *see* REPARATION.
- Sec. 1797—37m, reparation, limitation of statute, claim for refund barred by limitation of statute, *see* REPARATION.
- Sec. 1797—37m, reparation, limitation of statute, computation of period of limitation, *see* REPARATION.
- Sec. 1797—37m, reparation, limitation of statute, enlargement of period for filing claims, *see* REPARATION.
- Sec. 1809v, locomotive headlights, merits of, in connection with requirements, *see* RAILROADS.

RAILROADS.

See CARRIERS; CONNECTING CARRIERS; INTERURBAN RAILWAYS; STREET RAILWAYS.

ACCOUNTING.

See ACCOUNTING.

CONSTRUCTION, MAINTENANCE AND EQUIPMENT.

Crossings—Railroad by highway—Protection of—Jurisdiction of Commission.

1. Sec. 1797—12d of the statutes authorizes the Commission to order protection, "if upon such hearing it shall appear to the Commission that the crossing complained of is unsafe and dangerous to human life." *Town of Wilton v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 598, 602-603.

2. A petition from the town or village authorities is necessary to give the Commission authority to order further protection at the crossing in question. *Laursen et al. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 627, 632.

Crossings—Railroad by highway—Protection of—When necessary.

3. In determining whether a crossing is dangerous to public travel, the important considerations are the physical surroundings, such as the obstructions to vision, the grade of highway, the angle of crossing, auditory conditions, etc., and the frequency and speed of train movements over the crossing. If, upon an examination of these conditions, the crossing is found to be dangerous, protection should be afforded even though the highway traffic is very small. The element of highway traffic becomes important only as a guide to the nature of the protection necessary. A crossing which with only a very limited highway traffic may be rendered reasonably safe by bell protection, might require a flagman, or gates, or grade separation with increased highway traffic. On the other hand, a crossing which is not unusually dangerous as judged by its physical surroundings and the train movements over it, and which with a small amount of highway traffic requires no es-

pecial protection, might require varying degrees of protection with increases in the highway traffic. We believe that the position maintained by the respondent in this matter, namely that an admittedly dangerous crossing should not be given protection because of the limited highway traffic, is not well taken. *Town of Wilton v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 598, 602.

4. If the life of one person is necessarily jeopardized by a highway crossing, that crossing is "unsafe and dangerous to human life" and should be protected. *Town of Wilton v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 598, 603.

Crossings—Railroad by highway—Apportionment of cost among parties.

5. In the present case the actual cost of the structure is apportioned 10 per cent to the town of Polk, 54 per cent to the one railroad and 36 per cent to the other. *In re Fernhaber Crossing East of Schleisingerville*, 1912, 11 W. R. C. R. 86, 89.

6. In the present case the actual cost of the subway is apportioned 20 per cent to the city and 80 per cent to the railway. *City of Racine v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 740, 744.

Crossings—Railroad by highway—Protection of.

7. Complaint was made by the town of Hewitt, an organized town in Clark county, Wis., that a highway crossing on the line of the C. St. P. M. & O. Ry. Co. and located about eighteen hundred feet east of Columbia station, Wis., is dangerous to human life because of surrounding physical conditions. Subsequent to a fatal accident the Commission, in a former proceeding instituted on its own motion, investigated the conditions at this crossing and ordered the installation and maintenance of an electric bell with an illuminated sign for night indication, and the improvement of the approaches of the highway (*In re Invest. C. St. P. M. & O. R. Crossing near Columbia Station*, 1912, 8 W. R. C. R. 516). Subsequently the railroad company questioned the authority of the Commission to order the installation of protective appliances in proceedings instituted on its own motion. At the suggestion of the Commission the town of Hewitt filed a formal complaint for a new hearing. The previous order in the matter was vacated (*In re C. St. P. M. & O. R. Crossing near Columbia Station*, 1912, 8 W. R. C. R. 733), and proceedings were instituted upon the complaint of the town of Hewitt. *Held*: Additional protective measures are required. It is ordered that the respondent railroad company protect this crossing with an automatic audible alarm with an illuminated sign for night indication. The plans for the installation are to be submitted to the Commission. The respondent is further ordered to widen the highway to an effective width of 32 feet within the railroad right of way. The approaches are to be put in first class condition as to grade and drainage. *Town of Hewitt v. C. St. P. M. & O. R. Co.* 1912, 11 W. R. C. R. 79, 85.

8. Petitioner alleges that the grade crossing of the M. St. P. & S. S. M. Ry. Co. tracks with Washington street in Thorpe, Wis., is dangerous. *Held*: The Commission has no jurisdiction in proceedings instituted by an individual in matters of crossing protection. *Parkhill v. M. St. P. & S. S. M. R. Co.* 1912, 11 W. R. C. R. 153, 154.

9. The petitioner alleges that a highway crossing on the C. & N. W. Ry. one hundred feet west of the depot at Salem, Wis., is dangerous. *Held*: The crossing requires protection. It is recommended that the respondent station a flagman at the crossing for the day period during the ice shipping season. Respondent is ordered to install and maintain an automatic electric bell with an illuminated sign for night indication. Plans for track circuits are to be submitted to the Commis-

sion for approval. If the changes in switching service now contemplated are not put into effect within a reasonable time, the respondent will be required to flag each switching movement over the crossing. *Town of Salem v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 322, 324.

10. The petitioner, the city of Milwaukee, Wis., prays for an order directing the respondents to separate the grades of their tracks from the grades of the public thoroughfares at certain designated points within the city limits. Grade separation, ordered in a former decision (9 W. R. C. R. 193), has not been completed. *Held*: Public safety requires additional temporary protection at certain of the crossings under consideration until such time as grade separation has been completed. The C. M. & St. P. Ry. Co. is ordered to provide temporary protection by means of gates at Second and Clybourn streets and by means of flagmen at National avenue, Mineral street, Washington street, and Greenfield avenue. The C. & N. W. Ry. Co. is ordered to provide temporary protection by means of gates at Washington street and by means of flagmen at National avenue, Mineral street, Greenfield avenue, and Erie street. The flagmen at Erie street and the night flagmen at National avenue are to be relieved from the work of throwing certain switches in the vicinity of these crossings. It is suggested that the C. & N. W. Ry. Co. fence its west right of way line at the foot of Maple street. *City of Milwaukee v. C. M. & St. P. R. Co. et al.* 1913, 11 W. R. C. R. 344, 348-349.

11. The petitioner, the city of Milwaukee, Wis., prays for an order requiring grade separation for the crossings on the Northern division of the C. M. & St. P. Ry. between Thirty-fifth street and Fond du Lac avenue. The railway company maintains that the plans for separation submitted by the city are not feasible. Objection is also made on behalf of certain industries located along the line that the plans for separation submitted by the city will disable them in the conduct of their business. The problems involved are now under consideration by the Commission. *Held*: Public safety requires additional temporary protection until the work of grade separation has been completed. The C. M. & St. P. Ry. Co. is ordered to provide additional temporary protection by means of gates at Center street, Brown street, and Walnut street, and by means of flagmen at Cherry street and Clark street. The respondent is also ordered to plank the crossing and provide walks and proper street approaches across its right of way at Clark st. *City of Milwaukee v. C. M. & St. P. R. Co. et al.* 1913, 11 W. R. C. R. 350, 352.

12. The petitioner, the city of Milwaukee, Wis., asks for grade separation along the "beer tracks" at Humboldt avenue and north thereof to Keefe avenue and for immediate temporary protection until the grade separation is completed. *Held*: Additional temporary protection is necessary until grades are separated. The C. M. & St. P. Ry. Co. is ordered to provide temporary protection as follows: Keefe avenue and Chambers street are each to be protected by an automatic crossing alarm provided with a light for night indication. Plans for circuits are to be submitted to the Railroad Commission for approval. The crossings at Burleigh street and Bremen street, at Fratney street, and at Auer avenue are each to be provided with a flagman from 6:30 a. m. to 6:30 p. m. daily. At Booth street and Concordia avenue the respondent is to plank the crossing, provide walks and proper street approaches across the right of way, and locate the flagman so that he can flag traffic over Booth street and Concordia avenue crossings, from 6:30 a. m. to 6:30 p. m. daily. At North avenue and at Humboldt avenue (south) annunciators are to be installed and gates operated during the night. The respondent is to install, maintain and operate gates twenty-four hours daily at Humboldt avenue and Locust street crossings. Gates at both crossings are to be controlled by one gateman located in an elevated tower equipped with an annunciator. Complete detailed plans for gate protection are to

be submitted to the Commission for approval. If on account of the sharp angle of the Humboldt avenue crossing and the location of wires in the vicinity of the crossing, it is not feasible to furnish full gate protection, a flagman shall be stationed at each of these crossings twenty-four hours daily. *City of Milwaukee v. C. M. & St. P. R. Co. et al.* 1913, 11 W. R. C. R. 353, 358-359.

13. Complaint was made that the crossings at the Janesville Plank Road (Forest Home avenue) and the Kilbourn road (Twenty-second avenue) in the town of Greenfield, Milwaukee county, Wis., are dangerous. Plans for grade separation have not been completed. *Held:* Additional temporary protection is necessary for public safety until the completion of grade separation. The respondent is ordered to protect traffic on the Janesville Plank Road and on the Kilbourn Road by a night flagman at each crossing and is further ordered to install and maintain automatic audible crossing alarms with lights for night indication at Twenty-sixth and Twenty-fourth avenues to announce the approach of main line trains. Plans for circuits are to be submitted to the Commission for approval. All switching movements are to be flagged over these crossings. *City of Milwaukee v. C. M. & St. P. R. Co. et al.* 1913, 11 W. R. C. R. 362, 364.

14. The M. St. P. & S. S. M. R. Co. asks that a former order (11 W. R. C. R. 325) providing for the protection of four crossings by flagmen at Ladysmith, Wis., be modified to permit the substitution of electrical devices. *Held:* It appears that flagmen should be retained at Second Street East and at Lake avenue, and the respondent is ordered to provide such protection at these two points from 6:30 a. m. to 6:30 p. m. daily. The respondent is further ordered to install, maintain and operate electrically operated gates with an electric gong at Second street West and at Miner avenue to be controlled by the flagmen stationed at Second street East and at Lake avenue, respectively. Flagmen are to be maintained on each of the four crossings until the installations ordered are placed in operation. The respondent is further ordered to equip the gates with aprons to prevent persons from crawling under them, and to construct wing fences at the ends of the gate-arms protecting the sidewalks, to prevent persons from walking around the gates. Plans of the installations ordered are to be submitted for approval. *City of Ladysmith v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 554, 555-556.

15. Complaint is made that the crossing on the C. St. P. & M. & O. Ry. known as the McCulloch crossing, located 2.6 miles southeast of Knapp in the town of Stanton, Dunn county, Wis., is dangerous. *Held:* The crossing in question requires additional protection. The respondent is ordered to install and maintain an automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted for approval. The respondent is further ordered to lengthen the approaches at the crossing so that the grade of approach shall not exceed 6 per cent. *Town of Lucas v. C. St. P. M. & O. R. Co.* 1913, 11 W. R. C. R. 592, 594.

16. Petitioner alleges that the crossing on the M. St. P. & S. S. M. Ry. at Washington street in Thorpe, Wis., is dangerous. *Held:* The crossing requires protection. The respondent is ordered to install and maintain an electric bell with illuminated sign for night indication, plans for track circuits to be submitted for approval. The crossing is to be further protected by a flagman during all train movements over the sidetrack. *Village of Thorpe v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 609, 611.

17. Complaint was made that the Green Bay and Port Washington road crossings on the C. & N. W. line in the town of Milwaukee, Milwaukee county, Wis., are dangerous. *Held:* The crossings in question are dangerous and require some additional protection. The respondent is ordered to station a flagman at each of the two crossings, who

shall be on duty from 6:30 a. m. to 6:30 p. m. from May to October inclusive. The respondent is further ordered to provide at each of these crossings an effective roadway twenty-four feet wide within its right of way, properly planked at the tracks, and properly surfaced, and to maintain the bells and illuminated signs now installed at these crossings in proper operating condition. *Town of Milwaukee v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 615, 619-620.

18. Complaint was made that a crossing 550 feet west of the depot at Sheridan, Wis., on the M. St. P. & S. S. M. line is dangerous. *Held:* The crossing requires some additional protection. In addition to the alterations agreed upon at the conference the respondent is ordered to move the existing switch of the south house track 130 feet or more east of its present location and to construct a suitable roadway over its right of way, properly graded, planked, and drained, and as nearly at right angles with the tracks as is practicable. The respondent is further ordered to keep the south house track clear of cars west of the store building in the southeast corner of the crossing; to flag all switching movements over the crossing; and to cause a flagman to warn travelers of the approach of trains whenever a waiting train is uncoupled at the crossing, to allow traffic to pass. *Town of Farmington v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 624, 626.

19. Complaint is made that the crossing at First avenue, Elk Mound, Wis., on the C. St. P. M. & O. Ry. is dangerous. *Held:* The crossing in question requires further protection. The respondent is ordered to install and maintain an automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted for approval, and to station a flagman at this crossing who shall be on duty from 7 a. m. to 6 p. m. daily, until such time as the installation ordered is in satisfactory operation. The respondent is further ordered to have its train crews flag each switching movement over the house track and the passing track at First avenue; to repair and surface First avenue within its right of way; and to limit the speed of its trains at First avenue to conform to the statutes. *Village of Elk Mound v. C. St. P. M. & O. R. Co.* 1913, 11 W. R. C. R. 654, 656-657.

20. Complaint is made that the Stone crossing on the C. M. & St. P. line and located about two miles northeast of Waukesha, Wis., is dangerous. *Held:* The crossing in question requires further protection. The respondent is ordered to install and maintain a modern automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted for approval, and is also ordered to require some member of its train crews to flag each switching movement over the crossing in question. It is recommended that the town authorities cooperate with the railway company in removing the brush and trees which obstruct the view. If these obstructions are not removed, some further protection may be required. *Town of Pewaukee v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 658, 660-661.

21. Complaint was made that the highway crossing one and one-half miles east of Beaver Dam, Wis., on the C. M. & St. P. Ry. is dangerous. *Held:* Some additional protection should be provided for the crossing in question. The respondent is ordered to install and maintain an automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted for approval; and is also ordered to provide a roadway with an effective width of twenty-four feet within its right of way at the crossing described above. It is recommended that the town authorities and respondent secure the removal of the brush which obstructs the view. *Town of Beaver Dam v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 662, 664-665.

22. Complaint is made that the crossing on the G. B. & W. R. R. at First street in the village of Plover, Wis., is dangerous. *Held:* The crossing requires additional protection. The respondent is ordered to install and maintain an automatic alarm bell, plans for track cir-

cuits to be submitted for approval. Respondent is further ordered to flag all switching movements over First street and to protect First street by a flagman during all periods when a train is broken at the crossing to allow traffic to pass. *Village of Plover v. G. B. & W. R. Co.* 1913, 11 W. R. C. R. 727, 729.

Crossings—Railroad by highway—Protection of—Annunciators.
See ante, 12.

Crossings—Railroad by highway—Protection of—Automatic alarm.

See ante, 14.

Crossings—Railroad by highway—Protection of—Automatic alarm with illuminated sign.

See also ante, 7, 9, 12-17, 19-22.

23. Complaint was made by the town of Byron, Fond du Lac county, Wis., that two highway crossings on the line of the M. St. P. & S. S. M. Ry. Co., located respectively about 300 feet north of the depot at Hamilton, and about 300 feet east of the depot at Byron, are dangerous. *Held:* The two crossings in question are unusually dangerous and require some form of protection. It is ordered that the respondent install and maintain an automatic electric bell with an illuminated sign for night indication at each of the two crossings. Plans and specifications are to be submitted to the Commission for approval. *Town of Byron v. M. St. P. & S. S. M. R. Co.* 1912, 11 W. R. C. R. 95, 97.

24. Petitioner alleges that the highway crossings on the M. St. P. & S. S. M. Ry., located one and one-half miles north of Honey Creek and three miles south of Lake Beulah in the town of Waterford, Racine Co., Wis. are dangerous. *Held:* The crossings in question require protection. The respondent is ordered to install and maintain at each of the two crossings an automatic crossing alarm with illuminated sign for night indication, plans for track circuits to be submitted for approval. *Town of Waterford v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 436, 438.

25. Complaint is made that the second crossing on the M. St. P. & S. S. M. Ry. north of the station at Rugby Jct., known as the Fond du Lac or Rothenbach crossing, town of Polk, Washington county, Wis., is dangerous. *Held:* The crossing requires protection. The respondent is ordered to install and maintain an automatic electric bell with illuminated sign for night indication, plans for track circuits to be submitted for approval. *Happel et al. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 575, 577.

26. Petitioner alleges that the first crossing on the M. St. P. & S. S. M. Ry. south of Rugby Jct. station, in the town of Richland, Washington county, Wis., is dangerous. *Held:* The crossing requires protection. Respondent is ordered to install and maintain an automatic electric bell with illuminated sign for night indication, plans for track circuits to be submitted for approval. *Town of Richfield v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 586, 588.

27. Complaint is made that the crossing on the C. St. P. M. & O. Ry., known as McCulloch crossing, located 2.4 miles southeast of Knapp in the town of Stanton, Dunn county, Wis., is dangerous. *Held:* The crossing in question requires additional protection. The respondent is ordered to install and maintain an automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted for approval. *Town of Stanton v. C. St. P. M. & O. R. Co.* 1913, 11 W. R. C. R. 595, 597.

28. The petitioner complains that the Saxby and Lyddy crossings on the C. & N. W. Ry. in the town of Wilton, Monroe county, Wis., are

dangerous. *Held*: The crossings require protection. The respondent is ordered to install and maintain at each of the two highway crossings in question an automatic electric bell with illuminated sign for night indication, plans for track circuits to be submitted for approval. *Town of Wilton v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 598, 603.

29. Complaint was made that the "Monsted crossing" located on the C. & N. W. Ry. about one mile east of North Lake in the town of Merton, Waukesha county, Wis., is dangerous. *Held*: The crossing requires protection. The respondent is ordered to install and maintain an electric bell with illuminated sign for night indication, plans for track circuits to be submitted for approval. *Town of Merton v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 606, 608.

30. Petitioner alleged that the Stroebel crossing, about one mile west of Almena, Wis., on the M. St. P. & S. S. M. Ry. line is dangerous. *Held*: The crossing in question is more than ordinarily dangerous and some form of protection is necessary. The respondent is ordered to install and maintain an automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted for approval. *Town of Almena v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 621, 623.

31. Complaint is made that Stillwater Road crossing on the M. St. P. & S. S. M. Ry. about 2,800 feet west of the station at Somerset, Wis., is dangerous. *Held*: The crossing requires additional protection. Respondent is ordered to install and maintain an automatic electric bell with an illuminated sign for night indication, plans for track circuits to be submitted for approval. *Town of Somerset v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 730, 732.

Crossings—Railroad by highway—Protection of—Flagmen.

See also ante, 9-14, 16-20, 22.

32. An order having been made for the protection of the I. C. R. R. crossing at Division street in Dodgeville, Wis. (9 W. R. C. R. 367), a rehearing was granted on complaint of the petitioner that the order is excessive and burdensome. The petitioner asks for permission to stop its trains before reaching the highway and to flag the crossing in lieu of installing an automatic crossing alarm with a light for night indication. *Held*: Since relatively few trains are operated over this crossing and these at a low speed, the plan suggested appears reasonable under the circumstances in the present case. The former order in this matter is modified and in lieu of providing the protective devices as previously ordered, the respondent is directed to stop each of its trains within 100 feet of the crossing and to protect the crossing by a flagman who is to precede the train to the highway and remain there to warn travelers until the train has passed. *In re Invest. Division St. Crossing in Dodgeville*, 1912, 11 W. R. C. R. 151, 152.

33. Complaint was made of inadequate protection at the crossing of the tracks of the C. & N. W. Ry. and South Water street in Sparta, Wis. *Held*: The crossing in question is more than ordinarily dangerous. The respondent is ordered to maintain a flagman at the crossing between the hours of 6:30 a. m. to 6:30 p. m. *City of Sparta v. C. & N. W. R. Co.* 1912, 11 W. R. C. R. 165, 167-168.

34. Petitioner alleges that four grade crossings at the intersection of the M. St. P. & S. S. M. Ry. with Second street East, Second street West, Miner avenue and Lake avenue in Ladysmith, Wis., are dangerous. *Held*: The crossings require protection and respondent is ordered to station a flagman at each of the four crossings from 6:30 a. m. to 6:30 p. m. daily. *City of Ladysmith v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 325, 328-329.

Crossings—Railroad by highway—Protection of—Gates.

See also ante, 10-12, 14.

35. Complaint was made that C. & N. W. Ry. crossings at First, Midland and Eighth avenues in Milwaukee, Wis., are dangerous. Plans for grade separation for these crossings have not been completed. *Held*: Additional temporary protection is necessary for the First avenue crossing until the completion of grade separation. The respondent is ordered to operate the gates at this crossing twenty-four hours daily. *City of Milwaukee v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 360, 361.

36. The Commission, on its own motion, investigated a grade crossing on the C. M. & St. P. Ry. at Cottonwood avenue east of the depot in Hartland, Wis. *Held*: The crossing requires protection. The respondent is ordered to install and maintain gates at the crossing and to operate such gates between 6:00 a. m. and 12:00 midnight from November 1 to March 31, inclusive, and for twenty-four hours daily during the remainder of the year. *In re Invest. Hartland Crossing on C. M. & St. P. R.* 1913, 11 W. R. C. R. 432, 433.

Crossings—Railroad by highway—Protection of—Improvement of highway.

See also ante, 7, 11-12, 15, 17-19, 21.

37. Petitioner alleges that the first highway crossing on the M. St. P. & S. S. M. line north of the station of Rugby Jct. in the town of Polk, Washington county, Wis., is dangerous. *Held*: The crossing in question requires some protection. The respondent is ordered to improve the crossing by grading the highway within its right of way to an effective width of twenty-four feet and by removing the top of the bank of the cut in the southeast angle of the crossing. *Town of Polk v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 589, 591.

38. Complaint is made that Baker's crossing on the C. St. P. M. & O. Ry., about two and one-half miles northeast of the station of Burkhart, Wis., is dangerous. *Held*: The crossing requires additional protection. Respondent is ordered to remove the trees on its land east of the tracks and southeast of the highway and to grade down the banks of earth in each of the four corners of the crossing. *Town of St. Joseph v. C. St. P. M. & O. R. Co.* 1913, 11 W. R. C. R. 737, 739.

Crossings—Railroad by highway—Protection of—Limitation on speed of trains.

See ante, 19.

Crossings—Railroad by highway—Protection of—Removal of obstructions to view.

See also ante, 18, 20-21.

39. Complaint is made that the first crossing south of the station of Van Dyne, Wis., on the C. & N. W. Ry. is dangerous. *Held*: The crossing in question requires protection. In view of the fact that three railway lines are crossed by the highway within a short distance, it is believed that the installation of a bell on one line would be confusing and would increase rather than lessen the danger. The respondent is ordered to improve the view from the highway by the reconstruction of the stockyards and the relocation of buildings on its right of way according to the specifications approved by the Commission. *Town of Friendship v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 733, 736.

Crossings—Railroad by highway—Protection of—Stopping of trains.

See also ante, 32.

40. The La Crosse & S. E. Ry. Co asks for a modification of an order formerly issued requiring the protection of its crossing at the Mormon

Coulee road near Calvert, Wis., (8 W. R. C. R. 519). *Held*: The plan suggested by the company would provide adequate protection. The former order is modified and the company is ordered to stop each of its trains before crossing the highway in lieu of installing the bell protection as previously ordered. *In re Invest. Crossing near Calvert of C. B. & Q. R. et al.* 1912, 11 W. R. C. R. 159.

Crossings—Railroad by highway—Separation of grades—Overhead bridge.

41. Subsequent to complaint the Commission, on its own motion, investigated the Fernhaber crossing located one-half mile east of Schleisingerville in the town of Polk, Washington county, Wis., and on the lines of the C. M. & St. P. Ry. and the M. St. P. & S. S. M. Ry. *Held*: Conditions at the crossing are dangerous; but the lowering of the tracks by the M. St. P. & S. S. M. Ry. Co. created a dangerous condition that grade separation alone can eliminate. The respondent companies are ordered to construct and maintain a framed timber overhead highway bridge at the crossings in question. The bridge and its approaches are to be constructed in accordance with plans and specifications approved by the Commission. The railway companies are to furnish all material and labor, perform all of the necessary work, and acquire necessary lands. The actual cost of the structure is apportioned 54 per cent to the M. St. P. & S. S. M. Ry. Co., 36 per cent to the C. M. & St. P. Ry. Co., and 10 per cent to the town of Polk. *In re Fernhaber Crossing east of Schleisingerville*, 1912, 11 W. R. C. R. 86, 88-89.

Crossings—Railroad by highway—Separation of grades—Subway.

42. Complaint was made that the C. & N. W. Ry. crossings at Mound avenue and Maple street in Racine, Wis., are dangerous. *Held*: The crossings in question are more than ordinarily dangerous. The respondent is ordered to construct and maintain a subway at Mound avenue in accordance with specifications approved by the Commission. The actual cost of the subway ordered is apportioned 20 per cent to the petitioner and 80 per cent to the respondent. It is further ordered that when the subway shall be completed, the portion of Maple street crossing the railroad at grade, between right of way lines of the railway company, be closed and the railway company is hereby directed to enclose this street with continuous fences, so that the same cannot be used by the public. *City of Racine v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 740, 744-745.

Crossings—Railroad by railroad—Protection of—Gates.

43. The Commission, on its own motion, ordered an investigation into the condition of the crossing of the C. & N. W. Ry. and the C. M. & St. P. Ry. tracks near the foot of Aldrich street in Milwaukee, Wis. The crossing is formed by the intersection of the C. & N. W. spur track leading to the plant of the Milwaukee Corrugating Co. with the Bay View transfer track of the C. M. & St. P. Ry. *Held*: The crossing in question is unusually dangerous and requires some form of protection. Since a contract between the two companies places the obligation of protecting the crossing upon the C. & N. W. Ry., that company is ordered to install, maintain and operate a gate equipped with a suitable light for night indication which can be swung so as to cover either of the two tracks. It is further ordered that the C. & N. W. Ry. Co. swing this gate over the track of the C. M. & St. P. Ry. Co. before using the crossing and after such use swing it back and keep it closed over its own tracks. *In re Invest. Aldrich St. Crossing, Milwaukee*, 1912, 11 W. R. C. R. 147, 150.

Locomotive headlights (acetylene, electric and oil)—Merits of, in connection with statutory requirements.

44. An opinion having been requested by several railroad companies as to the merits of certain locomotive headlights in connection with sec. 1809v, Wis. laws of 1911, an investigation of the headlights presented was made with reference to efficiency and to safety in the operation of trains. *Held*: None of the oil headlights fulfill the requirements of the law. The acetylene headlights tested show that the one equipped with the 18 inch reflector and with the cluster of three burners each having a capacity of one-half cubic foot per hour fulfills the requirements of the law, provided the reflector is kept well polished and in good condition. The electric arc headlights tested fulfill the requirements of the law, but certain prescribed restrictions should be recognized in their use. There are probably other power headlights than those presented for investigation that have sufficient illuminating capacity to comply with the law. *In re Invest. Locomotive Headlights*, 1912, 11 W. R. C. R. 137, 138-140.

OPERATION.

Requirements as to service and facilities.

See also STATION FACILITIES; SWITCH CONNECTIONS; TRAIN SERVICE.

Requirements as to service and facilities—Railway car service.

45. It is the duty of shippers to so regulate their shipments that there is a reasonable and fair relation between the amount of freight that is forwarded to them and the amount of freight they are equipped to handle. (*In re Appl. C. M. & St. P. R. Co.* 1911, 8 W. R. C. R. 101, 104.) *Bowers et al. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 634, 641.

46. Sec. 1797—10m of the statutes provides, among other things, that the "consignee must use due and reasonable diligence in unloading all cars * * *." *Bowers et al. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 634, 641.

