[An update of the appraisal of the Wisconsin River Power Company generating facilities system completed on July 5, 1985 (effective date January 1, 1980), and updated on April 16, 1986].

Landmark Research, Inc.
[s.l.]: [s.n.], [s.d.]

4610 University Avenue, Suite 105, Madison, Wisconsin 53705, 608-233-6400

Landmark Research Inc.

James A. Graaskamp, Ph.D., S.R.E.A., C.R.E.
Jean B. Davis, M.S.

April 16, 1986

Board of Tax Assessment Review
Township of Quincy
Town of Quincy Town Hall
Juneau County, WI

Gentlemen:

Since our appraisal of the Wisconsin River Power Company (WRPC) generating facilities system was completed and dated July 5, 1985, to determine market value as of January 1, 1980, a number of additional factors have come to light which should be considered in your deliberations.

First, a review of WRPC operations indicated a steady decline in water sales revenue and other income so that this line item in Exhibit 1 in the July 5, 1985, report has been corrected to read $33,000 per year, rather than $471,801. The result is an amended net operating income before deduction of real estate taxes and depreciation of $4,728,742.

Next, we have obtained an updated allocation of the proportionate land and improvement allocations by townships which play some role in the Castlerock/Petenwell hydroelectric generation system. (See Appendix H.) Since these prorations are based on year-end 1979, they should be applied to the January 1, 1980, assessment. The Township of Quincy has 32.07 percent of actual land and building costs including improvements since the original construction so that ratio of 0.3207 should be applied to the economic value of the total system when determining Fair Market Value of the system in Quincy Township. Exhibit 2 of our original appraisal is updated and attached to this letter as Exhibit 2-C.

A third factor of significance is the issue as to whether the federal government would renew the generating license of Wisconsin River Power Company in 1998. There is no case that would indicate that the federal government would not provide full indemnity for the economic value of the assets acquired by reverter if the license was not renewed. Judge Gartzke indicated in a Court of Appeals decision (see Appendix I) dated and released May 23, 1985, in Wisconsin River Power vs. Board of Review of the Town of Armenia that

> "The United States may take over and operate the project when the license expires if it pays the owner its net investment." 16 USC sec. 807 (a)

In that case, there is no need for a loading to the capitalization rate for recapture since the net investment of the new owner would reflect the purchase

price of the system and not the original cost. Net investment is defined as purchase price less depreciation plus improvements and Federal Energy Resource Commission (FERC) can build depreciation onto the writ. Since net income in Exhibit 1-C is before real estate taxes or depreciation, a sinking found factor for assets depreciated during 18 years of private ownership is required. To implement the possibility that FERC would require a sinking fund reserve, it might be necessary to load the cap rate for a sinking fund factor reflecting the useful life of the generating equipment and impoundment, say 36 years for 50 percent depreciation in 18 years.

1. The appraiser originally provided for straight-line recapture on an 18-year basis assuming 50-50 probability of confiscation or only 50 percent for remaining asset values. This assumption resulted in a conservative load on the cap rate of 0.0278.

2. If there were no load or recapture because it is assumed that the federal government would provide full indemnity if license is not renewed in 1998, Exhibit 1 could be modified as in Exhibit 1-A, the total cap rate would fall to 12.41 percent and market value would be $41,640,000, before reduction for the 32.07 percent in Quincy and the Town of Quincy equalization rate of 0.3959.

3. If 50 percent of the asset value were to be replaced by a sinking fund invested at 8 percent over the 18-year term of the lease remaining, the sinking fund load on the capitalization rate would be 0.0267 x 50 percent or 0.0134.

A fourth major issue is establishing the cost of capital for the next buyer. Our original appraisal assumed an all-equity purchase to avoid arguments of cash equivalency, based on actual returns on equity for 1980 reported for Wisconsin Public Service Corporation in Moody's utilities manual. Since we assumed that the generating system could be purchased by any private investor who could then compel purchase of electricity generated under the 1978 Energy Act by the closet electric utility, we did not consider that the most probable buyer class could be restricted to rural electric coops. Rural electric coops can pay the highest probable price for the subject property because of access to low cost funds. In the case cited above, written by Judge Gartzke, on page 14, there is a suggestion that a special class of buyer with unique low production costs, could be recognized. Gartzke wrote, "Specified factors, such as compartively low production costs, may affect the value to a class of buyers. The existence of members of that class may be shown, but all factors affecting value to that class should be taken into account when evidence is offered of that value."

In that light, there is reason to believe that local rural electric coops could be defined as the most probable buyer group. In 1980, 70 percent of the purchase price could be borrowed by an eligible rural electric coop from government sources for 5 percent interest and 30 percent of the capital would be needed to be equity at a minimum rate of 10.7 percent. Reference to Exhibit 1-C indicates the alternative economic value which would result from the special financing advantages of rural coops. In order to anticipate a FERC sinking fund requirement and the money cost of rural electrification, we recommend the valuation set in Exhibit 1-C where the capitalization rate is 9.76 percent, the economic value $48,500,000, and the equalized value of the Town of Quincy prorated share is $6,157,809. (See Exhibit 2-C for relative townships.) The necessary footnotes and Court of Appeals decision are attached to this letter.

AS SPECIAL ASSESSOR FOR THE TOWNSHIP OF QUINCY RELATIVE TO WISCONSIN RIVER POWER COMPANY GENERATING FACILITIES REFERRED TO AS FERC PROJECT 1984, WE RECOMMEND THAT MARKET VALUE OF THAT PART OF THE SYSTEM LOCATED IN THE TOWNSHIP OF QUINCY BE SET AT $15,553,950 AND EQUALIZED VALUE FOR JANUARY 1, 1980, AT $6,157,809 AS REFLECTED IN EXHIBIT 1-C AND EXHIBIT 2-C. WE FURTHER RECOMMEND THAT COURT APPROVAL OF THE FORMULA FOR ASSESSMENT BE SECURED SO THAT IT COULD BE THE BASIS FOR ASSESSMENTS UNDER APPEAL FOR SUCCESSIVE YEARS, WITH PROPER ADJUSTMENTS FOR CHANGING WHOLESALE UTILITY RATES, COST OF FUNDS, OR CHANGING LEGAL FACTORS RELATIVE TO RENEWAL OF THE LICENSE.

This value conclusion supercedes preliminary values provided in our report of July 5, 1985, and a letter clarification and discussion provided the Board of Review for their consideration on April 14, 1986. As special assessor, we have filed an affidavit relative to the subject property and attached to the record the assessment books of record for the township an assessed value of $6,100,000.

FOR LANDMARK RESEARCH, INC.

James A. Graaskamp, Ph.D., SREA, CRE
Urban Land Economist

Enclosures

JAG/elm

EXHIBIT 1-C

SUMMARY OF NORMALIZED INCOME ESTIMATE
AND RELATED CAPITALIZATION RATE COMPONENTS
FOR WISCONSIN RIVER POWER COMPANY
ASSUMING AVERAGE COST AVOIDANCE RATES
POSTED BY WISCONSIN ELECTRIC UTILITIES TO DETERMINE
ECONOMIC INCOME VALUE AS OF JANUARY 1, 1980

INCOME APPROACH TO VALUE	
PETENWELL GENERATING CAPACITY [1a]	175,320,000
CASTLE ROCK GENERATING CAPACITY [1b]	131,400,000
SYSTEM CAPACITY (KWH's) [1c]	306,720,000
AVERAGE ANNUAL KWH's [2]	231,420,000
ELECTRIC ENERGY RATES	
ON-PEAK KWH's [3]	91,902,904
OFF-PEAK KWH's [4]	139,517,096
ANNUAL ON-PEAK RATE	0.03553
ANNUAL OFF-PEAK RATE [5]	0.01715
AVERAGE ADJUSTED RATE	0.02445
ANNUAL WATER SALES BY CONSOLIDATED WATER POWER CO. [6]	$33,000
TOTAL REVENUE	5,690,662
EXPENSES (PER KWH) [7]	0.0042
TOTAL EXPENSES	961,920
NET OPERATING INCOME	$4,728,742
CAPITALIZATION RATE	
0.70 x 0.05 REA Rate	3.50%
0.30 x 10.70 UNLEVERAGED EQUITY	3.21%
SINKING FUND FACTOR AT 8%, 18 YRS. 0.026702 x 0.5	1.34%
AVERAGE ANNUAL EQUALIZED REAL ESTATE TAX RATE FOR TOWNSHIPS IN WATERSHED [10]	1.71%
TOTAL CAPTALIZATION RATE	9.76%
TOTAL ECONOMIC INCOME VALUE	$48,500,000