47. The petitioner alleged that the C. M. & St. P. R. Co. has failed to furnish sufficient cars to move the crops of sugar beets and cabbages at Sylvania, Wis. *Held*: As the manufacturers control both the shipment and delivery under their contracts with the growers, no duty rests upon the railroads to furnish more cars than the manufacturers direct. The petition is dismissed without prejudice. *Bowers et al. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 634, 641-642.

RATES.

See RATES.

VALUATION.

See VALUATION.

RATE ADJUSTMENT.

See RATES.

RATE SCHEDULES.

See SCHEDULES OR TARIFFS.

RATES—ELECTRIC.

See also MINIMUM CHARGES.

Discrimination in electric rates, *see* DISCRIMINATION, 1-2.

Emergency and occasional service rates.

1. A rate schedule consisting entirely of a meter charge fails to return to the utility the fixed costs incident to providing only emergency or occasional service. In order that occasional consumers may share equally with others in those expenses that are only indirectly related to the use of current, a schedule consisting of a fixed monthly charge dependent on the active load, plus a uniform meter rate for current used should be provided for service of this kind. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 206.

Flat rates.

2. As a general proposition it is not advisable to establish flat rates except where the amount of energy used is so small as not to warrant the additional investment, or where a fixed installation is burned a certain number of hours. Of course, in the later case the amount of energy used can be easily and definitely computed, hence a meter is not necessary. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 499, 473.

Flat rates—Discriminatory nature of.

3. That flat rates ordinarily lead to unjust distribution of the operating burden has been found repeatedly in other cases. It is hardly necessary to demonstrate the need of abandoning such rates when the utility is ready to eliminate them. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 206.

Laundry rates for electric flat irons.

4. In the present case the question was raised as to the rates which a laundry should pay for current used by electric flat irons. The utility asks permission to establish a flat rate for this class of service. As a general proposition it is not advisable to establish flat rates except where the amount of energy used is so small as not to warrant the additional investment, or where a fixed installation is burned a certain number of hours. Of course, in the latter case the amount of energy used can be easily and definitely computed, hence a meter is not necessary. Coming back to this particular laundry, it seems that in view of the fact that its use of current for heating irons is mostly off-peak, it should be entitled to the power rate for this service. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 472.

Making rates—Elements considered—Cost of service—Lamp renewals.

5. In the present case it has been deemed advisable for the city to give free lamp renewals in lieu of the present method of allowing 10 cts. on each burned out carbon lamp that is returned. The reason for this is that one of the most common causes of poor service is due to the operation of lamps after they have depreciated below 80 per cent of their original efficiency, and that there is a disinclination, particularly on the part of consumers, to destroy a lamp which is still giving illuminating service. If the utility gives free lamp renewals this disinclination is removed. For the purpose at hand it can be assumed that a 50 watt carbon lamp will be burned about 800 hours before it is renewed, or, in other words, after it has used about 40 kw-hr. If the price of each lamp is 16 cts., this would mean a cost of about \$0.004 per kw-hr. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 455.

6. The installation of the tungsten street lighting system, also, necessitates an estimate of lamp renewals in the present case. From a great deal of data collected in this office it is safe to assume that the cost

over a period of years for maintenance and renewals will be near to 80 cts. per 1,000 burning hours. *In re Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 455.

Making rates—Elements considered—Cost of service—Output, capacity and consumer costs.

7. As the cost of serving electric consumers consists partly of a fixed charge dependent upon the demand and partly upon a charge that varies in proportion to the quantity of current used, the average cost of current per kilowatt hour decreases as the length of daily use increases. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 204-205.

8. It seems that, as a general rule, taxes, interest and depreciation should be included in the total operating expenses although the plant be municipally owned and operated. *In re Appl. Village of Arcadia*, 1912, 11 W. R. C. R. 216, 218.

9. In estimating the costs for municipal as well as for privately owned plants, it would seem to be necessary to take into consideration the operating expenses, depreciation, taxes, and interest on the investment. Operating expenses, including depreciation, are always present and must be actually met, no matter by whom the plants are operated. Taxes and interest charges may, in a sense, be dispensed with for municipal plants. That is, neither taxes nor interest may be actually assessed against such plants. On the other hand, taxes and interest charges are present in some form in all industrial activities. If such items as fixed charges are not considered by municipal plants in fixing rates for private consumers, it would seem that these consumers would be favored as against the taxpayers. There does not, on the whole, appear to be any equitable ground upon which such charges can be entirely eliminated in any industry or in connection with the services of any public utility." (*In re Appl. Madison City W. W.* 1909, 3 W. R. C. R. 299, 320.) *In re Appl. Village of Arcadia*, 1912, 11 W. R. C. R. 216, 218-219.

10. There is a certain relation of equity existing between consumers and taxpayers which demands that one be not benefited at the expense of the other. If a municipally owned utility does not pay taxes to the city just as a privately owned plant would, it means that taxes must be higher and that what the consumers of the utility do not pay through rates the taxpayers must. If all the taxpayers were consumers, this inequity would be considerably lessened, but as they are not, it seems only reasonable and fair that in this instance, at least, taxes at the rate of about 1 per cent on the present value should be included as a component part of a reasonable rate. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 456-457.

Meter rates—Straight meter rates.

11. The uniform meter rate is objectionable because it is as a rule unjust to certain classes of consumers. The only condition under which a rate of this kind can be just for all users is where all the customers have about the same installation and use the current about the same length of time each day. That such conditions of operation can ever be found, is difficult to assume. The reason for the injustice of the uniform meter rate is that the so-called capacity expenses depend very largely upon the installation or demand and not so much upon the amount of current consumed. These expenses remain the same per lamp, no matter whether it is used one hour per day or whether it is used four or ten hours per day. Assuming two consumers each having an installation of ten 16 c-p. lamps, the first using them one hour per day and the other four hours per day, the consumption in kilowatt-hours for the four hour user would be four times as great as for the

one hour user, and consequently the cost per unit for capacity expenses would be only one-fourth as large for the four hour user as for the one hour user. For the purpose of simplicity it may be assumed that one 16 c-p. lamp burning one hour each day will consume 1.5 kw-hr. The total consumption for the one hour user per month, as cited above, would be 15 kw-hr. and for the four hour user 60 kw-hr. for the same period. With a capacity expense of \$1.00 per month for an installation of ten 16 c-p. lamps, the capacity expense per kw-hr. for the one hour user would be 6.66 cts. and for the four hour user 1.66 cts. These facts prove that it would be inequitable to charge these two consumers a uniform meter rate, and furthermore show why the rates should not be the same for all classes of consumers. *In re Appl. Village of Arcadia*, 1912, 11 W. R. C. R. 216, 223-224.

Minimum rates.

See also post, 18.

12. In previous decisions the Commission has outlined in detail the reasons why a minimum bill is a desirable part of a utility rate schedule, and the nature of the expenses which small electric lighting plants must meet in order to be prepared to furnish service to metered consumers. (*In re Appl. Lancaster El. Lt. Co.* 1910, 6 W. R. C. R. 53.) (*In re Appl. Greenwood Mun. Lt. Plant*, 1910, 6 W. R. C. R. 60.) *In re Appl. Monticello El. Lt. Co.* 1913, 11 W. R. C. R. 265.

13. The minimum bill should make provision not only for the cost to the utility of being in a position to serve, but for current used by such small consumers as pay the minimum bill. *In re Appl. Monticello El. Lt. Co.* 1913, 11 W. R. C. R. 265, 266.

Power rates.

14. For the purpose of properly distributing the costs, it appears that the rate for power in the present case should consist of a fixed as well as a variable charge. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 207.

Reasonableness of advance in rates in particular cases.

15. Application was made by the New Glarus Mun. El. Lt. & W. Plant for authority to increase its electric rates, on the ground that the present rates do not meet expenses. A valuation of the property was made and the revenues and expenditures were investigated. An apportionment was made as between the electric and water plants, and a further apportionment as between the different departments of electric service. *Held*: The cost of the service warrants an increase in rates. The utility is authorized to discontinue its present schedule of rates for electric service and to put in effect the rates approved by the Commission. Provision is made for a discount for prompt payment. Free service is ordered discontinued, and the electric plant is to be credited for incandescent lighting service to the village. *In re Appl. El. Rates, New Glarus Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 53, 60-61.

16. Application was made by the Arcadia El. Lt. & W. Plant, for authority to increase its electric rates in Arcadia, Wis. It appears that the rate applied for will not produce revenues sufficient to operate the plant effectively and keep it in a reasonable state of efficiency. The object of the village, however, seems to be to charge as small a rate as is possible and still meet the necessary operating expenses. In view of the circumstances in the present case, taxes and interest may be dispensed with in estimating the cost of service. *Held*: The revenues derived from the rates suggested will be sufficient to meet the operating expenses of the plant and such ordinary increases as may occur from time to time. The applicant is authorized to discontinue its

present rates for electric current and to substitute the rates approved by the Commission. *In re Appl. Village of Arcadia*, 1912, 11 W. R. C. R. 216, 225-226.

17. Application was made by the Chetek Lt. & P. Co. for authority to increase its rates for electric service in Chetek, Wis. *Held*: It appears equitable in the present case to somewhat increase the maximum rate but to apply this maximum to a smaller consumption than heretofore. The applicant is ordered to discontinue its present schedule and to substitute the rates approved by the Commission. Consumers who have had special rates are to be placed upon their proper schedule. *In re Appl. Chetek Lt. & P. Co.* 1912, 11 W. R. C. R. 227, 234-235.

18. Application was made by the Monticello El. Lt. Co. for authority to put into effect a minimum rate of 50 cts. per month applicable to all consumers in Monticello, Wis. *Held*: A minimum charge of 50 cts. made up of 30 cts. to cover consumer expenses and 20 cts. to cover the cost of current does not seem to be excessive. The applicant is ordered to discontinue its present meter rental of 10 cts. per month and is authorized to amend its schedule by adding a minimum bill of 50 cts. per month. *In re Appl. Monticello El. Lt. Co.* 1913, 11 W. R. C. R. 265, 266.

Reasonableness of rates in particular cases.

19. Subsequent to a series of requests from the city's officials for assistance in revising and adjusting the rates and practices of its utilities, the Commission on its own motion investigated the rates, rules and regulations of the municipal electric plant at Evansville, Wis. A valuation of the property was made and the receipts and expenditures were investigated. An apportionment was made as between the plants and among the different departments of service. *Held*: Adjustments in the schedule are necessary in order to bring the rates into line with the cost of service for the different classes and departments. The utility is ordered to discontinue the electric rates now in force and to substitute the schedule approved by the Commission. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 212-214.

20. Application was made by the Columbus W. & Lt. Comm. for an adjustment of its electric rates in order to eliminate certain discriminations. A valuation of the property was made and the receipts and expenditures were investigated. An apportionment of the property and of the expenses was made as between the plants and among the different departments of the service. *Held*: The rates should be adjusted in order to secure more equitable conditions for the different classes and departments of the service. The applicant is ordered to discontinue its present electric rates and to substitute the rates approved by the Commission. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 472-474.

Reconnection charges.

21. Various consumers do not use their installations for a month or two of each year and are accustomed to request temporary disconnection to avoid the fixed or minimum charge. This results in additional expense to the utility for disconnecting and reconnecting services. A rule providing a nominal charge for reconnection on the same premises appears reasonable. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 206.

Street lighting rates.

22. As the burning period of the street lamps in the present case is liable to considerable fluctuation, it would be more satisfactory to establish a rate composed of a fixed and variable charge instead of a fixed amount per lamp per year. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 463.

RATES—GAS.

Making rates—Elements considered—Cost of service—Output, capacity and consumer costs.

23. Taxes are costs over which the utility has no control and their effect upon the cost per unit must be given serious weight in the determination of a rate schedule. *Meyer et al. v. Sheboygan G. Lt. Co.* 1913, 11 W. R. C. R. 309, 315-316.

Reasonableness of rates in particular cases.

24. Application was made by the Sheboygan G. Lt. Co., Sheboygan, Wis., for a rehearing in the matter of the rates ordered by the Commission in *Meyer et al. v. Sheboygan G. Lt. Co.* 1912, 9 W. R. C. R. 439. The utility suggests certain changes in the schedule and since the interests of its consumers are not adversely affected the company should be permitted to put the desired schedule into effect. *Held:* The additional evidence does not materially alter the Commission's conclusion that the rates should be substantially in accord with the earlier order in these proceedings. The respondent is ordered to discontinue its present rates and to substitute therefor either the schedule previously ordered by the Commission or the schedule suggested by the utility and approved by the Commission. The schedule selected by the utility is to be used exclusively. *Meyer et al. v. Sheboygan G. Lt. Co.* 1913, 11 W. R. C. R. 309, 316-317.

RATES—RAILWAY.

See REBATES OR CONCESSIONS; REPARATION; SCHEDULES OR TARIFFS; TERMINAL CHARGES; various commodity subject headings; WEIGHTS.

Commission, power of Commission to regulate rates, see RAILROAD COMMISSION, 6.

Departure from published rate prohibited, see SCHEDULES OR TARIFFS, 2. Minimum carload weights, see WEIGHTS, 1-11.

Transit privilege, granting of privilege, benefit to public, to carrier, and to shipper, see TRANSIT PRIVILEGES, 1.

Unreasonable rates, reparation for, see REPARATION, 1-31.

Carload rates.

25. Carload traffic is relatively much less costly to handle than less than carload traffic. For this there are many reasons: in the first place the carload loading is relatively heavy and this fact in turn materially reduces the proportion of dead weight to the pay weight that must be transported; it is also loaded and unloaded by the shippers and involves much less in the way of station, office and other services. *National Distilling Co. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 424, 428.

Carload rates—Mixed carload rates—In general.

26. A liberalization of mixtures in the classification and the resulting consolidation of small shipments into carload lots will tend directly to a better utilization of car space and the saving of investments in railway terminals and their operation. (*In re Suspension of Western Classifications* 51, 1912, 25 I. C. C. R. 442, 472.) *In re Rates on Agricultural Implements*, 1913, 11 W. R. C. R. 508, 531.

27. Carload mixture rules tend to increase the proportion of the carload traffic as well as the loading per car. They also operate as offsets to high minimum weight requirements and the great differences between carload and less than carload rates. *In re Rates on Agricultural Implements*, 1913, 11 W. R. C. R. 508, 533.

28. Anything which tends to deprive the retail dealer of carload privileges is a hardship upon him because of the higher rates for less than carload shipments. Where mixtures are allowed, and stop-over privileges are granted, it has been the practice for small dealers to combine on a carload shipment at a considerable saving. If mixtures are restricted such economies are largely prevented and if stop-over privileges are curtailed, such a combination of dealers along the line is impossible. By discouraging mixed shipments the carriers fail to give proper consideration to local commercial conditions. In many instances, the financial capacity of the small dealer, or the nature of the agricultural community that he supplies will not enable him to buy in straight carloads. By the aid of mixtures with his implements, however, he may be able to get the carload rate. *In re Rates on Agricultural Implements*, 1913, 11 W. R. C. R. 508, 533-534.

Carload rates compared with less than carload rates.

29. The reasons why less than carload freight is the more costly to handle are mainly found in its light loading per car, in the way it must be handled at the terminals, and in other conditions. It is doubtful whether the average loading of it reaches 6 tons per car while for the carload traffic the average is at least 17 tons. This causes the proportion of dead weight that must be carried to become exceedingly heavy and the cost per unit of pay weight to be relatively great. This handling of the less than carload freight at the terminals requires large forces of men, and at one end of the haul alone it often costs over 40 cts. per ton. It is also more costly to bill and record. It requires large freight houses for handling and storage purposes, the interest and maintenance charges of which should be borne by this class of freight. It is subject to much more in the way of losses and damages than carload freight. It further requires more supervision while in transit and relatively several times as many cars for its transportation. *In re Rates on Agricultural Implements*, 1913, 11 W. R. C. R. 508, 531-532.

30. Carload freight moves in carload lots that, on the average, are several times as large as less than carload shipments. The dead weight in proportion to the pay weight is, therefore, relatively small, and this materially reduces the cost per unit of moving the former. It is loaded and unloaded by the shippers. Outside of the clerical work about the only terminal service it needs is the switching. There are also other economies connected with it. It is apparent from this that the cost per unit must be much less for handling the carload than the less than carload traffic. In fact, this would seem to be so plain that it is hardly necessary to produce facts in its support. *In re Rates on Agricultural Implements*, 1913, 11 W. R. C. R. 508, 532.

31. Not only is the less than carload freight movement more expensive to the carrier than carload freight, but the higher less than carload charges are not sufficient to overcome the increased cost. We feel quite justified in saying that the less than carload traffic is relatively less profitable to the carriers than the carload traffic and that the higher rates for the former are more than offset by the greater cost of handling it. The conclusion to be drawn from this is that other things being equal, any rule which will tend to increase the carload proportion of the total traffic will also tend to increase the net earnings to the carriers. It is at any rate certain that such a change would not of itself tend to decrease such net earnings. As carload mixtures and stoppage in transit rules or privileges would materially increase the proportion of carload to less than carload shipments, it would also seem to be clear that they are advantageous to the carriers rather than otherwise from a financial point of view. In addition to this, they are also likely to have a tendency to reduce the steadily growing demand for more and better terminal facilities for handling the less than carload

traffic. This fact alone is of the greatest importance, especially in view of the constantly increasing costs of such facilities. *In re Rates on Agricultural Implements*, 1913, 11 W. R. C. R. 508, 533.

Commodity rates—Low grade commodities.

32. Since low grade commodities can bear but low rates and since heavy loading means relatively low cost of transportation, it also follows that the rate for such traffic should be a great deal lower than the average rate for all traffic. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 390.

33. That low grade traffic, especially when offered in great volumes, should be accepted for transportation at rates that contribute relatively less toward the fixed expenses of the carriers than is the case for traffic of higher grades, is a generally recognized fact in the transportation field. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 391.

Concentration rates.

Concentration rates, joint concentration rates on tobacco, Wisconsin points on the C. M. & St. P. Ry. and the L. C. & S. E. Ry. to Viroqua, Wis., see *post*, 75.

Concentration rates—In general.

34. There is no inconsistency in the establishment by the carrier of a different and lower basis of rates where the product is to be reshipped over the same line, than where no further movement is intended. *Marinette-Green Bay Mfg. Co. v. C. M. & St. P. R. Co.* 1912, 11 W. R. C. R. 133, 135.

35. Rates conditioned on reshipment of the product contemplate a different quantity of service than straight distance rates and are generally recognized as a separate and distinct kind of rate. *Marinette-Green Bay Mfg. Co. v. C. M. & St. P. R. Co.* 1912, 11 W. R. C. R. 133, 135.

36. The theory of the concentration rate which was urged as a bar to the relief asked in the present case is in general the theory upon which that rate is based and justified, namely, that lower rates in are intended to be compensated for by the collection of full tariff rates out. Strict adherence to this theory would result in refusal to grant concentration rates where the railway line divides the haul out. While there is a large measure of justification for some departure from this theory in the present case it is not to be understood that every carrier should be required to permit concentration shipments to leave its line and trust to the integrity and solvency of a more or less distant or unknown shipper on a foreign railroad line for the return of the commodity on the out-movement. *Borden Co. v. L. C. & S. E. R. Co. et al.* 1913, 11 W. R. C. R. 439, 443, 444.

Concentration rates—Legality of.

37. That a reshipment provision and lower rates based thereon with the idea of recouping on the haul of the product out are lawful in this state, cannot be doubted in view of the provisions of sec. 1797—6 of the Wisconsin statutes, which specifically legalizes rates of this sort. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 387.

Group or blanket rates—In general.

38. Group rates are often proper for long haul traffic. For short haul traffic, on the other hand, the contrary is often true. The reasons for this are obvious. To include in the same group a section of the country that in itself is as wide and as long as the average length of the haul of the commodities involved outside of this group, is more than

likely to result in inequitable distribution of the transportation charges as between shippers or shipping points. Some shippers are thereby often made to pay more than their share, while others are charged less. It may also deprive some of such natural advantages as they have because of their location. Such inequalities are likely to be severely felt, especially when the traffic involved is low grade traffic which at best can be moved but short distances, even at the lowest reasonable rates. All this is becoming more and more fully realized as time goes on, and it is these facts which are responsible for the tendencies on the part of the rate makers to gradually reduce the size and even to eliminate entirely groups of this sort. Such elimination, however, is painful to those who are adversely affected thereby; so much so, in fact, that it cannot often be safely made in any one step. Circumstances are even met with, especially where commercial conditions have been firmly adjusted to the group system, when the adverse effects of its elimination would, for the time being at least, more than offset the advantages derived therefrom. *Waukesha Lime & Stone Co. v. C. M. & St. P. R. Co. et al.* 1913, 11 W. R. C. R. 419, 421-422.

39. In cases such as the one under consideration where it would seriously disturb established conditions and injure productive capital, it is quite likely that the best interests of the greatest number are subserved by permitting the existing group rate system to remain in effect and by seeing to it that each producer secures such advantages in rates in his immediate neighborhood as those to which, because of his location, he is clearly and equitably entitled under this system of rate making. *Waukesha Lime & Stone Co. v. C. M. & St. P. R. Co. et al.* 1913, 11 W. R. C. R. 419, 422.

Joint or through rates.

Joint rates.

Joint concentration rates on tobacco, Wisconsin points on the C. M. & St. P. Ry. and the L. C. & S. E. Ry. to Viroqua, Wis., see *post*, 75.

Modification of, on lime, Waukesha to designated Wisconsin points on the C. M. & St. P. and C. & N. W. lines, see *post*, 59.

Reduction of, on pulp, Ellis Jct. to Park Falls, Wis., see *post*, 71.

Making rates—Elements considered—Cost of service.

40. In this, as in most railway cases, the principal basis of making rates must be the cost of performing the service. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 377.

41. Unit costs represent the results obtained when the operating expenses, including interest charges at the rates given, are apportioned between the different departments of the service and between the terminal and the movement portions of such service, and when the latter items are in turn distributed over the proper traffic and operating units. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 390.

Making rates—Elements considered—Cost of service—Terminal and movement expenses.

42. As distance is one of the most important factors in rate making, it is obvious that rates in which this factor has not received attention are likely to be out of line. *National Distilling Co. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 424, 427.

Making rates—Elements considered—Value of service.

43. It is impossible to ascribe a definite monetary significance to such elements as affect mainly the value of the service to the shipper. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 377.

Reasonableness of rates—Matters considered in determining reasonableness—Character of commodity.

See post, 79.

Reasonableness of rates—Matters considered in determining reasonableness—Comparative data.

44. Comparative rates are not of very great importance in the present case in the determination of reasonable rates because there is nothing to indicate whether the rates shown to be higher or lower rates are not unreasonably high or unreasonably low, and if they are unreasonable in either direction they furnish no safe basis for rates. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 389.

45. Where rates between specific points are compared there is often nothing to show how much traffic these rates affect or whether the points most heavily interested in the traffic are or are not included in the statements. It may be also that there are trainload rates or other special rates superseding in part the rates shown in the comparison as to large volumes of traffic. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 389.

46. Where the rates compared are distance rates it may well be that they are maximum rates on which little traffic moves. A further source of doubt in dealing with comparative rates may arise from the fact that there may be no data given to show what portion of a system they cover, or whether they apply over a whole system. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 389.

47. In using comparative data in determining the reasonableness of rates, consideration must be given to the fact that transportation conditions differ for different territories and it is not certain that, with long hauls and resulting high freight charges, the railway lines in regions having high rates would not reduce those rates. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 389.

48. Comparative rates, though instructive and worthy of attention if sufficiently complete, can by no means be controlling in fixing rates. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 389-390.

Reasonableness of rates—Matters considered in determining reasonableness—Competitive conditions.

See post, 79.

Reasonableness of rates—Matters considered in determining reasonableness—Cost of service.

49. The primary basis on which reasonable rates must be found is the cost of performing the service. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 390.

50. In the present case the cost analysis covers the cost value of the property and business of the carriers used in connection with their service; their earnings and operating expenses; the rates of return to which they are entitled on their investment; the nature of the traffic involved, its weight and value in proportion to its bulk, its position in these respects with reference to the remainder of the carrier's traffic; and many other facts. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 390.

Reasonableness of rates—Matters considered in determining reasonableness—Nature of the traffic.

See ante, 50; post, 79.

Reasonableness of rates—Matters considered in determining reasonableness—Risk.

See post, 79.

Reasonableness of rates—Matters considered in determining reasonableness—Relation to other rates.

See post, 71.

Reasonableness of rates—Matters considered in determining reasonableness—Value of articles carried.

See ante, 50; post, 79.

Reasonableness of rates in particular cases—Agricultural implements—Wisconsin points.

51. Subsequent to a number of informal complaints, the Commission on its own motion investigated certain portions of western classification No. 51 relating to rates on agricultural implements. The matters involved were previously brought before the interstate commerce commission and that commission issued an order suspending the classification for a period of 120 days for the purpose of investigation. Subsequently the carriers involved, by voluntary suspension, withheld the classification from enforcement in order that a complete investigation of the disputed issues might be made. The specific complaints for investigation by this Commission relate to the classification of binder twine; to the question of the carload minimum on agricultural implements, and the application of the rule for the sliding scale minimum; to the interpretation of the nesting rule; to the minimum charge on single shipments; and to the question of mixtures with agricultural implements. In addition to these matters unreasonable changes in classification were alleged for specific items. *Held:* The changes made by the western classification committee in many instances do not seem for the best interests of both carriers and shippers and the requests of the shippers on the whole appear fair and reasonable. It is ordered that the carriers designated and all other common carriers parties to western classification No. 51 and operating railway lines in whole or in part in Wisconsin, insofar as their intrastate business is concerned, so alter and revise western classification 51 as to incorporate the following: Binder twine is to be restored to its former listing under agricultural implements at a carload rating class A, taking a minimum of 20,000 lb. in mixed carloads with agricultural implements and a minimum of 24,000 lb. in straight carloads. The agricultural implement minimum is to be 20,000 lb. for a standard car of 36 feet in length. The nesting rule is to be revised so that two or more like articles fitting one within another may constitute a nest. Provision is to be made for a minimum charge on single shipments l. c. l. based on 100 lb. at the class or rate to which the commodity belongs but no charge is to be less than 25 cts. Disk harrows, potato planters, farm and logging trucks, and feed cookers are to be listed in the classification as approved. The mixture privilege is to be extended so as to permit mixture with agricultural implements of cattle stanchions, litter carriers, feed cookers, tank heaters, wheel barrows, scrapers, grindstones, rope, galvanized iron tanks, pump jacks, iron pipes, hand agricultural implements, and cream separators. *In re Rates on Agricultural Implements, 1913, 11 W. R. C. R. 508, 535-536.*

Reasonableness of rates in particular cases—Auto gear frames, North Milwaukee to Racine Jct., Wis.

52. Petitioner alleges excessive charges on shipments of auto gear frames from North Milwaukee to Racine Jct., Wis. At the time the

shipment moved, the rate charged was the only lawful rate applicable but subsequent to the shipment a lower rate was put into legal effect. *Held*: The rate exacted was unreasonable and exorbitant and a reasonable charge for the services rendered would have been the rate subsequently established. *Mitchell Lewis Motor Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 709, 710.

Reasonableness of rates in particular cases—Bolts, Wisconsin points on the M. St. P. & S. S. M. Ry. to Menasha, Wis.
See post, 64.

Reasonableness of rates in particular cases—Boxes, Milwaukee to Wisconsin points.

53. Complaint was made of the rates on wooden packing boxes from Milwaukee to Wisconsin points. The petitioner alleged that the present rates fixed at 5 cts. per cwt. above lumber rates, are excessive, especially when applied to the shorter distances. The petitioner also suggests that the minimum weight for carload shipments be increased from 16,000 lb. for cars 40 ft. and less in length, and 20,000 lb. for cars over 40 ft. in length, to a minimum weight of 20,000 lb., subject to rule 6—B of the western classification. *Held*: In order to remedy the unfair condition existing on the short haul the present rates should be adjusted on the percentage basis with a 5 ct. arbitrary as a maximum. It is ordered that the respondents discontinue the rates in question on their respective lines and substitute therefor a rate equal to 150 per cent of the rate on lumber, with a maximum excess over such lumber rates of 5 cts. per cwt. Minimum weights are to remain as at present. It is recommended that the respondents apply the rates as ordered upon traffic between all points on their respective lines in the state of Wisconsin. *Kieckhefer Box Co. v. C. M. & St. P. R. Co. et al.* 1912, 11 W. R. C. R. 101, 107.