$48,500,000 x 0.3207 (Quincy's Prorate) = $15,553,950
$15,553,950 x 0.3959 (Equalization Rate) = $6,157,809

EXHIBIT 2-C

ECONOMIC INCOME VALUE BASED ON AVOIDED COST RATES
ALLOCATED TO TOWNSHIPS BY HISTORICAL COST RATIOS
AND THEN CONVERTED BY TOWNSHIP EQUALIZATION RATES
TO INDICATED 1980 ASSESSED VALUE

	HISTORICAL COST PERCENTAGE ALLOCATION [11]	VALUE ALLOCATION PRO RATA ON HISTORICAL COST [12]	EQUALIZATION RATE [13]	1980 EQUALIZED VALUE
ARMENIA	0.083100	$4,030,350	0.2189	$882,244
GERMANTOWN	0.074100	$3,593,850	0.6179	$2,220,640
MONROE	0.075400	$3,656,900	0.339	$1,239,689
NECEDAH	0.278800	$13,521,800	0.1626	$2,198,645
QUINCY	0.320700	$15,553,950	0.3959	$6,157,809
PORT EDWARDS	0.005300	$257,050	0.652	$167,597
ROME	0.030800	$1,493,800	1.0151	$1,516,356
SARATOGA	0.007000	$339,500	0.9755	$331,182
STRONGS PRAIRIE	0.124800	$6,052,800	0.6545	$3,961,558
TOTALS	1.000000	$48,500,000	NA	$18,675,719

FOOTNOTES TO EXHIBITS 1 AND 2

[1a] Generating capacity at the Petenwell facility as reported by Wisconsin River Power Company (WRPC). See Appendix A.

[1b] Generating capacity at the Castle Rock facility as reported by WRPC. See Appendix A.

[1c] Total system capacity in kilowatt hours (kwh).

	Petenwell	Castle Rock
Kilowatts	20,000	15,000
Hrs/Year	x 8,760	x 8,760
Kilowatt hours	175,320,000	131,400,000

Total kwh Capacity 306,720,000

[2] Total kwh's produced in 1980 as reported by WRPC.

Petenwell	118,073,000 kwh's
Castle Rock	113,347,000 kwh's
TOTAL	231,420,000 kwh's

[3] Calculation of on-peak kwh's.

a. Assume, at peak rates, the plants at Castlerock and Petenwell can operate at 80 percent efficiency or generate 245,448,000 kwh's annually out of a system capacity of 306,720,000 kwh's per year.

b. At 80 percent efficiency the plants generate 28,019.178 kw per hour (245,448,000 kwh's/8760 hour per year).

c. On-peak hours for selected Wisconsin Electric Utilities in 1980 are shown below.

Utility	On-Peak Generation Hours	Hours/Year
Madison Gas & Electric	11 hours per day, 5 days per week, less holidays	2,682
Northern States Power	12 hours per day, 5 days per week, less holidays	2,952

a. Madison Gas and Electric rates are a blending of winter and summer rates as quoted in March 6, 1980, see Appendix B.

b. Wisconsin Electric Power Company rates are also a blend of summer/winter rates for Firm Surplus energy purchase, see Appendix B.

c. Wisconsin Public Service Corporation. As per a conversation with Jennifer Fagan (2/27/81) of the Public Service Commission (PSC), the following avoided costs figures were quoted.

On-peak	$2.64/kwh
Off-peak	$1.67/kwh

At the time the rates were quoted the PSC felt they were too low, however, no upward adjustment appears to have been made since that time.

d. Wisconsin Power and Light Company.

Buy-back (Appendix B) rates for 1980 were as follows:

On-peak	$4.8/kwh
Off-peak	$1.75/kwh

As per a conversation with Jerry Albrecht of the PSC (6/26/85), 1980 cost avoidance rates were never filed or computed as they are today, however, the following is an approximation of avoided cost rates as estimated by Mr. Albrecht.

Assuming 1980 off-peak rate of $1.75/kwh is reasonable for 1980 one can look at differentials between on-peak and off-peak rates in subsequent years for comparison.

1983 on-peak and off-peak rates for Wisconsin Power and Light at three transmission levels in cents per kwh.

	transmission	distribution	secondary
on-peak	3.61	3.72	3.87
off-peak	2.22	2.26	2.34

rates are quoted by Jerry Albrecht 6/26/85.

Utility	On-Peak Generation Hours	Hours/Year
Wisconsin Public Service Corporation	12 hours per day, 7 days per week	4,368
Wisconsin Power & Light Company	12 hours per day, 12 hours per day	3,120
TOTAL		13,122
AVERAGE		3,280

d. 1980 average on-peak kwh's

3,280 hours per year
28,019.178 kw's per hour at 80 percent plan efficiency

91,902,904 kwh's per year

[4] 1980 average off-peak kwh's

1980 kwh generation	231,420,000
less on-peak generation	91,902,904
1980 off-peak generation	139,517,096 kwh's

[5] Cost Avoidance Rates for 1980.

Madison Gas and Electric
On-peak 2.3525
On-peak 1.50

Wisconsin Electric Power Company
On-peak 3.87
Off-peak 1.45

Wisconsin Public Service Corporation
On Peak 2.64
On-peak 1.67

Wisconsin Power and Light
On-peak 3.0625
Off-peak 1.750

Average rates:
On-peak 2.981
Off-peak 1.593

Standard deviation:
On-peak: 0.572
Off-peak 0.122

Average rates plus one standard deviation:
On-peak 3.553
Off-peak 1.715

Average adjusted rate: 2.445
Average Adjusted Standard Deviation: 0.301

Average rates	1983	1984
On-peak	3.73	4.28
Off-peak	2.275	2.30

Average rate differential factor is 1.75
*for 1984 rates Appendix B.

1980 estimated on-peak rates

1.75 x (1.75) = 3.0625

e. From 1974 to 1983 prices for producers of electic power have increased 156 percent or 15.6 percent per year on average. See table below.

Price Index

1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
163.1	193.4	207.6	232.9	250.6	270.2	321.6	367.2	406.5	417.9

417.9 - 163.1 = 254.8
254.8/163.1 = 1.56
156/10 years = 15.6%

Source: Statistical Abstract of the United States 1985, 105th Edition, U.S. Department of Commerce, Bureau of Statistics, no. 783. Producer Price Indexes, for Selected Commodities: 1970 to 1984, p. 470.

On-Peak/Off-Peak Rates for
WP&L and WPSC in Cents/kwh

	1980 actual		1984 estimated		1984 actual	
	On-Peak	Off-Peak	On-Peak	Off-Peak	On-Peak	Off-Peak
WPL	3.0625	1.75	4.97	2.84	4.28	2.30
WPSC	2.64	1.67	4.28	2.71	4.376	2.403

Calculation of 1984 estimates
15.6 percent per year for approximately
4 years = 62.4 percent increase
See Appendix B for 1984 actual rates

Average On-Peak/Off-Peak
Rates in Cents/kwh

	1980		1984 estimated	
	On-peak	Off-peak	On-peak	Off-peak
Average Rates	2.981	1.593	4.84	2.58
Average Adjusted Rates	2.445		4.034	

Given the estimated rates for 1984 of WPL, WPSC, and average rates, it is the appraisor opinion that the rates being used to calculate 1980 revenues are reasonable.

[6] Water sales are reported by WRPC for the year 1979, see report attached.

[7] Expenses as reported by WRPC for 1980 less real estate taxes and depreciation, see Table 2.

[8] Average return on equity from selected statistics on Moody's Electric Utility Average, Moody's Utility Manual, 1984 p. a14, see Table 3.

Reported return on equity for 1980 of Wisconsin Public Service Corporation and Wisconsin Power and Light were 10.9 percent and 11.1 percent respectively. Moody's Utility Manual, 1984.

[9] The next buyer would purchase subject to termination of the present license in 1998 with some element of uncertainty as to whether the Federal Energy Resource Commission would renew the license; there is no precedent for non-renewal relative to private citizens as compared to facilities utilizing Indian reservation land. Nevertheless, the appraiser has assumed a 50/50 probability of renewal and provided for recapture of 50 percent of capital in 18 years on straight line basis of 0.0278. If a sinking fund method was used to recover 50 percent of the asset value, the term would be 18 years, the interest assumption 8 percent, and the factor 0.026702 leading to a loading of 1.34 percent to the cap rate.

[10] Average real estate tax rate of watershed townships in 1980, see Table 4.

[11] See Table 5.

[12] See Table 5.

[13] See Table 4.