Reasonableness of rates in particular cases—Crushed stone, gravel and sand, Wis. points on the C. M. & St. P. line.

54. The Commission, on its own motion, investigated the rates on sand, gravel, and crushed stone for Wisconsin points on the C. M. & St. P. Ry. In the case of the *Waukesha Lime & Stone Co. v. C. M. & St. P. R. Co. et al.* 1912, 9 W. R. C. R. 87 (on rehearing, 9 W. R. C. R. 347), the Commission established a distance tariff to be applied upon sand, gravel and crushed stone from Waukesha to all Wisconsin points on the lines of the respondents in that case. In the decision of the Commission on the rehearing of the case, the recommendation was made that the rates therein ordered for Waukesha be made general throughout the state by the carriers involved. This recommendation was followed by the C. & N. W. Ry. Co. and the M. St. P. & S. S. M. Ry. Co. also, though not a party to the case, put into effect the Commission's rates on these commodities. The C. M. & St. P. Ry. Co., however, has not adopted the distance rates proposed by the Commission, and various shippers on that line of railway have complained informally to the Commission of this fact. It appears that the respondent is willing to put the Commission's tariff into effect, provided that rates now lower than those named in that tariff may be raised to the level of the Commission's rates. *Held*: It seems inadvisable to delay longer the effectiveness of the Commission's rates on the respondent's line. It is ordered that the respondent make effective between all points upon its line of railway in Wisconsin the tariff of distance rates on sand, gravel and crushed stone fixed by the Commission for shipments from Waukesha, Wis., in its orders of April 25, 1912, and June 24, 1912 (9 W. R. C. R. 87, 347.) When the com-

pany is prepared to submit a list of the lower commodity rates which it desires to cancel, its application for authority to cancel them will be passed upon by the Commission in its regular course. *In re Invest. Rates on Sand etc. on C. M. & St. P. R.* 1912, 11 W. R. C. R. 98, 100.

Reasonableness of rates in particular cases—Excelsior bolts, Wisconsin points on the C. M. & St. P. line.

55. The petitioner alleged that the respondent formerly had in effect a tariff of distance rates on saw logs and bolts for manufacture and reshipment over its line, but that in a reissue of this tariff excelsior bolts were expressly excluded. The petitioner further alleged that the higher rates resulting from this change are unreasonable and excessive, and prayed that the reshipment rates formerly in effect be restored. It appears that the rates which were supposed to have superseded the reshipment rates were never in legal effect because the tariff was not submitted to the Commission for approval and has never been approved. The tariff at present in effect is therefore the one which the petitioner supposed was superseded. *Held*: Under the circumstances, it is unnecessary for the Commission to consider the merits of this case. Since the reshipment rate has never been lawfully canceled, and the higher basis of rates is not in effect on such of the petitioner's raw material as is to be reshipped over the respondent's line, the grievance complained of does not in contemplation of law exist. The petition is dismissed. *Marinette-Green Bay Mfg. Co. v. C. M. & St. P. R. Co.* 1912, 11 W. R. C. R. 133, 135-136.

Reasonableness of rates in particular cases—Grain, Owen to Milwaukee, Wis.

56. Complaint was made of excessive charges on shipments of rye and barley from Owen to Milwaukee, Wis. Subsequent to the shipment a lower rate was put into effect by the respondent. *Held*: The rate exacted was excessive and unjust and a reasonable charge for the service rendered would have been the rate of 10 cts. per cwt. as subsequently made effective. *New Richmond Roller Mills Co. v. F. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 272, 273.

Reasonableness of rates in particular cases—Gravel, Wisconsin points on the C. M. & St. P. line.

See ante, 54.

Reasonableness of rates in particular cases—Ice, Silver Springs to Cudahy, Wis.

57. The petitioner alleged that the respondent's rate of 2.5 cts. per 100 lb. on ice from Silver Springs to Cudahy, Wis., is excessive and unreasonable and prays that the rate be reduced to 1.75 cts. per 100 lb. The rate of 1.7 cts. per 100 lb., fixed by the Commission (9 W. R. C. R. 101) for the haul from Silver Springs to Milwaukee, a distance of 7 miles, was fixed after a careful study of the cost of service and the conditions surrounding the shipment and marketing of the commodity. In the present case there is an additional distance of 7 miles which would increase the movement costs, but terminal charges remain about the same. *Held*: An increase in the rate of 0.2 cts. per 100 lb. for the extra length of haul is about as much as the railway company is entitled to and the resulting rate of 1.9 cts. per 100 lb. is deemed reasonable in the present case. The respondent is ordered to discontinue its present rates between the points in question and to substitute therefor the rates prescribed by the Commission, subject to the same minimum weight and other regulations as at present in effect. *Wis. Lakes Ice & Cartage Co. v. C. & N. W. R. Co.* 1912, 11 W. R. C. R. 171, 174.

Reasonableness of rates in particular cases—Ice, Silver Springs to Milwaukee, Wis.

58. Application was made by the respondent railway company for a rehearing of that branch of the case which relates to the reparation awarded the petitioner in *Wis. Lakes Ice and Cartage Co. v. C. & N. W. R. Co.* 1912, 9 W. R. C. R. 101. The company contended that the reduction of the rate from 2 cts. to 1.7 cts. per cwt. on ice from Silver Springs to Milwaukee is so slight as to show conclusively that the rate of 2 cts. per cwt. was neither unusual nor exorbitant. *Held:* The language of the order is not an expression of a principle that the reduction in a rate necessarily resulted in reparation. We are convinced that the ruling in the matter was correct, and an application for a rehearing is denied. *Wis. Lakes Ice & Cartage Co. v. C. & N. W. R. Co.* 1912, 11 W. R. C. R. 62, 63-64.

Reasonableness of rates in particular cases—Lime, Waukesha to designated Wisconsin points on the C. M. & St. P. and C. & N. W. lines.

59. A petition was filed for a rehearing on the ground that the rates on lime, crushed stone, sand and gravel on the lines of the C. M. & St. P. & C. & N. W. fixed by the Commission in a former order (9 W. R. C. R. 87) are unreasonably low and discriminatory in favor of shippers at Waukesha. The rates on crushed stone, gravel and sand were disposed of in a former order (9 W. R. C. R. 347) and the rates on lime were left for further investigation. *Held:* It appears that the rates given in our former order, and which were suspended pending a rehearing of the case and such further order as might be made in the matter, should be modified. Respondents are ordered to discontinue charging the present rates on lime between Waukesha and the stations designated and substitute the rates approved by the Commission. The present minimum weights and rules of transportation are to remain in effect. *Waukesha Lime & Stone Co. v. C. M. & St. P. R. Co. et al.* 1913, 11 W. R. C. R. 419, 422-423.

Reasonableness of rates in particular cases—Liquor, Milwaukee to Wisconsin points on the C. & N. W. and C. M. & St. P. lines.

60. Petitioner alleges that the freight rates charged by the C. & N. W. Ry. Co. and the C. M. & St. P. Ry. Co. on liquor from Milwaukee to Wis. points are unreasonably high and discriminatory. *Held:* It appears that whiskey in carload lots should be transported at fourth class rates. The respondents are ordered to discontinue their present rates and to substitute class four rates on whiskey, alcohol, domestic brandy, cologne spirits, domestic gin, domestic rum, and high wines in wood and in glass packed in boxes in straight and mixed carloads. Minimum weights on such carloads are not to exceed 24,000 lb. It is recommended that this order be applied generally in this state. *National Distilling Co. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 424, 428-429.

Reasonableness of rates in particular cases—Logs, Smith's Spur to Merrill, Wis.

61. Complaint was made of excessive charges on shipments of logs from Smith's Spur to Merrill, Wis. It appears that the rate charged was published through error. After the shipment moved the respondent put a lower rate into effect. *Held:* The rate exacted was exorbitant and a reasonable charge would have been based on the rate as subsequently established. *A. H. Stange Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 725, 726.

Reasonableness of rates in particular cases—Logs, Valesco Jct. to Merrill, Wis.

62. Complaint was made of overcharges on shipments of logs from Valesco Jct. to Merrill, Wis. Respondent charged the legal rate in effect but previous to the shipment a lower rate had been in force and this rate was subsequently reestablished. *Held:* The rate exacted was unusual and exorbitant and a reasonable rate for the shipments in question would have been \$1.25 per thousand feet, the legal rate at present in effect. *A. H. Stange Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 274, 275.

Reasonableness of rates in particular cases—Logs, Wisconsin points on the M. St. P. & S. S. M. Ry. to Burlington, Wis.

63. Complaint was made of excessive charges on carload shipments of logs from Wis. points on the M. St. P. & S. S. M. Ry. to Burlington, Wis. It appears that the minimum weights as registered could not be loaded but subsequent to the shipments they were lowered. *Held:* The charges exacted were unusual and exorbitant and the rates as subsequently established would have been reasonable for the services rendered. *Badger Basket & Veneer Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 492, 495.

Reasonableness of rates in particular cases—Logs and bolts, Wisconsin points on the M. St. P. & S. S. M. Ry. to Menasha, Wis.

64. Complaint was made of excessive charges on shipments of logs and bolts from Wis. points to Menasha, Wis. The cars furnished could not be loaded to the minimum weights provided. Subsequently a supplement to the tariff provided a minimum on a sliding scale. *Held:* The rate exacted was unusual and exorbitant and a reasonable charge for the services rendered would have been based on the tariff as subsequently amended. *Menasha Woodware Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 746, 747.

Reasonableness of rates in particular cases—Logs and wood, Wisconsin points to Appleton, Kimberly, Combined Locks and Kaukauna, Wis.

65. Complaint was made of excessive charges on carload shipments of pulp wood and pulp wood logs over the respondent's line from various points in Wisconsin to Appleton, Kimberly, Combined Locks, and Kaukauna, Wis. It appears that these overcharges accrued through the failure of the respondent to allow for car stakes. Subsequent to the shipments the rule providing for deduction for car stakes was voluntarily made applicable over respondent's line. *Held:* The charges exacted were unusual and exorbitant and no charge should have been made for the transportation of car stakes. *Pulp Wood Co. v. C. & N. W. R. Co.* 1912, 11 W. R. C. R. 144, 146.

Reasonableness of rates in particular cases—Lumber, Athens to Viroqua, Wis.

66. Petitioner alleges excessive charges on carload shipments of lumber from Athens to Viroqua, Wis. The petitioner gave shipping directions for the shortest available route but the respondent shipped the cars by a longer route over its own line. *Held:* The rate exacted was excessive and a reasonable charge would have been a rate based on the shortest available route. *Reitbrock Land & Lbr. Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 447, 448.

Reasonableness of rates in particular cases—Lumber, Kaiser to Stoughton, Wis.

67. Complaint was made of excessive charges on a shipment of lumber from Kaiser to Stoughton, Wis. The respondents charged a rate based upon the lowest combination of locals which amounted to more than a through rate to Chicago, a greater distance from Kaiser than Stoughton. *Held*: Any change in the rate from Kaiser to Stoughton would affect unjustly the rates from a large number of points on the Omaha line now in the Kaiser group. Under the circumstances it would not be justifiable to disturb the rates of an entire group to accommodate an occasional shipment over an unusual route. Future shipments of the character in question are improbable and even if the volume of traffic should increase so as to require special consideration, it would be necessary to give all persons interested an opportunity to be heard before changing the rate in question. The petition is dismissed. *Blackwell & Kaiser v. C. M. & St. P. R. Co. et al.* 1913, 11 W. R. C. R. 267, 268.

Reasonableness of rates in particular cases—Lumber, Ladysmith, Wis.

68. Complaint was made of excessive charges on carload shipments of lumber from one industry to another in Ladysmith, Wis. It appears the distance tariff rate was exacted. Subsequent to the shipment, the respondent established a regular switching charge. *Held*: The charge exacted was unusual and exorbitant and the switching rate of \$5 per car, as subsequently established, would have been a reasonable charge for the services rendered. *Gillette-O'Leary Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 276, 277.

Reasonableness of rates in particular cases—Lumber, Rhinelander to Star Lake, Wis.

69. Complaint was made of excessive charges on a shipment of lumber from Rhinelander to Star Lake, Wis. The sum of the locals was charged when the petitioner was entitled to the through rate. *Held*: The rate exacted was excessive and unreasonable and a reasonable charge would have been 7 cts. per cwt., the through rate applicable. *A. S. Badger Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 434, 435.

Reasonableness of rates in particular cases—Piling, Buda, Hanley, Jarvis, Carlton and Sycamore to Bagley Jct., Wis.

70. Complaint was made of excessive rates on shipments of piling from Buda, Hanley, Jarvis, Carlton, and Sycamore, to Bagley Junction, Wis. The charges were based on the regular distance tariff rates applying on lumber at the time of shipment. It appears that the rates complained of are substantially higher than similar rates prevailing on other roads under substantially similar conditions. *Held*: The rates charged are unusual and exorbitant and the reasonable rates that should have been in effect and applicable to the shipments are the rates of the Wisconsin distance tariff, as in force generally as maximum rates on practically all Wisconsin lines. It is also recommended that the respondent make such further changes in its distance rates on lumber as may be necessary to bring them in line with the changes in class rates previously made effective. *Perley Lowe & Co. v. W. & M. R. Co.* 1912, 11 W. R. C. R. 108, 112—113.

Reasonableness of rates in particular cases—Pulp, Ellis Jct. to Park Falls, Wis.

71. Complaint was made of excessive charges on shipments of wood pulp from Ellis Jct. to Park Falls, Wis., over the C. M. & St. P. and M.

St. P. & S. S. M. lines. *Held*: The rate exacted was unreasonable and exorbitant, being higher than rates prevailing under substantially the same conditions and higher than the cost of transportation warrants. Respondents are ordered to discontinue the present joint rate on wood pulp and to substitute in lieu thereof a joint rate of 6.05 cts. per cwt., subject to the same minimum weight and other regulations as are now in effect. *Flambeau Paper Co. v. C. M. & St. P. R. Co. et al.* 1913, 11 W. R. C. R. 699, 704.

Reasonableness of rates in particular cases—Sand, Wisconsin points on the C. M. & St. P. line.

See ante, 54.

Reasonableness of rates in particular cases—Switching rates, Waupaca, Wis.

72. Application was made by the M. St. P. & S. S. M. Ry. Co. for authority to increase its rates for switching cars to and from the line of the W. G. B. Ry. Co. at Waupaca, Wis. *Held*: The increase for which the applicant asks is higher than the W. G. B. Ry. Co. is able to pay at the present time without entirely exhausting its reserve. It appears that \$2.75 per car for the switching service involved will cover the cost of performing the service together with a fair return on the property. The applicant is authorized to increase its switching rates to \$2.75 per car. *In re M. St. P. & S. S. M. R. Co's Waupaca Switching Rates*, 1913, 11 W. R. C. R. 485, 490-491.

Reasonableness of rates in particular cases—Tanbark, Heineman branch (point on) of C. & N. W. Ry. to Sheboygan, Wis.

73. Complaint was made of excessive charges on carload shipments of tanbark from a point on the Heineman branch of respondent's line to Sheboygan, Wis. It appears that the sum of the locals was charged. Subsequent to the shipments the Wausau group rate was put into effect. Under this rate the charges for the shipments in question would have been 8½ cts. per cwt. *Held*: The rate exacted of the petitioner is unusual and exorbitant and the reasonable rate for the services rendered would have been 8½ cts. per cwt. *Barker & Stewart Lbr. Co. v. C. & N. W. R. Co.* 1912, 11 W. R. C. R. 141, 143.

Reasonableness of rates in particular cases—Tanbark, Teddy, McInnis, Scott's Landing and Boehms to Milwaukee; Bunkers, Scotts, Algonac, and Boehms to Sheboygan; and Scotts to Kenosha, Wis.

74. Complaint was made of excessive charges on shipments of tanbark on the C. M. & St. P. Ry. from Teddy, McInnis, Scott's Landing, and Boehms to Milwaukee, Wis.; and on joint shipments over the C. M. & St. P. Ry. and the C. & N. W. Ry. from Bunkers, Scotts, Algonac and Boehms to Sheboygan, Wis.; and from Scotts to Kenosha, Wis. The petitioner alleged that the cars furnished would not hold the minimum rated capacity. It appears that the rule relating to minimum weights on tanbark applicable generally on Wisconsin lines was not applied. *Held*: The rates exacted were unreasonable and exorbitant and a reasonable charge in the present case would have been a rate based on the actual weight of the shipments. In order to obviate difficulties in the future, the railroad companies concerned are to file tariffs providing minima deemed reasonable by the Commission. *Barker & Stewart Lbr. Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 537, 547.

Reasonableness of rates in particular cases—Tobacco, Wisconsin points on the C. M. & St. P. Ry. and the L. C. & S. E. Ry. to Viroqua, Wis.

75. Petitioner alleges excessive charges on shipments of tobacco from Wisconsin points to Viroqua, Wis., over the C. M. & St. P. and the L. C. & S. E. lines and prays for the establishment of joint concentration rates. *Held*: The application of the sum of the local concentration rates is reasonable under the circumstances in the present case. However, since the facts are somewhat unusual the case cannot be considered as a precedent. The respondents are ordered to cease applying joint fourth class or second class rates on tobacco from points on the line of the C. M. & St. P. Ry. in Wisconsin, to Viroqua, for concentration at that point and reshipment therefrom over the lines of the respondent companies, and to substitute, in lieu thereof, a rate consisting of the sum of the present local concentration rates from the point of origin on the C. M. & St. P. line to Westby and the present local concentration rates of the L. C. & S. E. Ry. Co. from Westby to Viroqua. *Borden Co. v. L. C. & S. E. R. Co. et al.* 1913, 11 W. R. C. R. 439, 446.

Reasonableness of rates in particular cases—Wood, Crandon to Milwaukee, Wis.

76. Petitioner alleges unreasonable charges on shipment of fuel wood from Crandon to Milwaukee, Wis. It appears that the minimum on which the charge was based could not be loaded. Since the car supplied was exceptional, it does not appear to be necessary to order any change in the rules or to specially provide for future shipments. *Held*: The charge exacted was exorbitant and a reasonable rate would have been 4½ cts. per cwt. based on the actual weight of the shipment. *Oshkosh Fuel Co. v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 400, 401.

Reasonableness of rates in particular cases—Wood, Fenwood to Frances Creek, Wis.

77. Petitioner alleged excessive charges on shipments of kiln wood from Fenwood to Frances Creek, Wis. Complaint was made that the cars could not be loaded to the minimum weight required. It appears that if the respondent had furnished cars with lower minimum weights the rates would have been higher than the charges paid by the shipper. (*Standard Lime & Stone Co. v. C. M. & St. P. R. Co. et al.* 1912, 9 W. R. C. R. 228.) Petition is dismissed. *Maxson Lbr. Co. v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 269, 271.

Reasonableness of rates in particular cases—Wood, Wausaukee to Fond du Lac and Berlin, Wis.

78. Complaint was made of excessive charges on shipments of fuel wood from Wausaukee to Fond du Lac and Berlin, Wis. It appears that the rate charged was higher than a rate in force for a point further distant. Subsequently the rate for the further point was made applicable for Wausaukee. *Held*: The rate exacted was unusual and a reasonable charge for the services rendered would have been a rate of \$3.75 per cwt. as was subsequently made applicable. *Northern Wood Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 706, 708.

Reasonableness of rates in particular cases—Wood, Wisconsin points.

79. Complaint was made of the rates on pulp wood fixed by the Commission in a previous order. (*In re Rates on Pulp Wood*, 1908, 2 W. R. C. R. 168) In addition to alleging the unreasonableness of the present rates on pulp wood, the complainants charge unjust discrimination in the fact that rates on logs to be made into pulp are higher than the

rates on logs to be sawed into lumber and other articles. The rates which are attacked are in effect upon practically all of the railway lines in the state. In considering the reasonableness of the rates involved in the present case the cost of transportation, the character of the commodities, the conditions under which they are acquired and transported and the competitive features in the industries concerned were investigated. The very heavy loading, combined with very low value per cwt. show that, in addition to being a low grade commodity, pulp wood is handled at comparatively small cost on account of the large proportion of "pay" weight to "dead" weight in the car. An additional factor tending to reduce the cost to the carrier is the trainload character of a large part of the pulp wood movement. In addition to loading and unloading the cars themselves, many of the paper mills furnish switching engines to perform the terminal service at one or both ends of the haul. Furthermore, claims for loss or damage to pulp wood are exceedingly rare, the wreck of a train being almost the only contingency in which such claims are likely to arise. *Held*: The character of the pulp wood movement is such as to entitle it to a very low basis of rates. The respondents are ordered to discontinue their present rates on carload shipments of pulp wood between points on their respective lines within the state and to substitute in lieu thereof the rates approved by the Commission. The approved rates are to be subject to the same minimum weights and other regulations as are at present in effect. If it should be found that the rates on saw logs and lumber now under investigation should require readjustment and that such readjustment would require further changes in the rates on pulp wood as ordered herein, then it also follows that the necessary modifications in the present order will be made. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 391-392.

Reasonableness of rates in particular cases—Wood, Wisconsin points on the C. M. & St. P. R. to Brokaw, Wis.

80. Complaint was made that the rates on pulp wood from Wis. points on the C. M. & St. P. Ry. to Brokaw, Wis., are higher than the rates on saw logs and that the existence of a difference in the rates on the two commodities constitutes an unjust discrimination. *Held*: The rates ordered in the present *Pulp Wood Case* (11 W. R. C. R. 365) and applicable throughout Wisconsin are just and reasonable rates to be applied on shipments to Brokaw, considered both independently and in relation to the saw log rates. The petition is dismissed. *Wausau Paper Mill Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 417, 418.

Reasonableness of rates in particular cases—Wood, Wisconsin points on the M. St. P. & S. S. M. Ry. to Grand Rapids, Menasha, Neenah, Nekoosa, Port Edwards, and Rhinelander, Wis.

81. The M. St. P. & S. S. M. Ry. Co. petitioned for a rehearing of the matter relative to rates on pulp wood from Wisconsin points to Grand Rapids, Menasha, Neenah, Nekoosa, Port Edwards, and Rhinelander, Wis., decided in *Rhineland Paper Co. v. M. St. P. & S. S. M. R. Co.* 1912, 9 W. R. C. R. 111. It was alleged that the Commission was not justified in its finding of discrimination as between Rhinelander and Nekoosa and that the fixing of a lower distance scale was a discrimination against the "Soo" line. The railroad company also asked that the effectiveness of the former order (9 W. R. C. R. 111) be stayed until the determination of the matter upon rehearing. The pulp wood rates therefore at present in effect to the points in question are the distance rates established by the Commission in 1908. (*In re Rates on Pulp Wood*, 1908, 2 W. R. C. R. 168). The entire pulp wood rate situation

was investigated and an order issued (*Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.*, 1913, 11 W. R. C. R. 365) to reduce the existing distance scale of pulp wood rates throughout the state, the order to take effect February 14, 1913. This order established a distance schedule substantially the same as that fixed in the former decision (9 W. R. C. R. 111). The uniform application of the distance scale ordered in the former case (11 W. R. C. R. 365) will dispose of the charge of discrimination and will leave the rates on the intervener's pulp wood about equal to the rates in force at the time the original complaint of the Rhinelander Paper Co. was filed. *Held*: The facts in the present case warrant the establishment of the rates ordered in the former decision (11 W. R. C. R. 365) to the points in question as well as to other Wisconsin points. Respondent is ordered to discontinue its present rates on carload shipments of pulp wood from points on its line within the state to Grand Rapids, Menasha, Neenah, Nekoosa, Port Edwards and Rhinelander, and to substitute in lieu thereof the rates approved by the Commission. These rates are to be subject to the minimum rates and other regulations at present in effect. *Rhinelander Paper Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 393, 396, 398.

Reasonableness of rates in particular cases—Wood, Wisconsin points to Appleton, Kimberly, Combined Locks and Kaukauna, Wis.

See ante, 65.

Reduction in rates.

82. It is frequently found that gradual reductions in rates are better suited to commercial conditions than more sweeping ones. *Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365, 391.

Switching rates.

Waupaca, Wis., between the M. St. P. & S. S. M. Ry. and the W. G. B. Ry., *see ante*, 72.

On lumber, discrimination in switching rates, Rhinelander, Wis., *see DISCRIMINATION*, 5.

On lumber, substitution of switching charge for distance tariff rate, Ladysmith, Wis., on M. St. P. & S. S. M. Ry. line, *see ante*, 68.

83. In the present case the switching rate should be based upon the cost of service, including in such cost a reasonable return upon the property used in performing that service. *In re M. St. P. & S. S. M. R. Co.'s Waupaca Switching Rates*, 1913, 11 W. R. C. R. 485, 490.

Switching rates—Reciprocal switching rate.

84. In general, in order for a reciprocal rate to be granted, it is necessary that the industries and the volume of traffic originating from them be distributed fairly equally between the roads at the junction point. *In re M. St. P. & S. S. M. R. Co.'s Waupaca Switching Rates*, 1913, 11 W. R. C. R. 485, 488.

Through rates.

See ante, Joint or through rates.

Transit rates—In general.

85. Stoppage in transit rules tend to increase the proportion of the carload traffic as well as the loading per car. They also operate as offsets to high minimum weight requirements and the great differences between carload and less than carload rates. It is, of course, a fact

that the extra cost of stopping cars tends to reduce the importance of this privilege to the shippers. But even when reasonable charges are allowed for such cost this privilege would still seem to be of much value to all concerned. *In re Rates on Agricultural Implements, 1913, 11 W. R. C. R. 508, 533.*

RATES—STREET RAILWAY.

Customary rates.

86. The contention made by the respondent that no reduction in the rate of fare is permissible on the ground that the usual and regular fare of street railways in cities of a similar size is 5 cts., does not seem tenable. A study of urban railway rates in Wisconsin on file with the Commission discloses that out of a total of eighteen cities, three, or 17 per cent, have a straight 5 ct. fare, while 15, or 83 per cent, have a rate below 5 cts. in the form of ticket fares. These rates include 6 tickets for 25 cts., 8 for 25 cts., 15 for 50 cts., 25 for \$1.00, 35 for \$1.00, and 100 for \$4.50. Conditions in the present case do not seem to differ greatly from those of other cities of similar size in this state where the reduced fares are sold. *Superior Commercial Club et al. v. Duluth St. R. Co. 1912, 11 W. R. C. R. 1, 29.*

Reasonableness of rates in particular cases—Superior, Wis.

87. Complaint was made as to the reasonableness of street railway rates of the Superior division of the Duluth Street Ry. Co. furnishing street railway service in Superior, Wis. It was contended that the charge of 5 cts. is unreasonable and unjust and more than the service is reasonably worth, and that a reasonable return can be made for a much smaller fare than is now charged by the respondent. A valuation of the property was made and the revenues and expenditures were investigated. In distributing the proportions of the plant and its business as between Duluth and Superior, a percentage analysis was made of the miles of track operated, of the car-miles, of the car-hours, of the amount of revenue passengers carried, and of the operating revenues. *Held:* In view of all the facts in the case it appears that the surplus available for return upon the investment will permit of a reduction in rates and that the respondent company can establish a six tickets for a quarter rate without reducing its returns below a reasonable level. As a rule, such ticket rates increase the riding habit, and consequently bring a higher density of traffic. The expense of carrying such additional traffic would be more than offset by the increase in revenues due to a higher load factor. It is ordered that respondent in addition to its present rates of fare sell, through its conductors, six tickets for 25 cts., such tickets to be good for use at all hours of operation over any line, and subject to the existing transfer privileges. No changes are made in the rates for cash fares. *Superior Commercial Club et al. v. Duluth St. R. Co. 1912, 11 W. R. C. R. 1, 30–31.*

RATES—TELEPHONE.

Business and residence rates.

88. Business telephones ordinarily pay a higher rate than residence telephones. *In re Appl. Muscoda Mut. Tel. Co. 1913, 11 W. R. C. R. 666, 683.*

Charges to nonsubscribers.

89. The question of a charge to nonsubscribers is not directly involved in the present case. Such a charge has been held legal in the decision *In re Free and Reduced Rate Telephone Service, 1908, 2 W. R. C. R. 521, 544. Finding 4. Boscobel Tel. Co. v. Crawford Co. F. Mut. Tel. Co. et al. 1912, 11 W. R. C. R. 32, 36.*

Combination business and residence rates.

90. Where one business phone and one residence phone are on a line, each should be charged the two party for the class in which it belongs. Similarly, when there are three or four phones on a line, divided between business and residence, the three and four party rate for each class should apply. *In re Appl. People's Tel. Co.* 1913, 11 W. R. C. R. 499, 503.

Combination business and residence rate, discriminatory tendency of.

91. A so-called combined rate for a business telephone and a residence telephone which is less than the sum of the regularly published residence and business rates, is unlawful. (*In re Free and Reduced Rate Telephone Service*, 1908, 2 W. R. C. R. 521, 544.) *In re Appl. People's Tel. Co.* 1913, 11 W. R. C. R. 499, 506.

Extension of equipment, rates for.

Extension bells, rates for, *see post*, 103.

Extension telephones, rates for, *see post*, 103.

Free or reduced rate service.

92. In the present case the company is granting a rebate for repairs and equipment rentals. This is unlawful according to sec. 1797m—90 of the Public Utilities Law 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; provided nothing herein shall be construed as prohibiting any public utility from renting any facilities incident to the * * * conveyance of telephone messages and paying a reasonable rental therefor * * *." *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 183—184.

93. The Commission has determined that a telephone company may have subscribers who own their equipment and pay them a reasonable rental therefor, but rebates in the form of repairs or equipment rentals are unlawful. (*In re Badger Tel. Co.* 1908, 3 W. R. C. R. 98, 112). Some adjustments must be made in the present rate schedule which will eliminate the rebate and substitute in its stead a proper rental paid by the respondent to its subscribers in consideration of equipment supplied by them for the use of respondent. *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 184.

94. It has already been pointed out that to allow a rebate for equipment or services furnished by subscribers is unlawful. It is permissible, however, for the utility to pay its customers a rental for instruments supplied by them. "The company may purchase or rent such instruments, or the subscribers may continue to own the instruments they now have and the company may purchase new instruments wherever necessary, but no subscriber can be allowed a lower rate on account of his owning an instrument." (*In re Badger Tel. Co.* 1908, 3 W. R. C. R. 98, 112.) *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 189.

95. As the Public Utilities Law requires that all customers be treated alike, it is not possible to make a lower rate to stockholders than to the others. The only way in which they can be reimbursed is through dividends declared after allowance has been made for depreciation. *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 192.

96. The practice of charging a lower rate to stockholders than to nonstockholders is a discrimination in violation of sec. 1797m—90 of

the Public Utilities Law. *In re Appl. Rockland Tel. Co.* 1913, 11 W. R. C. R. 402, 408.

97. It should be noted here that the applicant's present practice of rebating to stockholders is unlawful under the terms of sec. 1797m—92. All subscribers, whether stockholders or not, must be charged the regular telephone rental as per company's schedule. If there are any profits, a portion of such rental would be returned in the form of dividends. *In re Appl. Muscoda Mut. Tel. Co.* 1913, 11 W. R. C. R. 666, 683.

Party line rates—Business rates.

See ante, 90.

Party line rates—Residence rates.

See ante, 90.

Reasonableness of advance in rates in particular cases.

98. Application was made by the Eastern Fond du Lac Tel. Co. for authority to increase its rates for rural service. The company operates rural lines in and about Eden, Fond du Lac county, Wis., and bases its application on the ground that the cost of labor and materials has increased during the last year and that the old code system is being replaced by a selective ring system. *Held*: An increase in rates is necessary to provide for operating expenses, taxes, depreciation and a reasonable return on the depreciated value. It is ordered that the company discontinue its present rate of \$12 per annum per subscriber on January 1, 1913, and substitute therefor a rate of \$14. *In re Appl. East Fond du Lac Tel. Co.* 1912, 11 W. R. C. R. 114, 117—118.

99. Application was made by the Random Lake Tel. Co. for authority to increase its rates. The company operates lines in the village of Random Lake and rural lines in Sheboygan and Ozaukee counties, Wis. *Held*: While the present flat rate of \$10 per subscriber per annum is insufficient, the rates proposed by the company appear somewhat excessive. The company is authorized to put in effect the rates approved by the Commission. In the present case a discount of 50 cts. per subscriber per quarter for payment within thirty days is reasonable. *In re Appl. Random Lake Tel. Co.* 1912, 11 W. R. C. R. 130, 132.

100. Application was made by the Rockland Tel. Co. operating in the town of Rockland, Manitowoc Co., Wis., for authority to increase its rates. *Held*: In view of the local conditions and of the rates upon other rural systems, an increase in the present case is reasonable. The petitioner is ordered to abandon that portion of its rate schedule which relates to annual rental charges and substitute therefor a charge of \$9 per year per phone; to pay an annual rental of \$1.50 to subscribers who own and maintain their own instruments; and to so adjust its accounts and records as to insure an annual provision for depreciation of not less than 7 per cent on the cost of the plant. *In re Appl. Rockland Tel. Co.* 1913, 11 W. R. C. R. 402, 409.

101. Application was made by the Melville Settlement Tel. Co. operating in the town of La Fayette, Chippewa Co., Wis., for authority to increase its rates. *Held*: In view of the fact that the utility furnished metallic circuits and has free service with a number of important exchanges, an increase is not unreasonable. The applicant is authorized to discontinue its present schedule and to substitute a rate of \$12.00 per phone per year. *In re Appl. Melville Settlement Tel. Co.* 1913, 11 W. R. C. R. 415, 416.

102. Application was made by the People's Tel. Co. operating exchanges at Rio, Randolph, Fox Lake, Cambria, Fall River, and Wyocena, Wis. for authority to increase its rates. *Held*: The facts available in the present case are not sufficient for a final adjustment of rates. When

the necessary records are available, a readjustment of rates may be made which will eliminate any defects that may exist in the tentative schedule authorized at this time. The respondent is ordered to discontinue its present rate for local business and residence service, and to substitute the rates approved by the Commission. Rates for local service are to be considered as payment for service through one exchange only, except that Rio and Wycocena are to be considered as one exchange, and except in cases where there is free exchange of service with other companies. A penalty of 15 cts. per month is to be applied to all classes of service for failure to pay bills within 20 days after they become due. The rates authorized are to become effective at such time as the utility installs a system of accounts conforming to the classification prescribed by the Commission. *In re Appl. People's Tel. Co.* 1913, 11 W. R. C. R. 499, 506-507.

103. Application was made by the Muscodia Mut. Tel. Co. for authority to increase and adjust its rates. The company is a combination of a number of farmers' mutual telephone companies with a single exchange in the village of Muscodia, Wis. *Held:* Since the records of the company are incomplete, the switching expense cannot be determined with absolute certainty, however, it appears that a \$4 charge per phone is excessive and that the \$3 rate now charged is ample. It is ordered that the application to increase the annual switching fee per phone be dismissed. The application for a special charge for business phones on a metallic system is dismissed; when the installation has been completed, the Commission will hear further application for adjustment of rates. The applicant is to pay to the owner of the Muscodia end of the Richland Center through lines an annual rental of \$65. Nonstockholders owning their telephones are to be paid an annual rental of 50 cts. per phone, and free telephone service now given to the local post office and the railway station is to be discontinued. The portions of the application seeking to establish a \$15 rate for business telephones, an extra charge of 25 cts. per month for telephones in less than a year, and an extra charge for extension telephones and extension bells is granted. The rates approved by the Commission are to be substituted for those now in effect. *In re Appl. Muscodia Mut. Tel. Co.* 1913, 11 W. R. C. R. 666, 684-685.

104. An application was made by the Viking Tel. Co. operating in the town of Clay Banks, Dcor county, Wis., for authority to increase its rates. *Held:* The increase seems entirely reasonable and the applicant is authorized to discontinue its present rate and to substitute a rate of \$4 per phone per year. *In re Appl. Viking Tel. Co.* 1913, 11 W. R. C. R. 697, 698.

Reasonableness of rates—Matters considered in determining reasonableness—Rate of return.

105. The rate of return that the net earnings constitute on a valuation of the property is of the greatest importance in determining whether any adjustments in the rates are warranted. *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 187.

Reasonableness of rates—Matters considered in determining reasonableness—Rental for equipment.

106. The practice of a telephone company in charging a rental to subscribers for equipment owned by another company is improper. The local company is expected to furnish telephone instruments to its subscribers. If the subscribers see fit to buy their own instruments complete, then the company should pay them a reasonable rental. Where instruments are not furnished by subscribers the company has the option of buying instruments complete or of getting them from another company and paying them rent for receivers and transmitters. In

either case, where equipment is owned by some one other than the company, the latter should pay a rental to the owner. Of course, this rental enters into the operating expenses of the plant and may necessitate higher rates to cover it. The rates should be sufficiently high to permit the utility to pay a rental for equipment used but not owned by it. The other procedure of levying a tax not stated in the published rates is illegal and leads to misunderstandings, such as we have in the present case. The only proper way, therefore, to treat rentals for receivers and transmitters is for the local company itself to pay them—entirely eliminating the yearly charge to customers. *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 189-190.

Reasonableness of rates in particular cases.

107. Complaint was made that the Matteson Tel. Co. unjustly charges certain subscribers in Shiocton and Welcome, Wis., an equipment rental for transmitters and receivers. Under the rules and regulations of the respondent, the subscribers furnish and maintain the telephone instruments. It appears that the transmitters and the receivers are under the control of the Wisconsin Tel. Co., and that the yearly rental of 50 cts. is turned over to that company by the respondent. At the time the subscribers purchased the instruments, they were under the impression that they had purchased the complete equipment. It appears that they do not question the reasonableness of the amount of the rental but object that the rental feature was not explained when the instruments were installed. It further appears that all who did not own their instruments complete were charged for the rent, and all who owned them complete were not charged, and thus no discrimination between the subscribers was practised. *Held:* The practice of levying a tax not stated in the published rates is illegal. The company should pay rent for the transmitters and receivers to the Wis. Tel. Co. and pay a rent to its subscribers for the balance of the equipment owned by them. The respondent is ordered to discontinue its present schedule and to substitute the rates approved by the Commission. Where the subscriber owns his telephone instrument complete and maintains it, he is to be paid a monthly rental of 25 cts.; where the subscriber owns all parts of the instruments excepting the receiver and transmitter, and maintains the telephone he is to be paid a monthly rental of 20 cts. Bills for customers and general books and records of the company are to be kept in the manner prescribed by the Commission. Rentals due the Wisconsin Telephone Company for Bell receivers and transmitters in use by the respondent are to be paid from the regular revenues and no special collection therefor shall be levied upon subscribers. Rural subscribers are to continue maintaining their telephones at their own expense, rates having been adjusted on the assumption that this would be the case; village phones are to be maintained by the company. The company is to adjust its accounting procedure so as to conform with the requirements of the Commission under the Public Utilities Law. *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 190, 193-194.

108. Complaint was made that the rates charged by the Wausau Tel. Co. in Wausau, Wis., are unreasonable. *Held:* Operating conditions do not warrant a general reduction of rates, nor a complete review of the rate schedule at the present time. The respondent is ordered to file a rate for party line business service which is to be less than the rate for single party business service. The other matters relating to rates are, for the present, dismissed. *Hoffman et al. v. Wausau Tel. Co.* 1913, 11 W. R. C. R. 480, 483-484.

109. Complaint was made that the service of the Lodi Tel. Exchange at Lodi, Wis., is inadequate on account of over-crowding on certain portions of the present system and the failure to provide additional lines. *Held:* In connection with the order for the improvement of the service

and the extension of lines, certain adjustments in rates are deemed necessary. The respondent is ordered to collect a toll charge of 10 cts. per message on outgoing calls from Lodi to Prairie du Sac; to divide the toll revenue from the Lodi-Prairie du Sac toll line according to agreement between the parties involved; and to abandon its practice of giving free toll service to certain patrons and charge them the regular toll rates for such service. *Johnson et al. v. Lodi Tel. Exch.* 1913, 11 W. R. C. R. 713, 723-724.

110. Application was made by the Casco & Brussels Tel. Co., operating in Casco, Wis., for authority to charge 15 cts. for all toll calls without regard to distance. *Held:* There appears to be no reason in the present case why distance should not be recognized as a factor in determining toll rates, and the petition for increase is dismissed. Attention should be called to the fact that the utility appears to be charging \$2 per month for single party business phones, although the legal rate on file is \$2.25. As this change has constituted a reduction, it is authorized. *In re Appl. Casco & Brussels Tel. Co.* 1913, 11 W. R. C. R. 760-761.

Rental for equipment and facilities—Paid by utility to consumer.

111. Since the company in the present case has been spared the investment in rural phones and since they are maintained by the owners themselves, the company can afford to pay a rental which will include interest, depreciation, and ordinary maintenance for the investment. *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 189.

112. Under sec. 1797m-90 of the Public Utilities Law it is permissible for utilities to pay a rental for equipment or facilities furnished by the subscribers. *In re Appl. Rockland Tel. Co.* 1913, 11 W. R. C. R. 402, 408.

113. In the present case there are about seven renters (nonstockholders) who own their telephones. Practically all, if not all instruments used by stockholders are owned by the individuals. In the latter case the phones were offered as part payment of a share of stock and the transaction is proper, but in the former there is no reason why the equipment should be furnished by the subscribers. In all instances where nonstockholders own their instruments, an annual rental should be paid, equivalent to interest on the investment. A rental of 50 cts. a year will about cover this. Since all phones are maintained and replaced by the applicant, no rental to cover depreciation need be paid the renters who own telephones. *In re Appl. Muscoda Mut. Tel. Co.* 1913, 11 W. R. C. R. 666, 684.

Switching rates.

114. Complaint was made by the Boscobel Tel. Co., operating an exchange in Boscobel, Wis., that it has been unable to reach an agreement with the respondent companies concerning the terms and conditions for the continuance of physical connection, and that such joint use as now exists is under unreasonable conditions and without adequate compensation to the petitioner. The petitioner asks that physical connection be continued, that reasonable conditions and compensation therefor be established. The respondents alleged that the value of the extended field of telephone service afforded the petitioner, offsets any expense which it may incur in connection with the switching service. *Held:* There appear to be no conditions in the present case which make it proper for the petitioner to perform switching service free for rural lines which have other connections than the one at Boscobel, while those which have no other connections pay for the service. The nature of the service furnished by the petitioner in the two cases is identical. The fact that those lines whose subscribers pay nothing to the applicant have other connections which may be used by the Boscobel company, does not affect the switching service furnished in connection with

calls either from the patron directly to the Boscobel central or from that central directly to the patrons. The switching service to parties connected directly with the Boscobel central constitutes an integral part of the exchange business and should be charged for as such, without regard to the amount of toll business or the extent of the field for such business. A switching rate of \$1.50 seems to be entirely reasonable. This rate covers the cost to the applicant of doing its part in the handling of calls to or from rural lines, including calls which pass through one or more rural centrals. While the number of calls per phone differs very greatly on the various lines, as long as the policy of furnishing unlimited service is followed it will be necessary to charge all users who use the same class of service the same rates for that service. It is ordered that the petitioner charge \$1.50 per year for switching service for each rural phone which can ring the Boscobel central directly or be called directly from that central. Bills for this service, in the case of companies having other connections, are to be rendered directly to the companies concerned. *Boscobel Tel. Co. v. Crawford Co. F. Mut. Tel. Co. et al.* 1912, 11 W. R. C. R. 32, 36-37, 41.

115. Complaint was made by the Union Tel. Co., operating an exchange in Prairie du Chien, Wis., as to the terms and conditions of joint use of the systems of the Union Tel. Co. and the Western Crawford Co. Farm. Mut. Tel. Co. and other connected lines. It appears that respondents' exchanges located at Eastman and Bridgeport have connections with the petitioner's switchboard at Prairie du Chien, and that no charge is made by the petitioner for calls coming into its central over any of the lines involved, but the petitioner charges its own subscribers toll rates for all messages originating on its lines and transmitted over the connecting lines involved in this case. The petitioner alleges that physical connection between the systems involved is necessary, that joint use is at present carried on under unreasonable conditions, and that the companies concerned have been unable to reach any agreement as to payment. The petitioner asks that the Commission fix the terms upon which joint use shall continue. *Held*: If the calls from rural lines directly connected to local stations are in the nature of exchange business, it is only reasonable to consider calls which originate in Prairie du Chien and terminate on these rural lines, as exchange business also. The most equitable way of dealing with subscribers who are able to ring Prairie du Chien directly appears to be to charge an annual switching fee to pay for work done. A switching rate of \$2.50 per year for rural phones which can ring Prairie du Chien directly is believed to be reasonable. This should apply to all such phones, including those which are now charged \$5.00 per year. This does not cover the entire cost of the service, but it covers that part which is properly chargeable to the rural users concerned. The rest is chargeable to the city subscribers and should be obtained from the rates for local service. The petitioner is ordered to make an annual charge of \$2.50 for switching for all rural telephone users on lines not owned by the petitioner who can call the Prairie du Chien central directly and who can be called directly from that central. The petitioner may bill the service either to the individual users concerned or to the companies to whose lines their phones are connected. Until the accounts are in better shape, it will be impracticable to determine the true condition of the utility. The petitioner should improve its accounting methods, and the Commission will be ready to render assistance in this matter. *Union Tel. Co. v. Western Crawford Co. F. Mut. Tel. Co. et al.* 1912, 11 W. R. C. R. 42, 51-52.

Switching rates—Free exchange of toll service.

116. In a previous decision the Commission has explained that free exchange of toll service is prohibited "for a part only of the subscribers

of a telephone company similarly situated, and not for all of the subscribers." In the arrangements under consideration all subscribers similarly situated are treated alike and the free exchange is permissible. (*In re Free and Reduced Rate Telephone Service*, 1908, 2 W. R. C. R. 521, 542.) *In re Appl. Muscoda Mut. Tel. Co.* 1913, 11 W. R. C. R. 666, 678-679.

Switching rates—Free exchange service between different exchanges.

117. In the present case it seems fair to assume that, since the number of phones on the respective lines so nearly correspond, the switching at one end about offsets that at the other. *In re Appl. Muscoda Mut. Tel. Co.* 1913, 11 W. R. C. R. 666, 678.

118. Although it is permissible for a telephone utility to furnish exchange service free of charge, there is no obligation that the utility shall do so. *In re Appl. People's Tel. Co.* 1913, 11 W. R. C. R. 499, 503.

Temporary service rates—Extra charges permissible.

119. It is only fair to allow an extra charge for interrupted service. Telephones installed or used for short periods of time, such as telephones in summer cottages, temporary business places, etc., may justly be charged a higher rate than the proportional part of the regular annual rate for the respective classes of service. (*In re Free and Reduced Rate Telephone Service*, 1908, 2 W. R. C. R. 521, 545.) *In re Appl. Muscoda Mut. Tel. Co.* 1913, 11 W. R. C. R. 666, 683.

Toll rates—Additional expense due to lack of physical connection.

120. The expense of toll calls, when a physical connection is established, is not as great as in cases where no physical connection exists, because the line is disconnected until the party can be reached by messenger or otherwise, when a connection must again be made with the toll lines. *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748, 752.

Toll rates—Adjustment of toll rates subsequent to physical connection.

121. In the peculiar situation found in the instant case, it is possible to prescribe terms and conditions which will preserve the interests of the utilities, respectively, after the connection has been made. The subscriber of one company desiring toll service over the lines of the other company must pay in addition to the rate charged the patrons of the latter company a reasonable compensation for the additional service. Neither company will be permitted to absorb such additional charge, but the same must be paid by the patrons of either company using the toll lines of the connecting company. This will not result in any discrimination between subscribers of the same exchange, but will result in a just and necessary discrimination between the subscribers of the different exchanges. A subscriber, who has not installed the telephones of both exchanges, is not entitled to the toll service of both exchanges without paying an additional charge to the exchange with which he is not connected when desiring to use its toll line facilities. *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748, 758.

Toll rates on rural lines.

122. Complaint was made by the Boscobel Tel. Co., operating an exchange in Boscobel, Wis., that it has been unable to reach an agreement with the respondent companies concerning the terms and conditions for the continuance of physical connection, and that such joint use as now exists is under unreasonable conditions and without adequate compensa-

tion to the petitioner. The petitioner asks that physical connection be continued, that reasonable conditions and compensation therefor be established, that joint toll rates be fixed, and that the question as to who should pay the expenses of maintaining the connections be determined. *Held*: In the present case it seems almost impossible to separate the cost of switching such portion of the calls as are virtually exchange business from those which are in the nature of toll business. It does not appear necessary to establish a message rate for calls which pass through one or more rural centrals and with the present conditions existing on the rural lines it would be difficult to enforce such a rate. As long as the rural lines are so managed that through messages come over the same lines to which patrons have connection, the best that can reasonably be done is to treat all calls, as far as the applicant is concerned, as if they involved the phones directly connected. *Boscobel Tel. Co. v. Crawford Co. F. Mut. Tel. Co. et al.* 1912, 11 W. R. C. R. 32, 38, 40-41.

123. Complaint was made by the Union Tel. Co., operating an exchange in Prairie du Chien, Wis., as to the terms and conditions of joint use of the systems of the Union Tel. Co. and the Western Crawford Co. Farm. Mut. Tel. Co. and other connected lines. It appears that respondents' exchanges located at Eastman and Bridgeport have connections with the petitioner's switchboard at Prairie du Chien, and that no charge is made by the petitioner for calls coming into its central over any of the lines involved, but the petitioner charges its own subscribers toll rates for all messages originating on its lines and transmitted over the connecting lines involved in this case. The petitioner alleges that physical connection between the systems involved is necessary, that joint use is at present carried on under unreasonable conditions, and that the companies concerned have been unable to reach any agreement as to payment. The petitioner asks that the Commission fix the terms upon which joint use shall continue. *Held*: The calls from telephone users connected with respondents' lines who are unable to ring Prairie du Chien directly are in the nature of toll business. The present method of handling this business is inequitable in that calls originating on the petitioner's lines and transmitted over the connecting lines are charged for, while messages from the connected lines coming into the Prairie du Chien central are handled free. The most equitable schedule is the one which most nearly results in securing payment for the service from the parties actually served. Information from which to determine the cost per message for this business is not complete at the present time. A tentative rate of 3 cts. per call is ordered established on all messages to or from Eastman and Bridgeport on points on the respondents' lines, beyond these centrals. The petitioner may bill the service either to the individual users concerned or to the companies to whose lines their phones are connected. Until the accounts are in better shape, it will be impracticable to determine the true condition of the utility. The petitioner should improve its accounting methods, and the Commission will be ready to render assistance in this matter. *Union Tel. Co. v. Western Crawford Co. F. Mut. Tel. Co. et al.* 1912, 11 W. R. C. R. 42, 51-52.

RATES—WATER.

Discrimination in water rates, *see* DISCRIMINATION, 3.

Fire protection rates.

124. In view of the fact that payments for interest and redemptions of bond issues have been met by general village taxes rather than from the earnings of the plant, it seems fair in this instance to consider them as paid in lieu of hydrant rental. *Rollins et al. v. Village of Montfort*, 1913, 11 W. R. C. R. 278, 288.

125. Hydrant rental is an expense which should be borne by the taxpayers for service rendered to them as distinguished from service rendered to general consumers. *In re Appl. Village of Oregon*, 1913, 11 W. R. C. R. 548, 550-551.

Flat rates.

126. Flat rate schedules generally can not secure payment from individual consumers strictly in accordance with the use made of the service by the consumers. *In re Appl. Village of Oregon*, 1913, 11 W. R. C. R. 548, 551.

Fountain rates—Public fountain rates.

127. In the present case water used by public fountains is to be charged for at commercial rates. The amount of water used by fountains not metered is to be estimated from the amount used by similar fountains that are metered. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 215.

Free or reduced rate service.

128. The Public Utilities Law prohibits the granting of any lower rates to consumers who own their own meters than to those who do not. *In re Appl. City of Neenah*, 1912, 11 W. R. C. R. 119, 128.

Hydrant rental.

See ante, Fire protection rates, 124-125.

Making rates—Elements considered—Cost of Service—Electrolysis, prevention of.

129. If the utility has taken reasonable precautions to prevent electrolytic damage, as it appears to have done in the present case, there seems to be no adequate reason for excluding from operating expenses the cost of maintaining services if the expenses of such maintenance are not otherwise abnormal. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 257.

Making rates—Elements considered—Cost of service—Management, wages of.

130. It is a difficult matter to determine what are reasonable payments for such service as that rendered by the general officers and directors. It appears that a considerable part of the work done by such officials has to do with the management of the investment in the property and with such matters as improvements, extensions and replacements. It is undisputed that for a number of years the officers received very little in the way of direct payment for their services, but petitioner contends that this was offset by stock bonuses given to the officers. Respondent's stand upon this matter is that the services rendered by the officers are worth more to the utility than the amount of their salaries. It may be that a distinction should be made between what the services are worth to investors, who are thereby assured of an efficient management of their investment, and what they are worth to the utility, considered as an operating entity. That the services rendered by the officers have a value to the operating utility can hardly be questioned, and it does not appear that for a utility, such as respondent in this case, a payment of \$2,500 per year for salaries of general officers is very far, if at all, above a proper amount. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 256.

Making rates—Elements considered—Cost of service—Output, capacity and consumer costs.

131. In the present case provision must be made for interest and depreciation upon the additional investment for meters and for such expenses as reading and maintaining meters, together with such office expenses as are incurred as a result of the meter system. *In re Appl. City of Neenah*, 1912, 11 W. R. C. R. 119, 122.

132. That it is proper to include an allowance for taxes in a municipal plant has been determined in a number of previous decisions (*Dick et al. v. Madison Water Comm.* 1910, 5 W. R. C. R. 731 to 746). *Rollins et al. v. Village of Montfort*, 1913, 11 W. R. C. R. 278, 285.

133. There is a certain relation of equity existing between consumers and taxpayers which demands that one be not benefited at the expense of the other. If a municipally owned utility does not pay taxes to the city just as a privately owned plant would, it means that taxes must be higher and that what the consumers of the utility do not pay through rates the taxpayers must. If all the taxpayers were consumers, this inequity would be considerably lessened, but as they are not, it seems only reasonable and fair that in this instance, at least, taxes at the rate of about 1 per cent on the present value should be included as a component part of a reasonable rate. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 456-457.

Reasonableness of advance in rates in particular cases.

134. Application was made by the city of Viroqua, Wis., for authority to increase its rates for city service. It appears that the utility has been actually operating under a schedule which it seeks to have authorized. *Held*: In view of the fact that the schedule appears to have given general satisfaction without resulting in injustice to any class of consumers, and without yielding an excessive revenue, the applicant is authorized to put the schedule of rates as submitted into effect. *In re Appl. City of Viroqua*, 1913, 11 W. R. C. R. 330, 332.

135. Application was made by the Cashton Mun. Lt. & W. Comm. for authority to increase rates for water service in Cashton, Wis. After originally filing rates under the provisions of the Public Utilities Law, which should not have been filed, the village adjusted the rates so that those which it now asks to have established as the legal rates have actually been charged for some time past. *Held*: The schedule should be approved subject to such review as may appear necessary at some later time. The applicant is authorized to put into effect the schedule of rates as submitted. *In re Appl. Cashton Mun. Lt. & W. Comm.* 1913, 11 W. R. C. R. 410, 413-414.

136. Application was made by the village of Clinton for authority to increase rates for meter service in Clinton, Wis. It appears that the rates which were originally filed pursuant to the Public Utilities Law were not the rates which should have been filed. Subsequently these rates were changed without authority from the Commission. The applicant asks that these rates which have been in effect for some time past be legalized. *Held*: The fact that the utility is earning only about 3 per cent upon the cost of the plant to provide for interest and depreciation indicates that the schedule of rates asked for is not excessive. The applicant is ordered to put into effect the schedule of rates approved by the Commission. Whatever revision of the meter rates may appear necessary after further investigation can be made a matter for separate order. *In re Appl. Village of Clinton*, 1913, 11 W. R. C. R. 496, 498.