FOOTNOTE 6 (Continued)

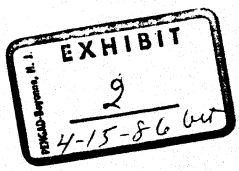


EXHIBIT "B"

WISCONSIN RIVER POWER COMPANY
WISCONSIN RAPIDS, WISCONSIN
STATEMENT OF INCOME
FOR THE TWELVE MONTHS' PERIOD ENDED DECEMBER 31, 1979

	Month Of December	Twelve Months' Period
Operating Revenues		
Sales of electric energy	$ 141,600.00	$ 2,163,000.00
Sales of water and other operating revenue	3,607.67	33,882.03
Total Operating Revenues	$ 145,207.67	$ 2,196,882.03
Operating Expenses And Taxes		
Operation	$ 44,065.26	$ 447,675.13
Maintenance	15,457.08	79,580.70
Administrative And General Expenses		
Management and supervision fees	24,338.19	104,308.19
Injuries and damages	2,081.45	28,128.83
Other administrative and general expenses	27,463.61	185,856.26
Depreciation	27,660.43	308,160.43
Taxes		
Federal and State income taxes	(6,846.90)	64,672.58*
Property taxes	91,215.82	705,015.82
Other taxes	1,150.04	19,409.29
Total Operating Deductions	$ 226,584.98	$ 1,942,807.23
Net Operating Revenue Or (Loss)	$ (81,377.31)	$ 254,074.80
Other Income and Deductions (Net)	4,298.76	33,541.81**
Gross Income Or (Loss)	$ (77,078.55)	$ 287,616.61
Interest on notes payable to associated company	$ 11,250.00	$ 148,125.00
Other interest	-	1,470.00
Total Interest	$ 11,250.00	$ 149,595.00
Net Income Or (Loss)	$ (88,328.55)	$ 138,021.61

STATEMENT OF RETAINED EARNINGS

Balance, December 31, 1978	$ 1,079,330.81
Net income, 1979	138,021.61
Balance, December 31, 1979	$ 1,217,352.42

* Income tax expenses have been reduced by deferred investment tax credit of $658.62 and has been reduced by $888.95 of investment tax credit ratably restored to income.

** Applicable taxes have been deducted.

TABLE 1

WATER SALES AS REPORTED BY CONSOLIDATED WATER AND POWER COMPANY 1975

Report of Consolidated Water Power Company for year ended Dec 31, 1975 — E-15

OTHER ELECTRIC OPERATING REVENUES (Accts. 450-456)

1. Report succinct statement of the revenues in each account and show separate totals for each account
2. Report name of lessee and description of property for large items of rent revenue. Group other rents by classes.
3. For sales of water and water power, report name of purchaser, purpose for which water used and the development supplying water.
4. Report basis of charges for any interdepartmental rents.
5. Report details of major items in Acct. 456, and group other items.

Particulars	Amount (b)
→ THIS SHEET INDICATES WATER SALES (a)	
450 Forfeited discounts	786
451 Miscellaneous service revenues	
Disconnect, reconnect, new service, and maintenance fees	125
Charge Wisconsin River Power Co. for general office expense	17,249
	17,374
453 Sales of water and water power	
Consolidated Papers, Inc. grinders - Wisconsin Rapids	103,943
- Biron	169,911
- Wisconsin River	167,411
Nekoosa Papers, Inc. - Centralia Headwater Control	23,090
Cranmoor Coop - cranberry irrigation, Wisconsin Rapids	3,277
Biron Cranberry Co. - cranberry irrigation, Biron	2,093
Dempze Cranberry Co. - cranberry irrigation, Biron	647
Du Bay Cranberry Co. - cranberry irrigation, Biron	463
S.W. Mead Cranberry Co. - cranberry irrigation, Biron	255
Sorenson Cranberry Co. - cranberry irrigation, Biron	100
Dale L. Johnson Cranberry Co. - cranberry irrigation, Biron	611
	471,801
454 Rent from electric property	
Miscellaneous pole rents	2,328
Miscellaneous land rents	327
	2,655
456 Other electric revenue (Name the source in detail)	788

EXHIBIT "B"

TABLE 2

WISCONSIN RIVER POWER COMPANY
WISCONSIN RAPIDS, WISCONSIN
STATEMENTS OF NET INCOME AND REINVESTED EARNINGS
FOR THE TWELVE MONTHS' PERIOD ENDED DECEMBER 31