137. Application is made by the village of Oregon, Wis., for authority to increase its rates for water service. *Held*: So far as it is possible to determine the equitableness of any flat rate schedule, the changes which are proposed appear to be reasonable. The village is authorized to put

in effect the amended schedule. *In re Appl. Village of Oregon, 1913, 11 W. R. C. R. 548, 551.*

138. Application was made by the village of New Glarus, Wis., for authority to increase its rates. The village wishes to install meters and to put in effect meter rates. *Held:* The schedule submitted is reasonable. The applicant is authorized to adopt the schedule of meter rates as approved by the Commission. *In re Appl. New Glarus Lt. & W. Plant, 1913, 11 W. R. C. R. 711, 712.*

Reasonableness of rates in particular cases.

139. Application was made by the city of Neenah, Wis., for a revision of its water rates so that its water works plant may be placed upon a paying basis. A valuation of the property was made and the receipts and expenditures were investigated. An apportionment was made over output, capacity and consumer expenses and a further apportionment among the different departments of the service. *Held:* Certain adjustments in the rates for general service and for fire protection are necessary in order to bring them into line with the cost of service. The rates for sprinkling systems and for street sprinkling are to remain the same. It is ordered that the city of Neenah discontinue its present rates and substitute the schedule approved by the Commission. If the experience of the utility shows that a reduction in the charge for water under the meter rates can be made, a further revision will be undertaken when the necessary facts are available. *In re Appl. City of Neenah, 1912, 11 W. R. C. R. 119, 128-129:*

140. Subsequent to a series of requests from the city's officials for assistance in revising and adjusting the rates and practices of its utilities, the Commission on its own motion investigated the rates, rules and regulations of the municipal water plant at Evansville, Wis. A valuation of the property was made and the receipts and expenditures were investigated. An apportionment was made as between the plants and among the different departments of service. *Held:* Adjustments in the schedule are necessary in order to bring the rates into line with the cost of service for the different classes and departments. The utility is ordered to discontinue the water rates now in force and to substitute the schedule approved by the Commission. *In re Invest. Evansville Mun. El. Lt. & W. Plant, 1912, 11 W. R. C. R. 197, 212-215.*

141. Petitioner alleges that the rates charged for water in Green Bay, Wis., are unreasonable and asks that they be reduced. A valuation of the property was made and the revenues and expenditures were investigated. An apportionment was made as between output and capacity expenses and a further apportionment as between fire and general service. It appears that the utility has been supplying water free of charge to public buildings, school houses, and fountains, troughs, and parks. These services should be charged for at the regular rates. *Held:* The present schedule is inequitable and the respondent is ordered to substitute the rates approved by the Commission. By charging users now supplied free of charge and extending the meter system to include the greater part of the consumers, the rates for meter service as outlined will probably be adequate. If experience shows that results are not as anticipated, such adjustments will be made as experience indicates are necessary. *City of Green Bay v. Green Bay W. Co. 1913, 11 W. R. C. R. 236, 263-264.*

142. Complaint was made that the water rates of the village of Montfort, Wis., are inequitable, in that customers using very different quantities of water are paying the same rates; that the rate for lawn sprinkling has not been enforced; that there are half a dozen taps in yards that are used jointly by the neighborhood; that no part of the salary of the village marshal had been charged against the water plant, although the care of the water works was his chief business; that the records of the village are not properly itemized so as to enable the full

cost of operating the plant to be determined; that the plant is running at a loss; that it has never been able to finance its own extensions but the village has always issued its bonds therefor, and that the expense of operating the plant is a great deal heavier than the expense would be of maintaining a plant solely for fire protection. It appears that this complaint is in substance a protest from non-watertakers who feel that their taxes should include, for the support of the water works, only such an amount as is proper to pay for fire protection and who charge that under present rates, the consumers do not pay enough to support the service, so that the deficit has to be borne by the village taxpayers. *Held*: The present rates are inequitable. The respondent is ordered to discontinue its present schedule and to substitute the graded flat rates and meter rates approved by the Commission. The utility is to supply meters for the consumers using water motors and for other large consumers as designated. Because of the particular local conditions it is not practicable to raise the rates sufficiently to make up the entire deficit from general water service. Whatever shortage remains must be borne by the village taxpayers, as the water plant is a village enterprise which has failed to prove profitable as a business. *Rollins et al. v. Village of Montfort*, 1913, 11 W. R. C. R. 278, 289-292.

143. Application was made by the Columbus W. & Lt. Comm. for an adjustment of its water rates. It appears from the testimony that the chief purpose of the application is not to increase rates but to establish an equitable meter rate for water service. Heretofore water has been supplied almost entirely on a flat rate basis but consumers are now being put on meters as fast as possible. A valuation of the property was made and the receipts and expenditures were investigated. An apportionment of the property and of the expenses was made as between the plants and among the different departments of the service. *Held*: The rates should be adjusted to the meter basis. The applicant is ordered to discontinue its present rates for water and to substitute the rates approved by the Commission. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 472-475.

144. Application was made by the Village of Elkhart Lake, Wis., for authority to readjust its rates so as to change from a flat rate to a meter rate basis. *Held*: The schedule provided appears reasonable and the applicant is ordered to discontinue its present schedule and to substitute the rates approved by the Commission. After accurate records have been kept for some time, such revisions may be made as appear necessary. *In re Appl. Village of Elkhart Lake*, 1913, 11 W. R. C. R. 690, 695-696.

REAL PROPERTY.

As element in the valuation of the physical property of public utilities, see VALUATION, 7.

REASONABLE RETURN.

See RETURN.

REASONABLENESS OF RATES.

See RATES.

REBATES OR CONCESSIONS.

Allowance to customer of water utility on account of ownership of instrument or facility—Rate concession prohibited.

1. The Public Utilities Law prohibits the granting of any lower rates to consumers who own their own meters than to those who do not. *In re Appl. City of Neenah*, 1912, 11 W. R. C. R. 119, 128.

Allowance to subscribers of telephone utility for repairs and equipment rentals—Rate concession prohibited.

2. In the present case the company is granting a rebate for repairs and equipment rentals. This is unlawful according to sec. 1797m—90 of the Public Utilities Law 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; provided nothing herein shall be construed as prohibiting any public utility from renting any facilities incident to the * * * conveyance of telephone messages and paying a reasonable rental therefor * * *." *Knapp et al. v. Matteson Tel. Co. 1912, 11 W. R. C. R. 180, 183—184.*

3. The Commission has determined that a telephone company may have subscribers who own their equipment and pay them a reasonable rental therefor, but rebates in the form of repairs or equipment rentals are unlawful. (*In re Badger Tel. Co. 1908, 3 W. R. C. R. 98, 112.*) Some adjustments must be made in the present rate schedule which will eliminate the rebate and substitute in its stead a proper rental paid by the respondent to its subscribers in consideration of equipment supplied by them for the use of respondent. *Knapp et al. v. Matteson Tel. Co. 1912, 11 W. R. C. R. 180, 184.*

4. It has already been pointed out that to allow a rebate for equipment or services furnished by subscribers is unlawful. It is permissible, however, for the utility to pay its customers a rental for instruments supplied by them. "The company may purchase or rent such instruments, or the subscribers may continue to own the instruments they now have and the company may purchase new instruments wherever necessary, but no subscriber can be allowed a lower rate on account of his owning an instrument." (*In re Badger Tel. Co. 1908, 3 W. R. C. R. 98, 112.*) *Knapp et al. v. Matteson Tel. Co. 1912, 11 W. R. C. R. 180, 189.*

Allowance to subscriber of telephone utility on account of ownership of instrument or facility—Rate concession prohibited.

5. The practice of charging a lower rate to stockholders than to nonstockholders is a discrimination in violation of sec. 1797m—90 of the Public Utilities Law. *In re Appl. Rockland Tel. Co. 1912, 11 W. R. C. R. 402, 408.*

Allowance to subscriber of telephone utility on account of ownership of stock.

6. As the Public Utilities Law requires that all customers be treated alike, it is not possible to make a lower rate to stockholders than to the others. The only way in which they can be reimbursed is through dividends declared after allowance has been made the depreciation. *Knapp et al. v. Matteson Tel. Co. 1912, 11 W. R. C. R. 180, 192.*

7. It should be noted here that the applicant's present practice of rebating to stockholders is unlawful under the terms of sec. 1797m—92. All subscribers, whether stockholders or not, must be charged the regular telephone rental as per company's schedule. If there are any profits, a portion of such rental would be returned in the form of dividends. *In re Appl. Muscoda Mut. Tel. Co. 1913, 11 W. R. C. R. 666, 683.*

RECEIVERS.

See TRANSMITTERS AND RECEIVERS.

RECONNECTION CHARGES.

For electric meters, *see* RATES, 21.

RECOVERY.

See REPARATION.

REDUCTION OF RATES.

Reduction of rate not to be construed as an admission of prior unreasonableness, *see* REPARATION, 4-6.

Reduction on account of the furnishing of facilities by consumer, prohibited, *see* RATES, 92-94, 128.

Reduction on account of ownership of stock, by subscriber, prohibited, *see* RATES, 95-97.

REFUNDS.

Refund from charges collected, *see* REPARATION, 10-31.

REGULATIONS.

See RULES AND REGULATIONS.

RELATION OF RATES.

See RATES.

RENTAL FOR EQUIPMENT.

See EQUIPMENT RENTAL.

RENTAL FOR THROUGH LINES.

Apportionment of rental for through lines in the determination of unit costs for telephone utilities, *see* ACCOUNTING, 31.

REPARATION.

IN GENERAL.

Proceedings for recovery—Authorization of refund under peculiar circumstances.

1. In the present case, while reparation is authorized on joint shipments, one of the carriers is not a party to the proceedings and no finding herein made will be effective as to the joint transportation. Nevertheless, as the claim was filed within the statutory period a valid finding could be made as to such joint transportation in a subsequent proceeding against both carriers. Under the circumstances both carriers will be permitted to make reparation without further proceedings. *Barker & Stewart Lbr. Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 537, 547.

GROUND FOR RECOVERY.

Damages—Showing of, not necessary to secure refund under statute.

2. In the present case it was claimed that the Commission could not grant a refund in the absence of direct evidence as to damages sustained by the petitioner. The interstate commerce cases cited on this point do not apply, but without going in to an analysis of these cases to determine whether, as claimed, they require the complainant to show other damage than the unreasonableness of the rate, it is suffi-

cient to call attention to the difference between the Interstate Commerce Act and the law under which this Commission operates. On the subject of reparation, the Interstate Commerce Act makes no mention of reparation as being a refund of freight paid on shipments; it refers only to "damages." (Interstate Commerce Act, sec. 16, ch. 104, 1887, as amended by ch. 309, U. S. laws 1910) The thing the Commission is to find under the Wisconsin statute (sec. 1797—37m) is specific—that the rate charged was "erroneous, illegal, unusual, or exorbitant." Nothing is said about the damage the complainant may have sustained in competition with other manufacturers and dealers; the only requirement is that he shall be the one who paid the charge. It may well be that the interstate commerce commission, directed by the statute to find whether the complainant has suffered damages, may require some showing of special damage; but, in view of the difference between the two statutes, such a position on the part of the interstate commerce commission cannot be a precedent for this Commission. *Flambeau Paper Co. v. C. M. & St. P. R. Co. et al.* 1913, 11 W. R. C. R. 699, 702—703.

3. While the statute does not require the showing of damages in order to secure reparation, it may be that the matter of damages may sometimes be of value as an evidentiary fact tending to show what the situation has been during the period for which refund is asked. *Flambeau Paper Co. v. C. M. & St. P. R. Co. et al.* 1913, 11 W. R. C. R. 699, 703.

Reduction of rate not to be construed as an admission of prior unreasonableness.

4. The Commission has so often held that the statute does not contemplate a refund of charges in every case where a reduction has been made by order of the Commission or voluntarily by the railway company, that the language in question must be considered in view of such holding, and the facts of the case. (*Stevens & Jarvis Lbr. Co. v. C. St. P. M. & O. R. Co.* 1907, 2 W. R. C. R. 131; *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; *Brittingham & Young Co. v. M. St. P. & S. S. M. R. Co. et al.* 1910, 4 W. R. C. R. 772; *Connor Land & Lbr. Co. v. C. & N. W. R. Co.* 1911, 7 W. R. C. R. 774, and *idem*, 1912, 8 W. R. C. R. 697.) *Wis. Lakes Ice & Cartage Co. v. C. & N. W. R. Co.* 1912, 11 W. R. C. R. 62, 63—64.

5. It does not follow that every time a rate is found to be unreasonable, the complainant is entitled to a refund. The position of the Commission on this point has been frequently stated, and is, in effect, that before a refund can be authorized it must appear that the rate was unreasonable at the time the shipment moved, and it does not necessarily follow that a rate which would be unreasonable for the future was unreasonable during the whole of a given period preceding the decision. Whether it is or not depends upon the facts of the case. *Flambeau Paper Co. v. C. M. & St. P. R. Co. et al.* 1913, 11 W. R. C. R. 699, 703.

6. The fact that the railway company amended its tariff after the shipment moved should not be deemed in all cases as an admission on their part that the prior rate was unreasonable or exorbitant. Many changes in tariffs are necessary and made to meet the change of conditions in the commercial world. If railway companies were aware that they will be required to refund upon all shipments made within one year prior to the reduction in their tariffs, few reductions would voluntarily be made, each reduction being only secured by investigation and order of the Commission after complaint on part of the shippers. The object of the statute is to provide reasonable rates in cases

of exceptional charges for services having been made, taking into consideration the cost of transportation and value of services rendered. *Mitchell Lewis Motor Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 709, 710.

LIMITATION OF STATUTE.

Claim for refund barred by limitation of the statute.

7. Under the statute, sec. 1797—37m, the Commission is without authority to award reparation for any shipment which moved more than one year prior to the filing of the complaint. *New Richmond Roller Mills Co. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 272, 273.

8. The power given the Commission to authorize refunds under section 1797—37m does not apply to shipments which moved more than one year prior to the filing of the petition. *Badger Basket & Veneer Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 492, 494—495.

Continuation of period of limitation.

9. The shipments on which a refund is asked were delivered at destination more than one year prior to the filing of the claim with the Commission. The claim would therefore have been barred under section 1797—37m, except for the fact that the recent legislature has by amendment enlarged the time of filing claims to two years. (Ch. 66, laws of 1913.) At the time of the enlargement of the statute the bar had not run upon the shipments in question, and hence reparation may be awarded. See *Mayer v. C. & N. W. R. Co. et al.* 1911, 8 W. R. C. R. 328, 329—330. *Northern Wood Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 706, 707.

REFUNDS.

Refund from charge based on class rates instead of joint concentration rates.

10. Petitioner alleges excessive charges on shipments of tobacco from Wisconsin points to Viroqua, Wis., over the C. M. & St. P. and the L. C. & S. E. lines and prays for the establishment of joint concentration rates. *Held:* The application of the sum of the local concentration rates is reasonable under the circumstances in the present case. However, since the facts are somewhat unusual, the case cannot be considered as a precedent. The respondents are ordered to cease applying joint fourth class or second class rates on tobacco from points on the line of the C. M. & St. P. Ry. in Wisconsin to Viroqua, Wis., for concentration at that point and reshipments therefrom over the lines of the respondent companies, and to substitute, in lieu thereof, a rate consisting of the sum of the present local concentration rates from the point of origin on the C. M. & St. P. line to Westby and the present local concentration rates of the L. C. & S. E. Ry. Co. from Westby to Viroqua. On account of the possible interstate character of the shipments in question and other circumstances the petition for a refund is dismissed. *Borden Co. v. L. C. & S. E. R. Co. et al.* 1913, 11 W. R. C. R. 439, 446.

Refund from charge based on minimum weight which cannot be loaded.

11. Petitioner alleged excessive charges on shipments of kiln wood from Fenwood to Frances Creek, Wis. Complaint was made that the cars could not be loaded to the minimum weight required. It appears that if the respondent had furnished cars with lower minimum weights the rates would have been higher than the charges paid by the shipper. There is no ground under which the Commission can author-

ize a refund in the present case. (*Standard Lime & Stone Co. v. C. M. & St. P. R. Co. et al.* 1912, 9 W. R. C. R. 228, 238-239.) Petition is dismissed. *Maxson Lbr. Co. v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 269-271.

12. Petitioner alleges unreasonable charges on a shipment of fuel wood from Crandon to Milwaukee, Wis. It appears that the minimum on which the charge was based could not be loaded. Since the car supplied was exceptional, it does not appear to be necessary to order any change in the rules or to specially provide for future shipments. *Held*: The charge exacted was exorbitant and a reasonable rate would have been 4½ cts. per cwt., based on the actual weight of the shipment. Refund is ordered on this basis. *Oshkosh Fuel Co. v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 400, 401.

13. Complaint was made of excessive charges on shipments of tanbark on the C. M. & St. P. Ry. from Teddy, McInnis, Scott's Landing, and Boehms to Milwaukee, Wis.; and on joint shipments over the C. M. & St. P. Ry. and the C. & N. W. Ry. from Bunkers, Scotts, Algonac and Boehms to Sheboygan, Wis.; and from Scotts to Kenosha, Wis. The petitioner alleged that the cars furnished would not hold the minimum rated capacity. It appears that the rule relating to minimum weights on tanbark applicable generally on Wisconsin lines was not applied. *Held*: The rates exacted were unreasonable and exorbitant and a reasonable charge in the present case would have been a rate based on the actual weight of the shipments. The respondent, the C. M. & St. P. Ry. Co., is authorized to make a refund on this basis. On account of the peculiar circumstances in the present case, the C. & N. W. Ry. Co., although not a party to the proceedings, and the respondent, are authorized to make refunds on joint shipments. In order to obviate difficulties in the future the railroad companies concerned are to file tariffs providing minima deemed reasonable by the Commission. *Barker & Stewart Lbr. Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 537, 547.

Refund from charge based on minimum weight which could not be loaded and which was subsequently lowered.

14. Complaint was made of excessive charges on carload shipments of logs from Wisconsin points on the M. St. P. & S. S. M. R. to Burlington, Wis. It appears that the minimum weights as registered could not be loaded but subsequent to the shipments they were lowered. *Held*: The charges exacted were unusual and exorbitant and the rates as subsequently established would have been reasonable for the services rendered. Refund is ordered on this basis. *Badger Basket & Veneer Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 492, 495.

Refund from charge based on rates higher than rates for other kinds of traffic.

15. Complaint was made that the rates on pulp wood from Wisconsin points on the C. M. & St. P. Ry. to Brokaw, Wis., are higher than the rates on saw logs and the petitioner asks for a refund on the ground that the existence of a difference in the rates on the two commodities constitutes an unjust discrimination. *Held*: The rates ordered in the recent *Pulp Wood Case* (11 W. R. C. R. 365) and applicable throughout Wisconsin are just and reasonable rates to be applied on shipments to Brokaw, considered both independently and in relation to saw log rates. The petition is dismissed. *Wausau Paper Mill Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 417, 418.

Refund from excess charge based on distance tariff rate instead of general switching charge subsequently made effective.

16. Complaint was made of excessive charges on carload shipments of lumber from one industry to another in Ladysmith, Wis. It ap-

pears the distance tariff rate was exacted. Subsequent to the shipment, the respondent established a regular switching charge. *Held*: The charge exacted was unusual and exorbitant and the switching rate of \$5 per car, as subsequently established, would have been a reasonable charge for the services rendered. Refund is ordered on this basis. *Gillette-O'Leary Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 276, 277.

Refund from excess charge, based on minimum weight which was subsequently lowered.

17. Complaint was made of excessive charges on shipments of logs and bolts from Wisconsin points to Menasha, Wis. The cars furnished could not be loaded to the minimum weight provided. Subsequently a supplement to the tariff provided a minimum on a sliding scale and petitioner asks for a refund on the basis of the amended schedule. *Held*: The rate exacted was unusual and exorbitant and a reasonable charge for the services rendered would have been based on the tariff as subsequently amended. Refund is ordered on this basis. *Menasha Woodenware Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 746, 747.

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.

18. Complaint was made of excessive rates on shipments of piling from Buda, Hanley, Jarvis, Carlton, and Sycamore, to Bagley Junction, Wis. The charges were based on the regular distance tariff rates applying on lumber at the time of shipment. It appears that the rates complained of are substantially higher than similar rates prevailing on other roads under substantially similar conditions. *Held*: The rates charged are unusual and exorbitant and the reasonable rates that should have been in effect and applicable to the shipments are the rates of the Wisconsin distance tariff, as in force generally as maximum rates on practically all Wisconsin lines. Refund is ordered on this basis. It is also recommended that the respondent make such further changes in its distance rates on lumber as may be necessary to bring them in line with the changes in class rates previously made effective. *Perley Lowe & Co. v. W. & M. R. Co.* 1912, 11 W. R. C. R. 108, 112-113.

19. Application was made by the respondent railway company for a rehearing of that branch of the case which relates to the reparation awarded the petitioner in *Wis. Lakes Ice and Cartage Co. v. C. & N. W. R. Co.* 1912, 9 W. R. C. R. 101. The company contended that the reduction of the rate from 2 cts. to 1.7 cts. per cwt. on ice from Silver Springs to Milwaukee is so slight as to show conclusively that the rate of 2 cts. per cwt. was neither unusual nor exorbitant. The respondent company further implied that the reparation was merely authorized as a result of the reduction of rates ordered by the Commission. *Held*: The language of the order is not an expression of a principle that the reduction in a rate necessarily resulted in reparation. We are convinced that the ruling in the matter was correct, and an application for a rehearing is denied. *Wis. Lakes Ice & Cartage Co. v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 62, 63-64.

20. Complaint was made of excessive charges on shipments of wood pulp from Ellis Jct. to Park Falls, Wis., over the C. M. & St. P. and M. St. P. & S. S. M. lines. *Held*: The rate exacted was unreasonable and exorbitant, being higher than rates prevailing under substantially the same conditions and higher than the cost of transportation warrants. Respondents are ordered to discontinue the present joint rate

on wood pulp and to substitute in lieu thereof a joint rate of 6.5 cts. per cwt., subject to the same minimum weight and other regulations as are now in effect. Refund is ordered on this basis. *Flambeau Paper Co. v. C. M. & St. P. R. Co. et al.* 1913, 11 W. R. C. R. 699, 704.

Refund from excess charge based on the sum of the locals instead of the group rate subsequently made effective.

21. Complaint was made of excessive charges on carload shipments of tanbark from a point on the Heineman branch of respondent's line to Sheboygan, Wis. It appears that the sum of the locals was charged. Subsequent to the shipments the Wausau group rate was put into effect. Under this rate the charges for the shipments in question would have been 8½ cts. per cwt. *Held:* The rate exacted of the petitioner is unusual and exorbitant and the reasonable rate for the services rendered would have been 8½ cts. per cwt. Refund is ordered on this basis. *Barker & Stewart Lbr. Co. v. C. & N. W. R. Co.* 1912, 11 W. R. C. R. 141, 143.

Refund from excess charge based on the sum of the locals instead of through rates.

22. Complaint was made of excessive charges on a shipment of lumber from Rhinelander to Star Lake, Wis. The sum of the locals was charged when the petitioner was entitled to the through rate. *Held:* The rate exacted was excessive and unreasonable and a reasonable charge would have been 7 cts. per cwt., the through rate applicable. Refund is ordered on this basis. *A. S. Badger Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 434, 435.

Refund from excess charge based on the sum of the locals instead of through rate to point beyond.

23. Complaint was made of excessive charges on a shipment of lumber from Kaiser to Stoughton, Wis. The respondents charged a rate based upon the lowest combination of locals which amounted to more than a through rate to Chicago, a greater distance from Kaiser than Stoughton. *Held:* Any change in the rate from Kaiser to Stoughton would affect unjustly the rates from a large number of points on the Omaha line now in the Kaiser group. Under the circumstances it would not be justifiable to disturb the rates of an entire group to accommodate an occasional shipment over an unusual route. Future shipments of the character in question are improbable and even if the volume of traffic should increase so as to require special consideration, it would be necessary to give all persons interested an opportunity to be heard before changing the rate in question. The petition is dismissed. *Blackwell & Kaiser v. C. M. & St. P. R. Co. et al.* 1913, 11 W. R. C. R. 267, 268.

Refund from excess charge caused by failure through inadvertence to put in legal effect a lower rate subsequently made effective.

24. Complaint was made of excessive charges on shipments of logs from Smith's Spur to Merrill, Wis. It appears that the rate charged was published through error. After the shipment moved the respondent put a lower rate into effect. Petitioner prays for a refund on the basis of the rate subsequently made effective. *Held:* The rate exacted was exorbitant and a reasonable charge would have been based on the rate as subsequently established. Refund is ordered on this basis. *A. H. Stange Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 725-726.

Refund from excess charge caused by failure to make allowance for car stakes.

25. Complaint was made of excessive charges on carload shipments of pulp wood and pulp wood logs over the respondent's line from various points in Wisconsin to Appleton, Kimberly, Combined Locks, and Kaukauna, Wis. It appears that these overcharges accrued through the failure of the respondent to allow for car stakes. Subsequent to the shipments the rule providing for deduction for car stakes was voluntarily made applicable over respondent's line. *Held*: The charges exacted were unusual and exorbitant and no charge should have been made for the transportation of car stakes. Refund is ordered on this basis. *Pulp Wood Co. v. C. & N. W. R. Co.* 1912, 11 W. R. C. R. 144, 146.

Refund from excess charge caused by failure to protect an intermediate point in a rate which was subsequently extended to cover such point.

26. Complaint was made of excessive charges on shipments of fuel wood from Wausaukee to Fond du Lac and Berlin, Wis. It appears that the rate charged was higher than a rate in force for a point further distant. Subsequently the rate for the further point was made applicable for Wausaukee and refund is asked on the basis of the rate as subsequently put into effect. *Held*: The rate exacted was unusual and a reasonable charge for the services rendered would have been a rate of 3.75 cts. per cwt. as was subsequently made applicable. Refund is ordered on this basis. *Northern Wood Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 706, 708.

Refund from excess charge ordered on basis of distance rates previously established by order of the Commission.

27. The M. St. P. & S. S. M. R. Co. petitioned for a rehearing of the matter relative to rates on pulp wood from Wisconsin points to Grand Rapids, Menasha, Neenah, Nekoosa, Port Edwards, and Rhinelander, Wis., decided in *Rhineland Paper Co. v. M. St. P. & S. S. M. R. Co.* 1912, 9 W. R. C. R. 111. It was alleged that the Commission was not justified in its finding of discrimination as between Rhinelander and Nekoosa and that the fixing of a lower distance scale was a discrimination against the "Soo" line. The railroad company also asked that the effectiveness of the former order (9 W. R. C. R. 111) be stayed until the determination of the matter upon rehearing. The pulp wood rates therefore at present in effect to the points in question are the distance rates established by the Commission in 1908. (*In re Rates on Pulp Wood*, 1908, 2 W. R. C. R. 168.) The entire pulp wood rate situation was investigated and an order issued (*Pulp & Paper Mfrs. Traffic Assn. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 365) to reduce the existing distance scale of pulp wood rates throughout the state, the order to take effect February 14, 1913. This order established a distance schedule substantially the same as that fixed in the former decision (9 W. R. C. R. 111). The uniform application of the distance scale ordered in the former case (11 W. R. C. R. 365) will dispose of the charge of discrimination and will leave the rates on the intervener's pulp wood about equal to the rates in force at the time the original complaint of the Rhinelander Paper Co. was filed. *Held*: The facts in the present case warrant the establishment of the rates ordered in the former decision (11 W. R. C. R. 365) to the points in question as well as to other Wisconsin points. Respondent is ordered to discontinue its present rates on carload shipments of pulp wood from points on its line within the state to Grand Rapids, Me-

nasha, Neenah, Nekoosa, Port Edwards and Rhinelander, and to substitute in lieu thereof the rates approved by the Commission. These rates are to be subject to the minimum rates and other regulations at present in effect. The respondent is authorized to refund to the petitioner, the Rhinelander Paper Co., the amount collected in excess of the rates herein ordered on carload shipments of pulp wood from Wisconsin points to Rhinelander, Wis., between January 3, 1911, and to the date of the effectiveness of this order. Respondent is further ordered to refund to the intervener, the Nekoosa-Edwards Paper Co., the amount collected in excess of the rates herein ordered on carload shipments of pulp wood from Wisconsin points to Nekoosa and Port Edwards, Wis., between November 30, 1911, and the date of the effectiveness of this order. *Rhinelander Paper Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 393, 396-398.

Refund from excess charge ordered on basis of joint rate subsequently made effective.

28. Complaint was made of excessive charges on shipments of rye and barley from Owen to Milwaukee, Wis. Subsequent to the shipment a lower rate was put into effect by the respondents. One of the shipments in question reached its destination more than one year before notice was filed with the Commission. *Held*: The shipment which moved more than a year prior to the claim is barred by the statute. With respect to the other shipment, the rate exacted was excessive and unjust and a reasonable charge for the service rendered would have been the rate of 10 cts. per cwt. as subsequently made effective. Refund is ordered on this basis. *New Richmond Roller Mills Co. v. C. & N. W. R. Co. et al.* 1913, 11 W. R. C. R. 272, 273.

Refund from excess charge ordered on the basis of rates for shortest available route.

29. Petitioner alleges excessive charges on carload shipments of lumber from Athens to Viroqua, Wis. The petitioner gave shipping directions for the shortest available route but the respondent shipped the cars by a longer route over its own line. *Held*: The rate exacted was excessive and a reasonable charge would have been a rate based on the shortest available route. Refund is ordered on this basis. *Reitbrock Land Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 447, 448.

Refund from excess charge ordered on basis of reasonable rate previously in effect and subsequently reestablished.

30. Complaint was made of overcharges on shipments of logs from Valesco Jct. to Merrill, Wis. Respondent charged the legal rate in effect but previous to the shipment a lower rate had been in force and this rate was subsequently reestablished. *Held*: The rate exacted was unusual and exorbitant and a reasonable rate for the shipments in question would have been \$1.25 per thousand feet, the legal rate at present in effect. Refund is ordered on this basis. *A. H. Stange Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 274, 276.

Refund from excess charge ordered on basis of reasonable rate subsequently made effective.

31. Petitioner alleges excessive charges on shipments of auto gear frames from North Milwaukee to Racine Jct., Wis. At the time the shipment moved the rate charged was the only lawful rate applicable but subsequent to the shipment a lower rate was put into legal effect. *Held*: The rate exacted was unreasonable and exorbitant and a reasonable charge for the services rendered would have been the rate subse-

quently established. Refund is ordered on this basis. *Mitchell Lewis Motor Co. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 709, 710.

Refunds ordered on specific shipments.

Refund on shipment of auto gear frames, *see ante*, 31.

- of bark, *see ante*, 13, 21.
- of barley, *see ante*, 28.
- of bolts, *see ante*, 17.
- of fuel wood, *see ante*, 12, 26.
- of grain, *see ante*, 28.
- of ice, *see ante*, 19.
- of logs, *see ante*, 14, 17, 24, 25, 30.
- of lumber, *see ante*, 16, 22, 29.
- of piling, *see ante*, 18.
- of pulp, *see ante*, 20.
- of pulp wood, *see ante*, 25, 27.
- of rye, *see ante*, 28.
- of tanbark, *see ante*, 13, 21.
- of wood, *see ante*, 12, 25, 26, 27.
- of wood pulp, *see ante*, 20.

Refunds, petitions for, dismissed.

Petition for refund on shipment of kiln wood dismissed, *see ante*, 11.

- of lumber dismissed, *see ante*, 23.
- of pulp wood dismissed, *see ante*, 15.
- of tobacco dismissed, *see ante*, 10.
- of wood dismissed, *see ante*, 11, 15.

RESERVES.

Depreciation reserve charge, *see* DEPRECIATION, 5.

RESIDENCE RATES.

Business and residence rates for telephone utilities, *see* RATES, 88, 90-91.

RETURN.

What constitutes a reasonable return of public utilities.

1. The law contemplates that the investor may earn, above normal operating expenses, a fair return upon a fair investment in the plant and business. *Meyer et al. v. Sheboygan G. Lt. Co.* 1913, 11 W. R. C. R. 309, 315.

RIGHT OF WAY.

Value claimed for easements over private right of way which subsequently became public streets, *see* VALUATION, 7.

RISK.

Risk involved in transportation as matter considered in determining reasonableness of rates for railways, *see* RATES, 79.

ROPE.

Mixture privilege with agricultural implements, *see* RATES, 51.

ROUTES.

Right of shipper to dictate routing.

1. The shipper has the right to dictate to the carrier the route over which the shipment is to move. (*Hodges v. W. C. R. Co.* 1906, 1 W.

R. C. R. 300; *Engesether v. C. St. P. M. & O. R. Co. et al.* 1912, 8 W. R. C. R. 504.) *Reitbrock Land & Lbr. Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 447, 448.

2. If the carrier causes the shipment to be transported by another route which results in a charge against the shipper in excess of the charge legally effective over the route selected by the shipper, it is incumbent upon the carrier to make reparation in the amount of such excess. (*Hodges v. W. C. R. Co.* 1906, 1 W. R. C. R. 300; *Engesether v. C. St. P. M. & O. R. Co. et al.* 1912, 8 W. R. C. R. 504.) *Reitbrock Land & Lbr. Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 447, 448.

ROUTING.

Street railway cars, change in routing of, to improve service, *see* STREET RAILWAYS, 1-2.

RULES AND REGULATIONS.

Requirements as to payment of rates for services rendered by public utilities — Regulations for discounts or penalties.

Discount for prompt payment, for electric service, *see* RATES, 15.

for telephone service, *see* RATES, 99.

Penalty for failure to pay within specified time, for telephone service, *see* RATES, 102.

RYE.

See GRAIN.

SAFETY.

As one of the elements of reasonably adequate service, *see* STREET RAILWAYS, 6.

SAFETY APPLIANCES.

Automatic crossing alarm for protection of railroad crossing, *see* RAILROADS, 7, 9, 12-17, 19-31.

Gates for the protection of railroad crossings, *see* RAILROADS, 10-12, 14, 35-36.

SAND.

Rates, reduction of, Wisconsin points on the C. M. & St. P. line, *see* RATES, 54.

SCHEDULES.

Railway rate schedules, *see* SCHEDULES OR TARIFFS, 1-2.

Street car schedules, *see* STREET RAILWAYS, 1, 4.

Train schedules, *see* TRAIN SERVICE, 1-6.

SCHEDULES OR TARIFFS.

See RATES; REPARATION.

CHANGE IN TARIFF.

Authority of Commission in change of tariff.

1. The cancellation of a rate that is not illegal requires the approval of the Commission under sec. 1797-4a of the statutes. *Marinette-Green Bay Mfg. Co. v. C. M. & St. P. R. Co.* 1912, 11 W. R. C. R. 133, 135.

DEPARTURE FROM PUBLISHED TARIFF PROHIBITED.

In general.

2. Sec. 1797—4a of the Wisconsin statutes (as amended by ch. 160, laws of 1911), is explicit in its mandate that changes in railway tariffs must be approved by the Commission before they may become effective. The statute reads as follows. "No change shall thereafter be made in any schedule, including schedule of joint rates, or in any classification, unless such change shall be first approved by the commission, and all such changes shall be plainly indicated upon existing schedules, or by filing new schedules in lieu thereof, thirty days prior to the time same are to take effect." *Marinette-Green Bay Mfg. Co. v. C. M. & St. P. R. Co.* 1912, 11 W. R. C. R. 133, 134—135.

SCOPE OF LAW.

See PUBLIC UTILITIES LAW; RAILROAD LAW.

SCRAPERS.

Mixture privilege with agricultural implements, see RATES, 51.

SEPARATION OF GRADES.

Separation of grades for protection of railway crossings, see RAILROADS, 41—42.

SERVICE AND FACILITIES.*Electric utilities,*

Requirements as to service and facilities, adequacy of service, see ELECTRIC UTILITIES, 12.

Standards of service, see ELECTRIC UTILITIES, 12.

Interurban railways,

Requirements as to service and facilities, station facilities, see STATION FACILITIES, 7.

Railroads,

Requirements as to service and facilities, see RAILROADS.

Requirements as to service and facilities, adequacy of service, car service, see RAILROADS, 45—47.

station facilities, see STATION FACILITIES, 1—6, 8—9.

switch connections, see SWITCH CONNECTIONS, 1—3.

train service, see TRAIN SERVICE, 1—6.

Street railways,

Requirements as to service and facilities, adequacy of service, see STREET RAILWAYS, 1—7.

frequency of cars, see STREET RAILWAYS, 5.

safety, see STREET RAILWAYS, 6.

signs on cars, see STREET RAILWAYS, 7.

Telephone utilities,

Physical connection, continuance of, terms and conditions of joint use, see TELEPHONE UTILITIES, 2.

Physical connection, establishment of, see TELEPHONE UTILITIES, 3—11.

conditions precedent, see TELEPHONE UTILITIES, 3.

terms and conditions of joint use, see TELEPHONE UTILITIES, 9—10.

terms and conditions of joint use, protection of property rights, see TELEPHONE UTILITIES, 10.

Requirements as to service and facilities, adequacy of service, see TELEPHONE UTILITIES, 12—15.

shutting off service without warrant, see TELEPHONE UTILITIES, 14.

trouble clearance, see TELEPHONE UTILITIES, 15.

Water utilities,

Requirements as to service and facilities, adequacy of service, *see* WATER UTILITIES, 2.

Requirements as to service and facilities, appliances for the measurement of product or service, duty of utility to provide meters, *see* WATER UTILITIES, 3-9.

dead ends, flushing of hydrants on dead ends, *see* WATER UTILITIES, 10.

services, duty of utility to provide services, *see* WATER UTILITIES, 9, 11-14.

services, leaks in services, *see* WATER UTILITIES, 14.

SERVICE CHARGE.

See MINIMUM CHARGES.

SERVICE CONNECTIONS.

As element in the valuation of public utilities, *see* VALUATION, 8.

SERVICES.

Duty of utility to provide services, *see* WATER UTILITIES, 9, 11-14.

SHIPPING FACILITIES.

See STATION FACILITIES; SWITCH CONNECTIONS.

SIDETRACK FACILITIES.

See SWITCH CONNECTIONS.

SIGNS.

Street railway car signs, *see* STREET RAILWAYS, 2, 7.

SLIDING SCALE MINIMUM.

See WEIGHTS.

SPEED OF TRAINS.

Limitation of speed of trains for protection of railway crossings, *see* RAILROADS, 19.

SPUR TRACKS.

See SWITCH CONNECTIONS.

STANDARDS OF SERVICE.

Electric utilities, *see* ELECTRIC UTILITIES, 12.

STATION FACILITIES.

See also SWITCH CONNECTIONS.

Adequacy of station facilities.

1. Complaint was made of inadequate station facilities at Ripon and at Ripon Junction, Wis. *Held:* The station facilities in question are inadequate. It is ordered that the respondents, the C. M. & St. P. Ry. Co. and the C. & N. W. Ry. Co., each provide or, at their option, jointly provide a proper and sufficient waiting room for passengers at Ripon Junction, and place it in charge of a competent caretaker who will properly heat and light it, keep it in a sanitary condition, and attend to the transfer of baggage. Four months is deemed a sufficient time within

which to comply with this order. It is further ordered that the respondent C. M. & St. P. Ry. Co. provide a station building at Ripon which shall be reasonably adequate for the passenger traffic according to its adopted standards of construction. Plans are to be submitted to the Commission for approval. The matter of location is left to the determination of the railway company, subject to the approval of the Commission. Nine months is deemed a reasonable time within which to comply with this order. *High et al. v. C. & N. W. R. Co. et al.* 1912, 11 W. R. C. R. 90, 92, 94.

2. Petitioner alleges that the station facilities at Thorpe, Wis. are inadequate for handling freight and passenger traffic. *Held*: New station facilities are required. Respondent is ordered to provide an adequate station building before March 1, 1913. Plans are to be submitted to the Commission for approval. *Parkhill v. M. St. P. & S. S. M. R. Co.* 1912, 11 W. R. C. R. 153, 158.

3. It is the duty of the railway company to establish stations along its line whereby the public may be reasonably served in the matter of transportation of persons and property. In locating such stations regard must be had to the safe operation of trains as well as to the general convenience of the public at large. *Judd & Judd et al. v. C. & N. W. R. Co.* 1912, 11 W. R. C. R. 175, 178.

4. Complaint was made that there are no facilities for the handling of freight maintained by the C. & N. W. Ry. Co. at Engle, Wis. Petitioners pray that the company be required to maintain a freight depot, stockyards, and sidings. The nearest shipping point is Dalton, three miles from Engle. *Held*: Present facilities are adequate. The petition is dismissed. It is recommended that the company resume the practice of stopping freight trains for the receipt and discharge of freight in less than carload lots. *Judd & Judd et al. v. C. & N. W. R. Co.* 1912, 11 W. R. C. R. 175, 179.

5. The petitioner alleged that the train service and station facilities furnished by the respondent at Patzu, Douglas Co., Wis., are inadequate. The complaint relative to train service was satisfied before the hearing. *Held*: The station facilities are inadequate and the respondent is ordered to provide an adequate station building according to its adopted standards of construction. Plans and specifications are to be submitted to the Commission for approval. June 1, 1913, is a reasonable date at which the station is to be opened for public use. *Farmers' Land & Cattle Co. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 318, 320-321.

6. Petitioner alleges that a passenger station located between the main station, Milwaukee, Wis., and the northern city limits is essential to reasonably adequate service for the northern section of the city. *Held*: The passenger facilities are required to provide adequate service for the district in question. The respondent is ordered to build a suitable shelter shed and platform or a station, at its option, between North ave. and Folsom st. It is further ordered that the respondent stop at this station trains Nos. 131 and 133 leaving Milwaukee at 7:00 a. m. and 7:50 a. m., respectively, and trains Nos. 216 and 220 arriving at Milwaukee at 7:10 p. m. and 8:35 p. m., respectively. *Travelers' Prot. Assn. of America v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 333, 337.

7. The petitioner alleges that the present location of the Bain station on the Chi. & Mil. El. Ry. in the town of Pleasant Prairie, Kenosha county, Wis., is inconvenient and asks that it be relocated at the Mahoney road. *Held*: The present location is the more convenient. The respondent is ordered to construct and maintain a crushed stone walk five feet in width extending along the west side of its right of way from the north edge of the present Bain station platform to the Mahoney road, and provide suitable turnstiles or steps at the fences crossed by the walk. *Mahoney v. C. & M. El. Ry. Co.* 1913, 11 W. R. C. R. 578, 579-580.

8. The petitioner alleges that the station facilities at Milltown, Wis.,

are inadequate and asks that respondent be ordered to enlarge the depot and relocate it nearer the crossing. *Held*: The present station facilities are not unreasonably inadequate but minor improvements are necessary. The respondent is ordered to provide several additional seats in the waiting room and to construct and maintain a proper and suitable walk for pedestrians between its depot and the main street of the village. *Laursen et al. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 627, 632-633.

Joint construction of station.

See ante, 1.

Location of stations.

See also ante, 3, 7-8.

9. Mere distance is not and should not be the controlling factor in determining the location of stations, but the convenience of the public must be the important consideration in such determination. *Travelers' Prot. Assn. of America v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 333, 335.

STATIONS.

See STATION FACILITIES.

STOCK.

See CAPITAL STOCK.

STOCKHOLDERS.

Different rates for stockholders and nonstockholders of telephone companies, unlawful discrimination, *see* DISCRIMINATION, 6-8.

STOPPAGE IN TRANSIT.

See TRANSIT PRIVILEGES.

STOPPING OF TRAINS.

Stopping of trains for protection of railway crossings, *see* RAILROADS, 32, 40.

STORAGE FACILITIES.

See STATION FACILITIES; SWITCH CONNECTIONS.

STRAIGHT METER RATE.

Electric utility, discrimination, possible under straight meter rate for electric utility, *see* RATES, 11.

STREET LIGHTING RATES.

See RATES.

STREET RAILWAY RATES.

See RATES.

STREET RAILWAYS.

See also INTERURBAN RAILWAYS.

Depreciation, rate of depreciation of street railway, *see* DEPRECIATION, 8.

ACCOUNTING.

See ACCOUNTING.

FARES, TICKETS AND SPECIAL CONTRACTS.

See RATES.

OPERATION.

Requirements as to service and facilities—Adequacy of service.

1. Application was made by the respondent company for certain modifications of the order in the case of *Elver v. So. Wis. Ry. Co.* 1912, 9 W. R. C. R. 1. Additional testimony was offered with reference to the size of cars, and the method of routing cars. Certain objections were also made to changes in routing before additional double tracking could be completed. *Held*: Conditions in Madison at the present time require frequent headway with small cars rather than larger cars operated on an infrequent headway. The fact that the double tracking necessary for efficient operation has not been completed is not a sufficient reason for the postponement of the five minute schedule as previously ordered (9 W. R. C. R. 1). The use of signal devices will assist in operation. A simple hand throw block signal device will suffice to move cars between the sidings with a minimum delay. The objections of the company to greater frequency of cars are not valid. The earnings are ample to provide for running the cars as ordered in the previous decision (9 W. R. C. R. 1). Certain modifications are made in the routing in order to facilitate a five minute headway within the zone of heaviest riding. It is ordered that cars on the Fair Oaks-Wingra Park line be operated on a ten minute headway similar to the schedule in force. The East Johnson-South Madison line is to be operated on a ten minute schedule from the present east terminus of the East Johnson street line to Mound street on the South Madison line via State street and Mills street, alternate cars proceeding beyond Mound street on a twenty minute headway to the present terminus of the South Madison line. The cars on this line are to 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 ave. at Mills street. Cars on the West Main-Baldwin street line are to be operated on a ten minute headway from the present terminus of the West Main street line at the West Madison station of the C. M. & St. P. Ry. Co. via Jenifer street to Baldwin street or Dickinson street on the present Fair Oaks-Wingra Park line and the schedule should be so arranged that cars on the West Main-Baldwin street line operating in conjunction with those on the Fair Oaks-Wingra Park line give a five minute headway from Capitol Park to Baldwin street or Dickinson street. This order is to be in effect not later than January 15, 1913. *Elver v. So. Wis. Ry. Co.* 1912, 11 W. R. C. R. 67, 71-72.

2. In the decision on street railway rates in Milwaukee, Wis., (10 W. R. C. R. 1) the question of adequate service was reserved for a later decision. Since the construction of new lines and changes in routing are necessary for permanent good service, orders relating to service were delayed with the expectation that franchises for additional lines would be granted. *Held*: The congestion in the down-town districts is so great that immediate temporary relief is necessary. The respondent is ordered to take the following steps to improve its service until such time as this order may be rescinded by the Commission. An active energetic man is to be stationed at each of the designated down-town points between the hours of 5:00 p. m. and 6:30 p. m. every evening except Saturday and Sunday in order to admit passengers through the front doors of Pay-as-you-enter cars and otherwise to assist in loading cars and facilitating car movements. Unless the conditions with respect to car signs are materially improved within the next few days, the Commission will issue an order on that subject. Orders covering requirements for additional cars will be issued by the Commission as the

details can be worked out for each line. *City of Milwaukee v. T. M. E. R. & L. Co.* 1913, 11 W. R. C. R. 338, 342-343.

3. In the decision on street railway rates in Milwaukee, Wis., (10 W. R. C. R. 1) the matter of adequate service was reserved for a later decision. Subsequently an order was issued (11 W. R. C. R. 338) in order to facilitate the movement of down-town traffic. It appears that the overcrowding and delays during the rush period are caused by inadequate equipment. *Held*: The operation of additional cars is necessary for adequate service. The respondent is ordered to operate the additional cars ordered on the designated routes on the schedule approved by the Commission. *City of Milwaukee v. T. M. E. R. & L. Co.* 1913, 11 W. R. C. R. 430-431.

4. Complaint was made of inadequate service on the South Madison line of the So. Wis. Ry. Co. in Madison, Wis. In view of subsequent investigations, it appears advisable to modify our former order (*Elver v. So. Wis. Ry. Co.* 1912, 11 W. R. C. R. 67). *Held*: Adequate service requires a more frequent schedule on the line in question. The respondent is ordered to install a passing track on its South Madison line at a point which will permit the operation of cars on a ten minute headway, and on and after July 1, 1913 to maintain a headway of ten minutes on the entire South Madison line. *Buergin, Jr., et al. v. So. Wis. Ry. Co.* 1913, 11 W. R. C. R. 762, 766.

*Requirements as to service and facilities—Adequacy of service—
Frequency of cars.*

5. It is not considered that the empty seats per car on an infrequent schedule is a fair measure of adequate service, for it is obvious that the very infrequency of the service is a factor in discouraging traffic. It is not considered good street railway practice to reduce the number of cars per hour during off-peak periods to the point of full load for each car for each trip. *Elver v. So. Wis. Ry. Co.* 1913, 11 W. R. C. R. 67, 68.

*Requirements as to service and facilities—Adequacy of service—
Safety.*

6. Application was made by the respondent company for certain modifications of the order in the case of *Elver v. So. Wis. Ry. Co.* 1912, 9 W. R. C. R. 1. Additional testimony was offered with reference to the type of brake used. *Held*: The type of hand brake with which the cars of the company are at present equipped is adequate but careful maintenance is necessary. *Elver v. So. Wis. Ry. Co.* 1912, 11 W. R. C. R. 1, 71-72.

*Requirements as to service and facilities—Adequacy of service—
Signs on cars.*

7. It is believed that no car should be operated without having adequate destination signs as well as adequate and conspicuous signs plainly showing the route upon which the car is operating. *City of Milwaukee v. T. M. E. R. & L. Co.* 1913, 11 W. R. C. R. 338, 342.

RATES.

See RATES.

VALUATION.

See VALUATION.

STREET SPRINKLING RATES.

See RATES.

STREETS.

Value claimed for easements over private rights of way which subsequently became public streets, *see* VALUATION, 7.

STUB TRACK.

See SWITCH CONNECTIONS.

SUBSTATION EXPENSE ACCOUNT.

Substation expense account for telephone utilities, *see* ACCOUNTING, 54.

SUBWAYS.

For separation of grades at railroad crossing, *see* RAILROADS, 42.

SUGAR BEETS.

Railway car service, Sylvania, Wis., *see* RAILROADS, 47.
Shortage of cars to move crops, *see* RAILROADS, 47.

SUMMER COTTAGE SERVICE.

Extra charges for temporary telephone service, *see* RATES, 119.

SWITCH CONNECTION.

ESTABLISHMENT OF.

Spur track, statutory requirements relating to.

1. Under ch. 481, laws of 1909, and ch. 193, laws of 1911, it is provided that "Every railroad shall acquire the necessary rights of way for, and shall construct, connect, maintain and operate a reasonably adequate and suitable spur track, whenever such spur track does not necessarily exceed * * * three miles in length, is practically indispensable to the successful operation of any existing or proposed mill, elevator, storehouse, warehouse, dock, wharf, pier, manufacturing establishment, lumberyard, coal dock, or other industry or enterprise, and its construction and operation is not unusually unsafe and dangerous, and is not unreasonably harmful to public interest." *Theresa Mill & Supply Co. v. M. St. P. & S. S. M. R. Co.* 1912, 11 W. R. C. R. 73, 75.

2. Whenever it is essential for the successful operation of an industry that a sidetrack be installed to serve the same, the railway company can be compelled to construct the same under terms of the statute, providing, of course, that such sidetrack would not be, unusually unsafe or dangerous to the operation of the road or unreasonably harmful to public interests. Sec. 1797—11m. *Judd & Judd et al. v. C. & N. W. R. Co.* 1912, 11 W. R. C. R. 175, 179.

RIGHT OF SHIPPER TO SWITCH CONNECTIONS.

Spur track, construction of, ordered by Commission.

3. The petitioner alleges that the respondent railway company refuses to construct a spur track to petitioner's mill site in Theresa, Wis. The only matter at issue between the parties is whether such a spur track is practically indispensable to the successful operation of the petitioner's business. *Held:* The testimony shows that the construction and operation of the proposed spur track is indispensable to the successful operation of the business of the petitioner on a larger scale than it is at present time conducted. It is ordered that the respondent construct a suitable spur track as prayed for in the application. It is further ordered that the petitioner deposit the sum of \$21,199 with the

railway company to cover the cost of construction of the spur track, or in lieu of such cash deposit give a bond in accordance with the provisions of ch. 481, laws of 1909. Six months is deemed a sufficient time within which to comply with this order. *Theresa Mill & Supply Co. v. M. St. P. & S. S. M. R. Co.* 1912, 11 W. R. C. R. 73, 77-78.

SWITCHING CHARGES.

See TERMINAL CHARGES.

TANBARK.

Refund on shipment, Heineman branch (point on) of C. & N. W. Ry. to Sheboygan, Wis., see RATES, 73; REPARATION, 21.

Teddy, McInnis, Scott's Landing and Boehms to Milwaukee; Bunkers, Scotts, Algonac, and Boehms to Sheboygan; and Scotts to Kenosha, Wis., see RATES, 74; REPARATION, 13.

TANK HEATERS.

Mixture privilege with agricultural implements, see RATES, 51.

TARIFFS.

See SCHEDULES OR TARIFFS.

TAXES.

Apportionment of taxes in the determination of unit costs.

For electric utilities, see ACCOUNTING, 23-24.

For telephone utilities, see ACCOUNTING, 31.

For water utilities, see ACCOUNTING, 23-24, 48-51.

As element considered in making rates.

For electric utilities, see RATES, 8-10.

For gas utilities, see RATES, 23.

For water utilities, see RATES, 132-133.

Elimination of taxes as element in making rates.

For municipal electric utilities, discrimination in favor of consumers as against taxpayers, see DISCRIMINATION, 2; RATES, 9-10.

For municipal water utilities, discrimination in favor of consumers as against taxpayers, see RATES, 133.

TEAM TRACK.

See SWITCH CONNECTIONS.

TELEPHONE RATES.

See RATES.

TELEPHONE UTILITIES.

Allowance to subscriber of a telephone utility on account of ownership of instrument or facility, reasonable rental permitted, see RATES, 92-94, 106-107, 111-113.

Cost of service of telephone utilities, determination of unit costs, see ACCOUNTING, 30-33.

Depreciation, rate of depreciation of telephone plant, see DEPRECIATION, 9-13.

Discrimination as between telephone subscribers, see DISCRIMINATION, 6-14.

different rates to stockholders and nonstockholders, see DISCRIMINATION, 6-8.

Discrimination, different rates to subscribers on account of ownership of instruments or facilities, *see* DISCRIMINATION, 9-11.

preference in calls as between city and rural subscribers, *see* DISCRIMINATION, 14.

Extension sets, rates for extension sets, *see* RATES, 103.

Nonsubscribers, charges to nonsubscribers, *see* RATES, 89.

Rebates or concession, allowance to subscriber of telephone utility on account of ownership of instrument or facility, rate concession prohibited, *see* REBATES OR CONCESSIONS, 2-5.

Rules and regulations as to billing switching rates, *see* RATES, 114, 123. as to payment of rates, regulations for discounts or penalties, *see* RATES, 99, 102.

ACCOUNTING.

See ACCOUNTING.

ESTABLISHMENT, CONSTRUCTION AND MAINTENANCE.

Extension of lines.

1. Complaint was made that the service of the Lodi Tel. Exchange at Lodi, Wis., is inadequate on account of the overcrowding on certain portions of the present system and the failure to provide additional lines. *Held*: In order to provide adequate service a number of improvements and extension are necessary. It is ordered that the respondent construct a full metallic toll line from the central office at Lodi to the point of junction of its line No. 116 with the Troy and Honey Creek Telephone Company, the construction to commence as soon as the latter shall have agreed to construct its share of the toll line, and that it utilize the Lodi-Prairie du Sac toll line exclusively for through service. The respondent is also ordered to erect an additional wire extending from Lodi to the so-called T branch, being a point in the town of West Point on the boundary between sections 16 and 21, and so apportion its subscribers as to limit the number on one line so far as possible to ten. The respondent is further ordered to construct a pole line on the Poynette road for a distance of not less than three and one-half miles from Lodi. *Johnson et al. v. Lodi Tel. Exch.* 1913, 11 W. R. C. R. 713, 723-724.