	1981		1980
	Month Of December	Twelve Months' Period	Twelve Months' Period
Operating Revenues			
Sales of electric energy	$ 142,500.00	$ 2,490,000.00	$ 2,208,000.00
Sales of water and other operating revenue	2,865.37	44,828.83	25,476.51
Total Operating Revenues	145,365.37	2,534,828.83	2,233,476.51
Operating Expenses And Taxes			
Operation	24,267.93	409,158.79	495,003.89
Maintenance	16,992.00	223,195.78	116,492.39
Administrative And General Expenses			
Management and supervision fees	3,082.15	114,292.15	99,617.00
Injuries and damages	1,039.10	31,459.66	36,874.03
Other administrative and general expenses	48,895.07	297,392.84	213,938.92
Depreciation	39,687.45	322,387.45	308,836.09
Taxes			
Federal and State income taxes*	14,180.05	68,652.61	29,739.00
Property taxes	55,845.58	801,645.58	790,762.86
Other taxes	1,550.86	15,381.37	19,542.77
Total Operating Deductions	205,540.19	2,283,566.23	2,110,806.95
Operating Income Or (Loss)	(60,174.82)	251,262.60	122,669.56
Other Income And Deductions (Net)**	(2,268.06)	(4,541.66)	15,254.50
Income Or (Loss) Before Interest Charges	(62,442.88)	246,720.94	137,924.06
Interest on notes payable to associated company	7,500.00	103,125.00	125,625.00
Other interest	-	13,030.66	745.89
Total Interest	7,500.00	116,155.66	126,370.89
Net Income Or (Loss)	$ (69,942.88)	130,565.28	11,553.17
Reinvested Earnings, January 1		1,228,905.59	1,217,352.42
Reinvested Earnings, December 31		$ 1,359,470.87	$ 1,228,905.59

* Income tax expense has been increased by deferred investment tax credit of $33,176.96 in 1981 and $3,775.28 in 1980, and has been reduced by investment tax credit ratably restored to income of $2,034.53 in 1981 and $1,013.68 in 1980.
** Applicable taxes have been deducted.