OPERATION.

Physical connection—Continuance of—Terms and conditions of joint use.

2. Complaint was made by the Boscobel Tel. Co., operating an exchange in Boscobel, Wis., that it has been unable to reach an agreement with the respondent companies concerning the terms and conditions for the continuance of physical connection, and that such joint use as now exists is under unreasonable conditions and without adequate compensation to the petitioner. The petitioner asks that physical connection be continued, that reasonable conditions and compensation therefor be established, and that the question as to who should pay the expenses of maintaining the connections be determined. *Held*: The petitioner should pay the cost of maintaining connections and of keeping up that portion of its property which is used entirely for the rural service. *Boscobel Tel. Co. v. Crawford Co. F. Mut. Tel. Co.* 1912, 11 W. R. C. R. 32, 41.

Physical Connection—Establishment of—Conditions precedent.

3. 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. Unless these conditions exist simultaneously, the utilities are free to make or to refuse to make connection of their lines, as their action in the matter in such event lies entirely within their discretion. *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748, 755.

Physical connection—Establishment of—Statutory requirements.

4. The statute provides that, (sec. 1797m—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 line 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 1797m—64 to 1797m—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." *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748, 754—755.

Physical connection—Establishment of—Statutory requirements—Constitutionality.

5. In the present case the respondents contended that the enforcement of physical connection would deny the constitutional guaranties of the equal protection of law and of trial by jury, and that it would be the taking of property without due process of law and without due compensation. Notwithstanding the contention of respondents that the statute transgresses certain constitutional guaranties of property rights, it was manifestly framed with great care and with a view of protecting the utilities in the enjoyment of all their legal rights and privileges, while at the same time compelling an involuntary enlargement of the use of their facilities when necessary and required for the public welfare. *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748, 755-756.

6. There is nothing in the letter or in the spirit of the law that savors of confiscation, and if administered according to its obvious intent and purpose, no property rights will be impaired and no injury inflicted upon anyone. *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748, 756.

7. That great difficulty will be encountered, in certain instances, in prescribing such terms and conditions upon which the connections shall be made, as will safeguard the rights and interests of all concerned, is evident to every one conversant with the complexity of the situation presented by the numerous competing and conflicting telephone utilities now engaged in serving the public with their facilities and disturbing its tranquility with their strifes. But mere inconvenience in the application of the terms of a statute to the facts of some intricate case that may arise, is not a ground for invalidating the statute. Some constitutional limitation or restriction must be violated by the provisions of a statute before legislation can be set at naught. The act here under consideration is, in our judgment, free from the imputation of any such infirmity. *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748, 756.

Physical connection—Establishment of—Statutory requirements—With respect to public convenience and necessity.

8. The term "public convenience and necessity" is indeterminate. It is usually found in statutes requiring some act to be performed or creating some new public obligation not imposed by the common law which interferes with private rights. As a justification for such interference there must be a public exigency demanding it, which is always a question of fact depending upon a variety of considerations. *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748, 756.

Physical connection—Establishment of—Terms and conditions of joint use.

9. In the peculiar situation found in the instant case, it is possible to prescribe terms and conditions which will preserve the interests of the utilities, respectively, after the connection has been made. The subscriber of one company desiring toll service over the lines of the other company must pay in addition to the rate charged the patrons of the latter company a reasonable compensation for the additional service. Neither company will be permitted to absorb such additional charge, but the same must be paid by the patrons of either company using the toll lines of the connecting company. This will not result in any discrimination between subscribers of the same exchange, but will result in a just and necessary discrimination between the subscribers of the different exchanges. A subscriber who has not installed the telephones of both exchanges is not entitled to the toll service of both exchanges without paying an additional charge to the exchange with which he is

not connected when desiring to use its toll line facilities. *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748, 758.

Physical connection—Establishment of—Terms and conditions of joint use—Protection of property rights.

10. In this connection it may be well to consider the apprehension of the Bell company that its local exchange would be deprived of its patronage if its toll line facilities were made available to the patrons of the competing exchange. It is evident that the only inducement to subscribe to the Bell system is the fact that thereby the subscriber is connected with a great telephone system covering like net work the entire country. The contention of petitioner that no consideration should be given to this fact, but that the toll lines should be treated separately and not as an adjunct of the local exchange, does not seem tenable when we estimate the consequences to property rights that are likely to flow from such course. For the purpose of accounting and ascertaining equitable rates to be charged the public for services, it is essential to make such separation and to treat each exchange and class of service as a separate entity, although a common ownership of the property devoted to the different classes of service exists. But separating the property for the purpose of devoting one part to a use which will result in injury or damage to the use of the other part is entirely another matter and cannot be done without compensating the owner for the damage thus sustained. No subterfuge can be indulged under the statute which will have the effect of depriving any private property employed in a public service of its earning capacity. *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748, 757-758.

Physical connection —Establishment of, in particular cases.

11. Petitioner prays for an order requiring physical connection for toll service between the systems of the La Crosse Tel. Co. and the Wis. Tel. Co. in La Crosse, Wis. The question of such connection for the purpose of rendering local service of a character that would give the subscribers of one exchange telephone connection with the subscribers of the other exchange within the city of La Crosse was eliminated from the case by stipulation of the parties. The respondent denies that public convenience or necessity require physical connection of the toll lines, or that the Commission has jurisdiction in the matter, and alleges that any order, directing such physical connection to be made, will deny the respondent the equal protection of law, and of trial by jury, and will be the taking of its property without due process of law and without due compensation; and that such connection will result in substantial detriment to the service furnished by both or either of said companies. *Held:* There is nothing in the letter or in the spirit of the law providing for physical connection that savors of confiscation, and if administered according to its obvious intent and purpose, no property rights will be impaired and no injury inflicted upon anyone. Mere inconvenience in the application of the terms of a statute to the facts of some intricate case that may arise, is not a ground for invalidating the statute. Some constitutional limitation or restriction must be violated by the provisions of a statute before legislation can be set at naught. The act here under consideration is, in our judgment, free from the imputation of any such infirmity. In the peculiar situation found in the instant case, it is possible to prescribe terms and conditions which will preserve the interests of the utilities, respectively, after the connection has been made. It is the judgment and finding of the Commission: (1) That public conveniences and necessity require a physical connection of the systems in question. (2) That such connection will not result in irreparable injury to the owner or other users of the facilities of such public utilities; and, (3) That such connection will not result

in any substantial detriment to the service. It is ordered that the La Crosse Tel. Co. and the Wis. Tel. Co. make such a physical connection or connections between their toll lines or systems as is required for the furnishing of toll line service to the subscribers of each company, at the stations installed in their residences and places of business, over the toll 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 apportioned equally between the companies. Thirty days is deemed a reasonable time within which to comply with the terms of this order. *Winter v. La Crosse Tel. Co. et al.* 1913, 11 W. R. C. R. 748, 756, 758-759.

Requirements as to service and facilities—Adequacy of service.

12. It is the duty of the utility to furnish a reasonably adequate telephone service to all of its subscribers and to do everything that may be reasonably required to furnish that service at all time and without unnecessary delay. *Hoffman et al. v. Wausau Tel. Co.* 1913, 11 W. R. C. R. 480, 482.

13. Complaint was made that the Lodi Tel. Exchange at Lodi, Wis., furnishes inadequate service. It is alleged that the lines are overcrowded; that telephones are not installed when requested; that the lines and systems are not properly repaired and extended; and that no service is furnished during the night and on Sunday afternoon. *Held:* It does not seem advisable to order changes in the night service nor to require Sunday afternoon service at the present time. In order to improve the service and relieve the overcrowding, the respondent is ordered to extend and improve its lines in accordance with the requirements of the Commission. *Johnson et al. v. Lodi Tel. Exch.* 1913, 11 W. R. C. R. 713, 723-724.

Requirements as to service and facilities—Adequacy of service—Shutting off service without warrant.

14. Complaint was made that the Wausau Tel. Co. operating in Wausau, Wis., has put its subscribers to trouble and inconvenience by shutting off its patrons without notice even when all bills for service were paid. *Held:* If this condition exists, it constitutes inexcusable negligence on the part of the telephone utility. The respondent is ordered to keep a record in convenient form which will show the status of the financial relations existing between the respondent and each of its subscribers, and no subscriber shall be cut off for nonpayment of bills except after reasonable notice. *Hoffman et al. v. Wausau Tel. Co.* 1913, 11 W. R. C. R. 480, 484.

Requirements as to service and facilities—Adequacy of service—Trouble clearance.

15. Complaint was made that the Wausau Tel. Co. operating in Wausau, Wis., furnishes inadequate service. It is alleged that the system has not been kept properly in repair and as a consequence subscribers have been unable to secure service for periods of time which, in some cases, have been as great as a week. *Held:* It is the duty of the utility to furnish reasonably adequate service. The respondent is ordered to keep an accurate record in permanent form of all trouble reported and detected, which report shall show (1) the time of report or detection; (2) the telephone or telephones affected; (3) the nature of the trouble; (4) the time when trouble is cleared; and (5) what action was necessary to clear the trouble. *Hoffman et al. v. Wausau Tel. Co.* 1913, 11 W. R. C. R. 480, 484.

RATES.

See RATES.

VALUATION.

See VALUATION.**TEMPORARY SERVICE.**Extra charges for temporary telephone service, *see* RATES, 119.**TERMINAL CHARGES.***Switching rates.*Waupaca, Wis., between the M. St. P. & S. S. M. R. and the W. G. B. R., *see* RATES, 72.On lumber, discrimination in switching rates, Rhinelander, Wis., *see* DISCRIMINATION, 5.On lumber, substitution of switching charge for distance tariff rate, Ladysmith, Wis., on M. St. P. & S. S. M. R. line, *see* RATES, 68; REPARATION, 16.**TERMINAL EXPENSES.**Apportionment of terminal expenses in the determination of unit costs for railroads, *see* ACCOUNTING, 26.As element considered in making railway rates, *see* RATES, 41-42.**TERMINAL FACILITIES.***See* STATION FACILITIES; SWITCH CONNECTIONS.Demand for, relatively decreased with increase in carload shipments, *see* RATES, 26.**THROUGH LINES.***See* CONNECTING CARRIERS.**THROUGH RATES.**Joint or through rates, *see* RATES, 59, 71, 75.**TOBACCO.**Rates, establishment of concentration rates and refund on shipment, Wisconsin points on the C. M. & St. P. and L. C. & S. E. lines to Viroqua, Wis., *see* RATES, 75; REPARATION, 10.**TOLL RATES.***See* RATES.**TOLL SERVICE.**Switching rates for toll service, free exchange of service, *see* RATES, 116.**TOWNS.***See also* MUNICIPALITIES.Town board, petition of town board or member of town board, as condition precedent to jurisdiction of Commission over crossing of railroad by highway, *see* RAILROAD COMMISSION, 9; RAILROADS, 2.**TRACK CONNECTIONS.***See* SWITCH CONNECTIONS.**TRAFFIC CONDITIONS.**As a factor in fixing minimum weights, *see* WEIGHTS, 10.

TRAIN SCHEDULES.

See TRAIN SERVICE.

TRAIN SERVICE.*Adequacy of train service.*

See also STATION FACILITIES, 5.

1. Petitioner alleges that the train service at Thorpe, Wis., is inadequate. *Held*: Present train service is adequate, and that part of the petition which relates to the stopping of respondent's limited trains at Thorpe is dismissed. *Parkhill v. M. St. P. & S. S. M. R. Co.* 1912, 11 W. R. C. R. 153, 156, 158.

2. Petitioner alleges that a passenger station located between the main station, Milwaukee, Wis., and the northern city limits is essential to reasonably adequate service for the northern section of the city. *Held*: The passenger facilities are required to provide adequate service for the district in question. The respondent is ordered to build a suitable shelter shed and platform or a station, at its option, between North ave. and Folsom st. It is further ordered that the respondent stop at this station trains Nos. 131 and 133 leaving Milwaukee at 7:00 a. m. and 7:50 a. m., respectively, and trains Nos. 216 and 220 arriving at Milwaukee at 7:10 p. m. and 8:35 p. m., respectively. *Travelers' Prot. Assn. of America v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 333, 337.

3. Complaint is made that the passenger service on the Mineral Point division of the C. M. & St. P. Ry. Co. is inadequate. It is alleged that there is urgent demand for a passenger train leaving Janesville early in the morning and leaving Mineral Point on the return trip in the latter part of the afternoon. *Held*: Since it appears doubtful whether the company could with propriety be ordered to add another passenger train, the petition must to this extent be denied. However, the respondent is ordered to attach a passenger coach to the time freights designated as Nos. 165 and 166 in time table No. 135 of this division, furnishing such service and with such maintenance of the schedule between Janesville and Mineral Point as is reasonably consistent with the main functions these trains were planned to fulfill. *Overmeyer et al. v. C. M. & St. P. R. Co.* 1913, 11 W. R. C. R. 569, 574.

4. The respondent asks that it be relieved from the tentative order (10 W. R. C. R. 495) requiring the stopping of two trains on signal at the County Line road, between Green Valley and Gillette, Wis. The respondent submitted the record of the passenger business at this stopping place for the three months' trial period, kept as required in the former order. *Held*: The traffic and the resulting revenue is not sufficient to justify the stopping of trains at this point. The former order is vacated and the original complaint is dismissed. *Gilbertson et al. v. C. & N. W. R. Co.* 1913, 11 W. R. C. R. 604, 605.

5. Complaint was made of inadequate train service at Milltown, Wis. Discrimination was alleged in that Milltown was made a flag stop station for certain trains which stopped regularly at other stations of less or equal importance. *Held*: Operating conditions do not justify regular stops and the action of the company is not discriminatory. The petition is dismissed. *Laurson et al. v. M. St. P. & S. S. M. R. Co.* 1913, 11 W. R. C. R. 627, 633.

6. Petitioner complains that one mixed train on the Mineral Point & N. Ry. between Highland and Mineral Point, Wis., does not afford adequate service and asks that the respondent be required to run two mixed trains according to the schedule previously in effect, or that changes be made in the schedule for one train to improve passenger service. *Held*: It appears that the line has been operated at a substan-

tial loss. The freight business seems to be adequately taken care of with one train and crew under the present schedule and the estimated increase in passenger business is not sufficient to warrant the operation of an additional train. Any change in the present schedule does not seem practicable. The petition is dismissed. *Roethe v. M. P. & N. R. Co.* 1913, 11 W. R. C. R. 643, 653.

Freight service.

See ante, 6.

TRAINLOAD RATES.

See RATES.

TRAINS.

Limitation of speed of trains, for protection of railroad crossings, *see RAILROADS*, 19.

Stopping of trains, for protection of railroad crossings, *see RAILROADS*, 32, 40.

TRANSFER OF FREIGHT.

See SWITCH CONNECTIONS.

TRANSIT PRIVILEGES.

IN GENERAL.

Granting of privilege—Benefit to public, to carrier, and to shipper.

1. Stoppage in transit rules tend to increase the proportion of the carload traffic as well as the loading per car. They also operate as offsets to high minimum weight requirements and the great differences between carload and less than carload rates. It is, of course, a fact that the extra cost of stopping cars tends to reduce the importance of this privilege to the shippers. But even when reasonable charges are allowed for such cost this privilege would still seem to be of much value to all concerned. *In re Rates on Agricultural Implements*, 1913, 11 W. R. C. R. 508, 533.

TRANSIT RATES.

See RATES.

TRANSMITTERS AND RECEIVERS.

Telephone utilities, rental for equipment paid by subscribers of one company to reimburse another company owning part of instrument, *see RATES*, 107.

TROUBLE CLEARANCE.

Telephone utilities, trouble clearance, *see TELEPHONE UTILITIES*, 15.

TRUCKS.

Farm and logging trucks, classification under agricultural implements, *see RATES*, 51.

TWINE.

See BINDER TWINE.

UNDISTRIBUTED EXPENSES.

Apportionment of undistributed expenses in the determination of unit costs for electric utilities, *see* ACCOUNTING, 22.
for water utilities, *see* ACCOUNTING, 22.

UNDUE PREFERENCE.

See DISCRIMINATION.

UNIFORM ACCOUNTING.

See ACCOUNTING.

UNIFORM ACCOUNTS.

See ACCOUNTING.

UNIT COSTS.

Determination of unit costs for electric utilities, *see* ACCOUNTING, 1-18, 19-24.
for railroads, *see* ACCOUNTING, 25-27.
for street railways, *see* ACCOUNTING, 28-29.
for telephone utilities, *see* ACCOUNTING, 30-33.
for water utilities, *see* ACCOUNTING, 19-24, 34-52.

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 VALUE OF PROPERTY OF PUBLIC UTILITIES—ELEMENTS CONSIDERED.

In general.

1. In arriving at the final valuation in the present case all phases of the situation, as far as it concerns the valuation, were taken under advisement. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 242.

Going value—Net cost of building up the business.

2. It has been repeatedly held that the cost of building up the business of a public utility is an element to be considered in connection with the adjustment of rates. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 243.

3. The respondent complains that, in its earlier opinion (9 W. R. C. R. 439) the Commission placed no going value on the business, regardless of its "gross earning capacity." Evidently the respondent believes that whatever it is earning is a proper measure of what it *should* earn. It is perfectly plain that, were this the case, no basis for rate adjust-

ment would remain. The law contemplates that the investor may earn, above normal operating expenses, a fair return upon a fair investment in the plant and business. In concluding what this fair investment and return may be the Commission is guided by the cost of reproducing the plant, its depreciated value, what the owners have put into the business, and many other conditions that surround its operation. *Meyer et al. v. Sheboygan G. Lt. Co.* 1913, 11 W. R. C. R. 309, 315.

Physical property—Cost of reproduction new—Allowance for item of cost not actually incurred—Paving.

4. A part of the mains and services in the present case has been laid in advance of paving or repaving streets. The company asserts that this fact enhances the value for rate making above what it would cost to reproduce them in the absence of overlying pavement. While of course the cost of reproduction is more when pavement must be cut through and replaced, the presence of pavement does not establish an added value upon which the public must pay returns if the utility has not borne the costs. The Commission has more fully explained its position on this matter in other proceedings. *Meyer et al. v. Sheboygan G. Lt. Co.* 1913, 11 W. R. C. R. 309, 312.

Physical property—Cost of reproduction new—Depreciation fund—Allowance for.

5. As under normal conditions investors are entitled to have their property or investment kept intact, it follows that the amounts, which have been properly set aside for such purposes, or for depreciation, in accordance with the provisions of the law and the rules of the Commission, should in the instant case be included in the amount upon which returns are allowed. On the other hand, amounts earned for depreciation but withdrawn or used for other purposes than provided by law should not be so included. *Superior Commercial Club et al. v. Duluth Street Ry. Co.* 1912, 11 W. R. C. R. 1, 21.

Physical property—Cost of reproduction new—Discounts on bonds.

6. In the present case it appears that a portion of the bond issue amounted to a refunding issue, and that a considerable part of the remaining portion took the place of current liabilities. Under these conditions it does not seem proper to include the total amount of the discount on bonds in the valuation of the plant for rate-making purposes, although some additions to the amount of the physical value should be made because of discounts. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 253.

Physical property—Cost of reproduction new—Land.

7. In the present case, the contention was made that in the valuation for rate-making purposes a value should be placed upon certain portions of the right of way. It appears that before certain plats of territory now covered by the city were filed in the office of the register of deeds, the railway company was granted easements by a private land company to operate over private right of way, which subsequently became streets of the city. It was claimed by the company that these easements had certain values which should be considered in the present case. It was pointed out in opposition that these grants can have no value as against the public for rate-making purposes, in that these grants dedicate the streets to the public and any claim of the grantee is abrogated when these claims infringe upon the streets for the public good. It was further urged that the respondent should not be allowed to earn an income upon any value that may be attached to these grants,

because the franchises of the railway company assume full powers on the part of the city over its streets and the respondent has in its franchises acquiesced in this assumption. *Held*: It does not seem clear to the Commission that these lands granted for right of way purposes should be considered in the establishment of a fair value of respondent's plant and business as a basis for rates. The facts at the present time seem to indicate that to allow a return on any value which may be placed upon these grants would hardly be fair. *Superior Commercial Club et al. v. Duluth St. Ry. Co.* 1912, 11 W. R. C. R. 1, 15-16.

Physical property—Cost of reproduction new—Paving.
Allowance for item of cost not actually incurred, *see ante*, 4.

Physical property—Cost of reproduction new—Service connections.

8. It has been the practice of the utility to charge water consumers part of the cost of service connections. It seems that it would be only fair and just to deduct this amount from the value of the plant on which the utility is entitled to a reasonable return. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 452.

Physical property—Cost of reproduction new—Working capital.

9. A study of operating conditions obtaining on street railways discloses that they require considerably less working capital than utilities selling their product on a monthly basis. Especially is this true when traction companies sell tickets in advance, the cash on hand from such tickets unredeemed is almost sufficient in some cases to supply the necessary funds for working capital. However, it is often to the benefit of the railway, as well as to the public, that funds be kept on hand to take advantage of low current prices for materials, especially in view of the short duration of the season when renewals and betterments can be undertaken. *Superior Commercial Club et al. v. Duluth St. Ry. Co.* 1912, 11 W. R. C. R. 1, 21-22.

10. The utility is entitled to a reasonable amount of materials and supplies. There seems to be no reason to question the reasonableness of that item in the valuation in the present case. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 242.

11. Where collections are made quarterly a rather large amount of working capital is usually necessary. In the present case it appears to be the practice of respondent to collect a portion of its revenues in advance, which would tend to lessen the amount required for working capital. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 253-254.

12. While the utility requires sufficient available cash capital to enable it to meet its current obligations, this need is not uniform but is greatest when many accounts payable are due; it is least when they are entirely paid. The addition of the entire inventory value of material and supplies to the respondent's investment is equivalent to adding cash capital to the extent that the corresponding accounts are unpaid. *Meyer et al. v. Sheboygan G. Lt. Co.* 1913, 11 W. R. C. R. 309, 313.

DETERMINATION OF THE VALUE OF PROPERTY OF PUBLIC UTILITIES—METHODS OF APPRAISAL.

Determination of going value—Net cost of building up the business.

13. The methods to be followed in fixing the allowance which should be made for going value have not been very definitely fixed. In general, however, it may be said that there are two methods which have been used to a considerable extent. (1) The determination of the ex-

tent to which losses have actually been incurred in building up the business in question. (2) The cost of reproduction of the business. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 243.

14. The method which has generally been followed by the Commission aims to determine, as far as possible, what the actual cost of developing the business in question has been, and to what extent, if at all, such losses have been recovered in later years of operation. There are a number of difficulties in determining, by this method, what the cost of building up a business has been, among which may be mentioned: (1) Entire or partial lack of records covering the developmental period. (2) Difficulty of finding original cost of physical plant. (3) Difficulty of eliminating from reported operating expenses amounts which are the results of extravagance, inefficiency, or other causes which tended to keep the costs above a normal figure. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 243.

15. Where it is possible to secure needed information concerning the growth of the plant and business, however, the method upon which the Commission has at various times computed going value gives the extent of developmental costs which were occasioned in building up the business and the extent to which, at any time subsequent to what may be termed the developmental period, such developmental costs have been returned to investors. In other words, this method, where it can be applied to its full extent, enables the investigator to determine what it has actually cost the utility in question to build up its business. This sum, added to the actual investment in the physical plant, gives the total amount which the plant and business of the utility have actually cost. In applying this method of arriving at the cost of plant and business the difficulties which interfere with the accurate determination of the cost of the business, or of that portion of the cost which has not been returned to investors, also interfere very seriously with the determination of the actual investment in the physical plant, and not infrequently render it altogether impossible to ascertain the amount of such investment. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 243, 244.

16. The method of determining going value under the Alvord method is an attempt to fix the amount which it would cost to reconstruct the business of the utility, somewhat as a physical valuation reveals the cost of reconstructing the physical plant. There are two assumptions vital to this method: (1) A city similar in all respects to the one under consideration, except that there is no public water supply system, but in which the people are, in a general way, cognizant of the advantages of such a water supply. (2) Capital seeking investment which may either be used to construct a plant and business in the city with no water supply or to purchase the existing plant and business. *City of Green Bay v. Green Bay W. Co.* 1912, 11 W. R. C. R. 236, 244.

17. In a computation of going value according to the Alvord method the going value is the present worth of the amounts by which the net earnings of the comparative plant are less than the net earnings of the existing plant during the entire period from the date of the first preliminary work until the earnings of both plants are equal. It is submitted on behalf of the utility that, inasmuch as the cost of reproduction of the physical plant has often been used as an index of plant value, the measure of the value of a created earning power should be the cost of reproducing that earning power. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 244-245.

18. In computing going value it should be remembered that the general use of the cost of reproduction as an indication of investment in a physical plant has been largely necessitated by the lack of accurate and reliable information as to actual, legitimate investment. The same difficulty, although usually to a lesser extent, interferes with the de-

termination of actual costs of building up a business. Because of this condition, the cost of reconstructing or duplicating the established business may be to some extent valuable in fixing upon the going value. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 245.

19. From a somewhat careful study of the Alvord method it has seemed that some weaknesses exist in this method which tend to lessen the conclusiveness of its results. The results of this method rest upon certain basic assumptions as to the rate of construction of the physical plant, the rate of recovery of the earnings, and the rate of increase of operating expenses. In the present case a construction period of two years has been assumed at the end of which time the comparative plant would be ready to offer service, and it has been assumed that an additional period of three years would be required for that plant to develop a business equivalent to that which the plant under consideration would be assumed to have at the end of that period. It is evident that changes in the estimated rate of construction of the plant and of development of the business would materially affect the going value as determined by this method. Such assumptions as these are necessarily the result of expert opinion based upon all facts available concerning the existing plant and its business. A study of the conditions indicates that in some respects the assumptions upon which the conditions are based are in need of modification. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 245-246.

20. The assumptions of the Alvord method with respect to the rate of construction of the physical plant are in need of modification. It is hardly to be expected that all of the capital necessary for the construction of the comparative plant would be diverted from its existing place of investment at the beginning of the two year construction period, and about six months before the beginning of actual construction work. This would have a considerable effect upon the cost of reproducing the business as estimated under the Alvord method although, because of an erroneous method of dealing with losses during the construction period, the actual effect of an incorrect assumption at this point will be reflected in the amount to be allowed for loss of interest during construction, and not in the going value. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 246.

21. With respect to the estimated rate of construction of the plant and of the development of the business it is not probable that the entire plant would be complete before any service could be offered. A somewhat different sequence of construction work than that assumed under the above method would enable the plant to offer service to a part of the hydrants and a part of the general consumers before the expiration of the two year period. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 246.

22. The assumptions of the Alvord method with respect to the development of the business also require modification. A three year period for building up the business, after the completion of the physical plant, appears to be a maximum. It is hard to conceive of a city similar in all respects to the one under consideration without a public water supply, in which the need for such a supply would not be so pressing as to make the rate of development of the business very rapid. Of course, very much depends upon the character of the city, but one of the basic assumptions of this method is that the comparative plant should be installed in a city similar in every respect, except that it has no public water supply, in short, that the city itself has been without such a supply and that the plant is to be installed there. Any assumption as to the rate of recovery of the business must be a matter of estimate, but it seems that three years is a very liberal estimate of the time required. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 246-247.

23. If the cost of reproducing the business is to be the test of going value it seems that the cost to be determined should be the cost of de-

veloping a business equal to the present business, provided the earnings from that business are not excessive, rather than the present worth of the differences between the earnings of the two plants during the five year period which it has been assumed would be necessary to bring the two plants to an equal basis, without regard to whether the earnings at the end of that time are excessive or are unreasonably low. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 247.

24. Any estimate of the cost of reproducing the business, under the conditions prevailing in the present case must take cognizance of the existence of regulation by which the net earnings of the utility are limited to a reasonable amount. That is, the rates to be charged must not be so high as to yield the company an excessive return upon its property. Then, if revenues are to increase according to the assumptions upon which the going value has been computed, it must be because the investment of the company has been so greatly increased as to make such revenues necessary in order to provide a return. If useful investment has not so increased, revenues must be limited to an amount which will be sufficient to yield a reasonable return upon the actual useful investment. Although it may require a developmental period of three years after the plant is put in service to overtake the business of the existing plant, this does not appear to be the period which should be taken into consideration. A computation of cost of reproducing the business should rather determine the cost of reproducing so much of the business as is required to yield a reasonable return upon the investment. When such a reasonable return upon the investment is secured, the losses incident to the development of the business cease. If the existing plant is earning a greater net amount under a condition of regulation, it must be because a greater useful investment makes this larger revenue reasonable. If the return on useful property is greater than the amount required to yield a reasonable return on such investment, whether from the absence of regulation or from the failure of regulation to effectively limit the rate of return, the net revenues would, of course, make the existing plant more attractive to investors than the comparative plant would be at the point where its net revenues were yielding only a reasonable return upon the investment. At that point, therefore, the existing plant would have a greater value in the market than the comparative plant, which greater value would be determined by the amount by which the net earnings of the existing plant exceed what would be considered a reasonable return. The going value as computed under the Alford method includes both the cost to the comparative plant of building up a business which will yield a reasonable return, and the added earning or market value which the excessive earnings, if any, of the existing plant would produce. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 247-248.

25. Under a condition of regulation which limits the rate of return to a reasonable amount, this earning or market value, caused by the existence of an excessive rate of return, would not exist, and the going value, if computed upon the basis of the cost of reproducing the business, must be the cost of developing the business to the point where a reasonable return would be earned upon the useful investment, without regard to whether or not this point coincides with the point where both plants are in every respect equivalent. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 248.

26. With capital withdrawn from other investments somewhat in accordance with the needs of the plant under construction, the losses due to idle capital during construction would be relatively small and all of these losses are properly treated as a part of the cost of the physical property. The losses which constitute a cost of developing the business, as a cost distinct from that of the physical plant, begin when operation starts. If it is to be assumed, as has been done in this case, that the plant would not be put into service until the completion of all

construction at the end of the two year period, the cost of reproducing the business, which is to be an indication of the going value, does not commence until that time. All the present worth of net credits to the existing plant for the two years construction period should be excluded from the going value. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 251.

Determination of the value of the physical property of the plant
—*Cost of reproduction new.*

27. Where it is impracticable to determine what the actual cost of the physical property has been, the only method of arriving at the value of that property is to ascertain the cost of reproduction. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 244.

DETERMINATION OF THE VALUE OF PROPERTY OF PUBLIC
UTILITIES—VALUATION IN PARTICULAR CASES.

Electric utilities—Chetek Lt. & P. Co., Chetek, Wis.,—Appraisal
as of Oct. 1, 1912.

28. A valuation of the physical property as of October 1, 1912, showed a cost new of \$8,221 and a present value of \$6,420. *In re Appl. Chetek Lt. & P. Co.* 1912, 11 W. R. C. R. 227, 230.

Electric utilities—Columbus Water & Lt. Comm., Columbus,
Wis.—Appraised as of February 25, 1913.

29. After making the proper adjustments subsequent to the valuation of June 30, 1912, the valuation for the electric plant showed a cost new of \$45,648 and a present value of \$43,503. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 451–453.

Electric utilities—Evansville Mun. El. Lt. Plant, Evansville,
Wis.—Appraisal as of May 1, 1912.

30. A valuation of physical property as of May 1, 1912, showed a cost of reproduction new of \$29,209 and a present value of \$24,099. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 201.

Gas utilities—Sheboygan Gas Lt. Co., Sheboygan, Wis.—Appraisal
as of Jan. 15, 1913.

31. Application was made by the Sheboygan G. Lt. Co., Sheboygan, Wis., for a rehearing in the matter of the valuation fixed by the Commission in establishing the schedule of rates ordered in *Meyer et al. v. Sheboygan G. Lt. Co.* 1912, 9 W. R. C. R. 439. *Held*: The additional testimony and facts presented upon rehearing and further investigation enables the Commission to conclude that the respondent's investment in the business is not far from \$275,000. This is about the amount upon which it appears the respondent should be permitted to earn normal interest and profits when the business has been sufficiently developed to bear the burden. *Meyer et al. v. Sheboygan G. Lt. Co.* 1913, 11 W. R. C. R. 309, 316.

Street railways—Duluth Street Ry. Co., Superior, Wis.—Appraisal
as of June 30, 1911.

32. A valuation of the physical property of the Superior division of the company as of June 30, 1911, showed a cost new of \$717,538 and a present value of \$487,236. When the present value of the physical property for 1911 is increased by the present value of that part of the property located in Duluth but chargeable to Superior and which cannot greatly exceed \$70,000, when additions of about \$10,000 are made for

working capital, and when proper allowances for depreciation and going value are added, it will be found that the total amount does not quite reach the cost value new. In fact, it does not greatly exceed \$700,000. This sum finds support in the cost of reproduction of the plant and the business as well as in their original cost. *Superior Commercial Club et al. v. Duluth St. Ry. Co.* 1912, 11 W. R. C. R. 1, 15, 22.

Telephone utilities—Boscobel Tel. Co. Boscobel, Wis.—Appraisal as of Nov. 21, 1912.

33. An inspection by the Commission's representatives indicates that the cost of reproduction of the plant would be about \$8,000 and that the present value is about \$6,500. *Boscobel Tel. Co. v. Crawford Co. F. Mut. Tel. Co. et al.* 1912, 11 W. R. C. R. 32, 39.

Telephone utilities—East Fond du Lac Co. Tel. Co., Eden, Wis.—Appraisal as of Oct. 1, 1912.

34. An appraisal of the physical property operated by the company shows that the cost new on October 1, 1912, totals about \$16,671 and the present value \$11,115. *In re Appl. East Fond du Lac Co. Tel. Co.* 1912, 11 W. R. C. R. 114, 115.

Telephone utilities—Matteson Tel. Co., Shiocton and Welcome, Wis.—Appraisal as of Oct. 1, 1912.

35. A valuation of the physical property as of date October 1, 1912, shows a cost new of \$13,423, and a present value of \$9,509. An addition for rural phones owned by subscribers gave a total cost new of \$13,878 and a present value of \$9,841. *Knapp et al. v. Matteson Tel. Co.* 1912, 11 W. R. C. R. 180, 187-188.

Telephone utilities—Muscodia Mut. Tel. Co., Muscodia, Wis.—Appraisal as of Feb. 1, 1913.

36. A valuation of the physical property, as of Feb. 1, 1913, shows a cost new of \$11,812 and a present value of \$8,586. *In re Appl. Muscodia Mut. Tel. Co.* 1913, 11 W. R. C. R. 666, 672.

Telephone utilities—Random Lake Tel. Co. Random Lake, Wis.—Appraisal as of Oct. 1, 1912.

37. A valuation of the property used for telephone service as of October 1, 1912, shows a cost new of \$17,030 and a present value of \$13,246. *In re Appl. Random Lake Tel. Co.* 1912, 11 W. R. C. R. 130, 131.

Water utilities—Cashton Mun. Lt. & W. Plant, Cashton, Wis.—Appraisal as of Jan. 1, 1913.

38. A valuation as of January 1, 1913, showed the cost new to be \$12,375 and the present value, \$10,196. *In re Appl. Cashton Mun. Lt. & W. Comm.* 1913, 11 W. R. C. R. 410, 413.

Water utilities—City of Neenah, Neenah, Wis.—Appraisal as of May 20, 1912.

39. A valuation of the property as of May 20, 1912, showed a cost of reproduction new of \$127,419 and a present value of \$117,038. *In re Appl. City of Neenah,* 1913, 11 W. R. C. R. 119, 121.

Water utilities—Columbus W. & Lt. Comm., Columbus, Wis.—Appraisal as of Feb. 25, 1913.

40. After making the proper adjustments subsequent to the valuation of June 30, 1912, the valuation for the water plant showed a cost new of \$55,699 and a present value of \$53,462. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 451-452.

Water utilities—Evansville Mun. W. Wks., Evansville, Wis.—Appraisal as of May 1, 1912.

41. A valuation of physical property as of May 1, 1912, showed a cost of reproduction new of \$39,130 and a present value of \$37,122. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1913, 11 W. R. C. R. 197, 201.

Water utilities—Green Bay W. Co., Green Bay, Wis.—Appraisal as of Jan. 6, 1913.

42. The final valuation, as compiled after the hearings and after some further information was obtained concerning disputed items, with the exclusion of non-operating property and of that portion of the paving which was not actually disturbed in the construction of the existing plant showed a cost of reproduction new of \$671,518 and a present value of \$618,229. *Green Bay v. Green Bay Water Co.* 1913, 11 W. R. C. R. 236, 242.

Water utilities—Village of Elkhart Lake, Elkhart Lake, Wis.—Appraisal as of Jan. 1, 1912.

43. The valuation of the physical property, as of Jan. 1, 1912, shows a cost new of \$9,142 and a present value of \$8,425. *In re Village of Elkhart Lake*, 1913, 11 W. R. C. R. 690, 691-692.

Water utilities—Village of Montfort, Montfort, Wis.—Appraisal as of Nov. 1, 1912.

44. The valuation of the Commission as of Nov. 1, 1912, showed a cost new of \$8,056 and a present value of \$7,617. *Rollins et al. v. Village of Montfort*, 1913, 11 W. R. C. R. 278, 280.

VALUE OF SERVICE THEORY.

Value of service, as element considered in making rates for railways, impossible to ascribe definite monetary significance to value of service from standpoint of shipper; *see* RATES, 43.

VARIABLE EXPENSES.

Apportionment of variable expenses, *see* ACCOUNTING, 2-14, 38-51.
Prorating of variable expenses, *see* ACCOUNTING, 15-18, 52.

VEHICLE SPRINGS.

See SPRINGS.

VILLAGES.

See MUNICIPALITIES.

Village board, petition of village board, as condition precedent to jurisdiction of Commission over crossing of railroad by highway, *see* RAILROAD COMMISSION, 9; RAILROADS, 2.

WAGES AND SALARIES.

As element considered in making rates for water utilities, *see* RATES, 130.

WATER RATES.

See RATES.

WATER UTILITIES.

Cost of service of water utilities, determination of unit costs, see ACCOUNTING, 19-24, 34-52.

Depreciation, rate of depreciation of water plant, see DEPRECIATION, 14-17.

Discrimination as between customers of water utility, see DISCRIMINATION, 3.

ACCOUNTING.

See ACCOUNTING.

OPERATION.*Management—Financial transactions.*

1. Application was made by the Light and Water Commission of Lake Mills, Wis., for an investigation of its rules and practices in conducting the business of the Lake Mills municipal water works and electric light plant. It appears that the affairs of the department were conducted contrary to the express provisions of the statute (secs. 925-95b to 925-95f) (laws 1911, ch. 233). There was no charge of intentional wrongdoing and the matters were submitted to the Commission for consideration and advice. The provisions of the trust deed executed by the city to secure the mortgage certificates for the electric plant were entirely ignored by the light and water commission. The trust deed provides that the income from the operation of the plant over and above the actual and necessary running expenses and maintenance shall be kept as a separate fund in the city treasury, out of which fund the interest on the certificates shall be paid. Contrary to the provisions of ch. 233, laws of 1911, which prescribes the manner in which the business of municipal plants shall be conducted, the commission permits the manager of the plant to collect all revenues and to make all the disbursements for the plants without any audit of the commission. The funds are kept in bank and drawn upon by him as manager of the plant. The city treasurer has no information whatever of the financial transactions of the water and light department. It is very clear that the water and light commission should change its method of caring for the finances of the plants. The man in charge of collecting the funds should deposit his collections daily with the city treasurer. All accounts against the department should be audited by the Commission, and, if approved, should be paid by orders upon the city treasurer, issued and signed by the president and secretary of the commission (sec. 925-95b). The city treasurer should keep as a separate fund all income and revenue derived from the plants and any funds specifically provided therefor by the common council, and pay therefrom all orders drawn upon him by the commission (sec. 925-95c). In accordance with the provisions of the statute (sec. 925-95e, subsec. 6) the commission should employ a superintendent who should have charge of both the lighting and water plants. There should also be an office man charged with the duty of keeping the books and accounts of the department, attending to complaints, collecting the revenues, and performing whatever additional duties the commission may find necessary to impose upon him. The plants should be treated as a business enterprise and kept separate from other municipal functions. It is recommended that the water and light commission adopt the suggestions made. *In re Appl. Lake Mills Lt. & W. Comm.* 1912, 11 W. R. C. R. 160, 163-164.

Requirements as to service and facilities—Adequacy of service.

2. The Commission, on its own motion, investigated the service furnished by the Bayfield Municipal W. and Lt. Plant, following a complaint of the board of water and light commissioners for the town of

Bayfield, in Bayfield county, Wis., that the service now being furnished is inadequate, insufficient and unreasonable. It appears that the plant is scarcely equal to the present load; that the voltage regulation is very poor; and that the equipment will have to be replaced in the very near future. The utility desires to make a number of changes in equipment to enable the plant to furnish day service and to effect certain economies in operation. It appears that up to a year ago no depreciation fund had been set aside from earnings, so that notes or bonds must now be issued to obtain the funds needed to make the necessary replacements. It was estimated that the indebtedness for the cost of the proposed improvements and replacements could be met within six years. *Held*: The present service is inadequate and the applicant is ordered to improve the equipment as recommended by the Commission. *In re Invest. Bayfield Mun. W. & Lt. Plant*, 11 W. R. C. R. 686, 689.

Requirements as to service and facilities—Appliances for the measurement of product or service—Duty of utility to provide meters.

3. In the present case all services except those applying to hydrants and sprinkler systems are to be metered by July 1, 1913. As regards the meters which were installed at the expense of consumers before the city adopted the policy of furnishing meters, these should be acquired by the city as the utility should own all meters used upon its system and the city should offer a reasonable price at which the owners can turn them over. *In re Appl. City of Neenah*, 1912, 11 W. R. C. R. 119, 128.

4. Application was made by the city of Milwaukee for authority to require all consumers to install water meters. Attention is called to the rule of the department which permits the ordering of the installation of meters on any premises where the department has reason to believe that an unnecessary or fraudulent use of water is being made. The department has approximately 57,000 metered services and only about 650 unmetered services. *Held*: The Commission has always taken the attitude that the installation of meters is desirable and should be accomplished wherever possible. This case appears to be no exception. The applicant is authorized to require the installation of water meters of such type or types as shall be approved by the water department upon all unmetered services to which water is supplied by the city. *In re Appl. City of Milwaukee*, 1912, 11 W. R. C. R. 195, 196.

5. On account of various operating features it is advisable that meters be owned by the utility and there can be little objection thereto when interest and depreciation charges are provided in the rate. The owners of service meters should therefore be reimbursed in amounts equal to the depreciated value of their meters and all meters hereafter installed by the water department should be placed at its own expense. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 209, 215.

6. In connection with the adjustment of water rates in Green Bay, Wis., the matter of extending the meter system was brought before the Commission. *Held*: The meter system for the water utility should be extended. The respondent is ordered to place meters upon all services, including those to consumers now supplied free of charge with the exception of services for fire protection only. Meters are to be owned and maintained by the water company. One year from the date of this order is considered sufficient time for compliance. If it shall appear that there are certain classes of consumers to whom the order relative to metering should not be applied, a motion for such modification as may appear reasonable will be entertained. *City of Green Bay v. Green Bay W. Co.* 1913, 11 W. R. C. R. 236, 263.

7. Application was made by the Cashton Mun. Lt. & W. Comm., Cashton, Wis., to be relieved from the necessity of furnishing meters. *Held*: In view of the financial condition of the plant, the village should be exempted. It is ordered that the applicant be relieved of the necessity of supplying water meters at its own expense. *In re Appl. Cashton Mun. Lt. & W. Comm.* 1913, 11 W. R. C. R. 410, 413-414.

8. It is the duty of the utility to furnish and own all meters unless exempted by the Commission. *In re Appl. Village of Elkhart Lake*, 1913, 11 W. R. C. R. 690, 693.

Requirements as to service and facilities—Appliances for the measurement of product or service—Duty of utility to provide meters and services.

9. The city of Durand, Wis., made application that the Durand municipal water works be excused from the rule requiring that meters and service pipes be furnished by the utility. *Held*: The intention of the Public Utilities Law is that all equipment incident to the production, transmission, and measurement of gas, electricity, water, etc., shall be owned and maintained by the utility, but in cases where conditions are such as to make the strict application of this rule impossible, the Commission is given authority to grant a certain amount of relief. The experience of the Commission has been that it is best for all concerned for a water works to install and maintain meters and lay service pipes to the curb at its own expense. On account of the financial condition of the city the rule relating to meters and service pipes is temporarily suspended, however the city is expected to acquire the ownership of all water meters on its system and all service pipes extending from the main to the curb line as soon as its financial condition will permit. The ordinance for the suspension of the rule is approved. *In re Appl. Durand Mun. W. Wks. Plant*, 1912, 11 W. R. C. R. 169, 170.

Requirements as to service and facilities—Dead ends.

10. In the present case complaint is made that consumers supplied with water from dead ends are compelled to draw much more water than is used, because the water in these dead ends is stale or stagnant, especially in hot weather, unless the tap is left open. At the hearing it was suggested that if the hydrants located on these dead ends were flushed periodically, matters would be helped considerably. We understand that this suggestion has been followed, and that the cause for complaint has been removed. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 470-471.

Requirements as to service and facilities—Services.

11. The logical conclusion seems to be that the utility shall install and own services to the curb line. The service pipe from main to curb is as much a part of the utility's distribution system as is the main itself. Both parts of the equipment have the same purpose, the delivery of water to consumer's premises. It is not believed that the utility should be required to install and own such portion of the service as are on private property. (*City of Janesville v. Janesville W. Co.* 1911, 7 W. R. C. R. 628, 681.) *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 471.

12. The law clearly contemplated that all responsibility for the installation and maintenance of the whole of the equipment shall be centered exclusively in the management. (*In re Invest. Hudson Water Works*, 1908, 3 W. R. C. R. 138, 141.) *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 471.

Requirements as to service and facilities—Services—Duty of utility to provide services.

13. Under ordinary conditions, the water utility should own the services to the curb and retain the responsibility for all equipment located

in the public street. As this policy should be followed wherever possible, the establishment of equitable relations among the several consumers may sometimes be best attained by reimbursing those consumers who have borne the cost. But the extent of early practices may have created a condition under which little is to be gained by changing the existing method. Such seems to be the case in this instance. It appears that little justice will be done by continuing the present practice of charging a uniform amount for installing services. The water department should be responsible for the maintenance and renewal and bear the additional cost above the present charge to consumers. *In re Invest. Evansville Mun. El. Lt. & W. Plant*, 1912, 11 W. R. C. R. 197, 210.

Requirements as to services and facilities—Services—Leaks.

14. In the present case the utility asks that the Commission determine the responsibility and rights of the city in cases where leaks occur in the service pipe between the main and the curb, between the curb and the meter, and beyond the meter. This Commission has held that the service pipe from the main to the curb is part of the equipment that the utility should own. It seems clear that the utility must repair and maintain the service pipe to the curb. In view of the fact, however, that there is likely to be some of the service pipe between the curb and the meter it is advisable that the utility also maintain and repair the pipe up to the meter. The consumer ordinarily has no great interest in water wasted that does not go through his meter, and is reluctant to report leaks which cause such losses if he is compelled to pay for the repair. In order, therefore, to protect itself it seems advisable that the utility should maintain the pipe up to the meter. This cost will be a proper operating expense and have its consequent effect on the rates paid for water. *In re Appl. Columbus W. & Lt. Comm.* 1913, 11 W. R. C. R. 449, 471.

RATES.

See RATES.

VALUATION.

See VALUATION.

WEIGHT OF ARTICLES CARRIED.

As matter considered in determining reasonableness of railway rates, see RATES, 50.

WEIGHTS.

MINIMUM CARLOAD WEIGHTS.

Carload minimum on agricultural implements, see RATES, 51.

- on binder twine, see RATES, 51.
- on boxes, see RATES, 53.
- on cattle stanchions, see RATES, 51.
- on cream separators, see RATES, 51.
- on disk harrows, see RATES, 51.
- on farm trucks, see RATES, 51.
- on feed cookers, see RATES, 51.
- on galvanized iron tanks, see RATES, 51.
- on grindstones, see RATES, 51.
- on hand agricultural implements, see RATES, 51.
- on harrows, see RATES, 51.
- on implements, see RATES, 51.
- on iron pipes, see RATES, 51.
- on litter carriers, see RATES, 51.

- on liquor, *see* RATES, 60.
- on logging trucks, *see* RATES, 51.
- on packing boxes, *see* RATES, 53.
- on planters, *see* RATES, 51.
- on potato planters, *see* RATES, 51.
- on pump jacks, *see* RATES, 51.
- on rope, *see* RATES, 51.
- on scrapers, *see* RATES, 51.
- on tanks, *see* RATES, 51.
- on tank heaters, *see* RATES, 51.
- on trucks, *see* RATES, 51.
- on twine, *see* RATES, 51.
- on wheel barrows, *see* RATES, 51.
- on wooden packing boxes, *see* RATES, 53.

Basis of minimum weights—Commercial conditions.

1. Peculiar commercial conditions should be recognized by carriers in fixing a minimum weight. Commercial conditions of a territory have always had an important influence in the making of commodity rates, issuing of exception sheets, etc. It is just as proper that the same consideration should be given to such local problems in the fixing of a minimum so long as the carrier is protected from carrying at car-load rates loads which should properly go as less than carload. *In re Rates on Agricultural Implements*, 1913, 11 W. R. C. R. 508, 522.

2. The importance of recognizing commercial conditions is emphasized by the interstate commerce commission in opinion No. 2110, *In re Suspension of Western Classification* 51, 1912, 25 I. C. C. R. 442, 482-483. In that opinion we find the following statement: "The physical minimum is that minimum which represents the weight or bulk quantities which can be loaded into a car from the point of view of space or the theoretical number of packages capable of being loaded into a car * * *. The commercial minimum is that minimum which represents the unit of purchase and sales of the commodity in question as established by custom and the conditions existing in that trade and in the territory in which it governs at the time the minimum was established. The physical minimum would consider only physical loading capacity, while the commercial minimum would consider, in addition, trade requirements, conditions of manufacture, distribution and consumption. It is our conclusion, therefore, that carriers should take into consideration both the physical minimum and the commercial minimum in deciding upon a classification minimum to govern carload shipments." *In re Rates on Agricultural Implements*, 1913, 11 W. R. C. R. 508, 522-523.

Basis of minimum weights—Sliding scale minimum.

3. The general principle on which the rule for the sliding scale minimum is founded is sound. This principle is that a car of greater than standard length should earn more for the carrier than a car of standard or less than standard length. The general idea is that it costs more to haul a long car than a short one and a shipper has no right to make use of the more expensive equipment unless the carrier is assured of a minimum revenue somewhat commensurate with the character of the equipment furnished. Presumably a larger car has greater value to the shipper by virtue of the fact that it enables a larger loading, and at the same time because of its great weight costs the carrier more to haul. The rule is applied only to light and bulky articles. Where the commodity carried in the car takes up much space without contributing a proportionately large weight, so that an addition to the size of the car does not result in a proportionate addition to the weight of the load, the railway company should be compensated for the use of the expensive additional car space. *In re Rates on Agricultural Implements*, 1913, 11 W. R. C. R. 508, 524-525.

4. In prescribing a basis for a sliding scale minimum, there are certain factors to be considered which may or may not be reasonable in any given case. Among these elements are (1) the size of car that is fixed as a standard, (2) the use of the length of the car as the sole basis for increase in minimum weight, and (3) the fixing of the percentage per foot as the amount to be added to a minimum on cars longer than the standard. *In re Rates on Agricultural Implements, 1913, 11 W. R. C. R. 508, 525.*

5. The variation in cubic capacity of the cars is a better basis of adjusting the minimum than mere length alone. The length of the car alone does not indicate the variation in cubic capacity, or in weight, due to the other dimensions. Moreover, the commodities may be of such a bulk or size that the addition of a foot in length to the car will not allow any more loading. *In re Rates on Agricultural Implements, 1913, 11 W. R. C. R. 508, 526-527.*

6. The method of establishing the sliding scale minimum on a fixed percentage according to the increase in the length of the car is open to criticism because it ignores the many other factors which enter into both the value of the service to the shipper and the increased cost of hauling to the carrier. *In re Rates on Agricultural Implements, 1913, 11 W. R. C. R. 508, 527.*

7. The size of the car is only one of the various elements that enter into the question of minimum weights and should not control the scale entirely. There are a number of elements which enter into the value of the service to the shipper, such as his financial capacity, conditions of competition, the value of the article, the status of the market, the need of dispatch in shipment, the amount of cartage necessary, the size of the car, etc. *In re Rates on Agricultural Implements, 1913, 11 W. R. C. R. 508, 527.*

8. As regards the cost to the carrier, criticism can be made that there are elements which the percentage scale in the present case does not consider. There are some increases due directly to the size of the car, such as interest and depreciation on the larger equipment, extra cost of hauling a heavier load, etc. At the same time there are certain terminal expenses, office expenses, switching expenses, etc., which depend on the number of the cars rather than the size. Then, too, there are expenses which will vary according as the shipment is way or through. *In re Rates on Agricultural Implements, 1913, 11 W. R. C. R. 508, 527.*

9. Even if the percentage adopted in fixing a sliding scale minimum is a proper per cent to represent the increase in capacity of one car over another, still it is not proper to make this the sole basis of fixing the scale of minimum weights. *In re Rates on Agricultural Implements, 1913, 11 W. R. C. R. 508, 527-528.*

Basis of minimum weights—Traffic conditions.

10. It is not fair to base an element in a freight classification such as a minimum weight upon the classification of another territory where traffic conditions may be very different. *In re Rates on Agricultural Implements, 1913, 11 W. R. C. R. 508, 523.*

Basis of minimum weights—Minima should be based upon practical loading capacity.

11. The minimum to apply on a car should not be greater than the full weight limit permitted to be loaded in the car. *Oshkosh Fuel Co. v. C. & N. W. R. Co. 1913, 11 W. R. C. R. 400, 401.*

WHEEL BARROWS.

Mixture privilege with agricultural implements, *see* RATES, 51.

WHISKEY.

See LIQUOR.

WIRE PLANT EXPENSES.

Apportionment of wire plant expenses in the determination of unit costs for telephone utilities, *see* ACCOUNTING, 33.

WOOD.*Rates.*

Reasonableness of, Wisconsin points. *See* RATES, 79.
Reduction of, Wisconsin points on the M. St. P. & S. S. M. Ry. to Grand Rapids, Menasha, Neenah, Nekoosa, Port Edwards and Rhinelander, Wis. *See* RATES, 81.

Refund on shipment.

Crandon to Milwaukee, Wis. *See* RATES, 76; REPARATION, 12.
Fenwood to Frances Creek, Wis. *See* RATES, 77; REPARATION, 11.
Wausaukee to Fond du Lac and Berlin, Wis. *See* RATES, 78; REPARATION, 26.
Wisconsin points on the C. M. & St. P. Ry. to Brokaw, Wis. *See* RATES, 80; REPARATION, 15.
Wisconsin points to Appleton, Kimberly, Combined Locks, and Kaukauna, Wis., *see* RATES, 65, REPARATION, 25.
Wisconsin points on the M. St. P. & S. S. M. Ry. to Nekoosa, Port Edwards and Rhinelander, Wis., *see* RATES, 81; REPARATION, 27.

WOOD BOLTS.

See BOLTS.

WOOD PULP.

See PULP.

WOODEN PACKING BOXES.

See BOXES.

WORKING CAPITAL.

As element in the valuation of public utilities, *see* VALUATION, 9-11.

YARDAGE FACILITIES.

See STATION FACILITIES; SWITCH CONNECTIONS.