TABLE 3

SELECTED STATISTICS ON MOODY'S ELECTRIC UTILITY AVERAGE

	Earnings $ per Share	[1] AFUDC per Share	[2] Dividend $ per Share	[3] Payout Ratio %	Book Value $ per Share [4] Incl. def. taxes	Book Value $ per Share Excl. def. taxes	[4] Return on Equity %	[5] Int. Cov. incl. AFUDC	[5] Int. Cov. excl. AFUDC	Capitalization — Debt % Lg. Tm.	Debt % [7] Sht. Tm.	Pfd. %	Common & Surplus %	[8] Internal Cash $ Mil.
1983	11.88	6.10	8.00	67.3	106.77	82.90	14.3	3.17	2.57	45.7	3.1	11.5	39.7	4,564.4
1982	10.90	6.11	7.64	70.1	104.43	82.77	13.2	2.49	1.92	46.8	3.5	11.7	38.0	4,643.6
1981	10.16	5.37	7.16	70.5	101.84	81.91	12.4	2.44	1.95	46.3	3.5	11.9	36.3	3,227.4
1980	8.98	5.03	6.67	74.3	102.49	83.82	10.7	2.39	1.89	46.6	4.7	12.7	36.2	3,305.3
1979	8.95	4.19	6.34	70.8	99.01	81.62	11.0	2.57	2.09	47.1	4.3	12.7	35.8	3,394.1
1978	8.59	3.21	5.98	69.6	94.77	80.11	10.7	2.94	2.53	47.6	2.9	12.9	36.6	2,855.8
1977	8.64	2.54	5.68	65.7	92.96	78.82	11.0	2.89	2.54	48.4	2.5	13.1	36.1	2,697.5
1976	8.15	2.57	5.25	64.4	89.52	76.94	10.6	2.75	2.41	49.5	2.9	12.9	34.7	2,487.4
1975	7.77	2.66	4.99	64.2	85.79	75.80	10.3	2.53	2.20	50.2	3.3	12.8	33.7	1,858.0
1974	7.63	2.74	4.83	63.3	79.94	73.23	10.4	2.51	2.16	50.0	5.0	12.7	32.3	1,550.8
1973	7.55	2.41	5.04	66.8	76.84	71.67	10.5	2.79	2.41	50.1	3.7	12.4	33.8	1,425.2
1972	7.73	2.34	4.92	63.6	75.05	70.41	11.0	2.96	2.58	50.6	3.2	12.4	33.8	1,348.1
1971	7.14	1.88	4.81	67.4	70.24	66.37	10.8	2.86	2.53	52.1	2.7	11.7	33.5	1,134.4
1970	6.89	1.48	4.73	68.7	67.75	64.09	10.8	2.98	2.69	52.7	3.1	10.9	33.3	993.4
1969	6.92	0.96	4.63	66.9	63.90	60.54	11.4	3.73	3.50	51.5	4.3	9.7	34.5	1,032.2
1968	6.67	0.68	4.58	68.7	60.97	57.94	11.5	4.25	4.06	52.1	2.3	9.9	35.7	1,004.3
1967	6.67	0.52	4.44	66.6	57.53	54.88	12.2	4.66	4.49	51.2	2.3	9.6	36.9	991.4
1966	6.30	0.34	4.18	66.3	54.53	52.23	12.1	5.10	4.97	51.2	1.6	9.3	37.9	941.9
1965	5.92	0.27	4.02	67.9	52.68	50.71	11.7	5.29	5.18	49.9	1.7	8.8	39.6	883.4
1964	5.41	0.22	3.68	68.0	50.69	48.98	11.1	5.30	5.20	50.7	0.8	8.8	39.7	835.6
1963	4.99	0.18	3.33	66.7	47.91	46.35	10.8	5.32	5.23	50.9	0.8	9.4	38.9	763.2
1962	4.73	0.24	3.07	64.9	44.88	44.37	10.7	5.33	5.22	51.6	0.5	10.0	37.9	702.4
1961	4.33	0.25	2.86	66.1	42.95	42.20	10.3	5.25	5.13	51.4	1.5	9.8	37.3	725.7
1960	4.12	0.27	2.74	66.5	41.20	40.25	10.2	5.25	5.11	51.7	1.1	10.1	37.1	697.9
1959	3.82	0.27	2.64	69.1	40.14	38.79	9.9	5.46	5.31	51.4	1.2	10.2	37.2	636.8
1958	3.63	0.37	2.57	70.8	38.24	37.21	9.8	5.47	5.26	51.6	1.4	10.6	36.4	580.8
1957	3.41	0.24	2.46	72.1	36.57	36.32	9.4	5.74	5.58	50.1	1.6	10.9	37.4	524.1
1956	3.35	0.12	2.37	70.7	34.65	34.53	9.7	6.38	6.29	48.5	1.7	11.7	38.1	513.2
1955	3.21	0.15	2.27	70.7	33.36	33.26	9.7	6.34	6.23	49.4	0.7	11.6	38.3	480.1

[1] Allowance for funds used during construction per year-end weighted share of common stock. [2] Dividends per share divided by earnings per share. [3] Deferred taxes consists of deferred income taxes and deferred investment tax credits. [4] Consists of earnings per share divided by year-end book value per share excluding deferred income taxes. [5] Consists of net operating income plus federal and state income taxes, deferred income taxes, deferred investment tax credits and allowance for funds used during construction, divided by total interest charges. [6] Same as [5] but excluding allowance for funds used during construction. [7] Includes current maturities. [8] Consists of net income plus depreciation, deferred income taxes, deferred investment tax credits, less allowance for funds used during construction and dividends on preferred and common stock. [9] Consists of construction expenditures net of allowance for funds used during construction. [10] Year-end.

TABLE 4

MILL RATES -- 1980

	EQULILIZATION RATE	NET TAX RATE	NET TAX RATE BASED ON 100% OF VALUE
TOWN OF ARMENIA	0.2189	0.09005	0.01971
TOWN OF GERMANTOWN	0.6179	0.02801	0.01731
TOWN OF MONROE	0.339	0.04505	0.01527
TOWN OF NECEDAH	0.1626	0.10695	0.01739
TOWN OF QUINCY	0.3959	0.03754	0.01486
TOWN OF PORT EDWARDS	0.652	0.02510	0.01637
TOWN OF ROME	1.0151	0.02155	0.02188
TOWN OF SARATOGA	0.9755	0.01677	0.01636
TOWN OF STRONGS PRAIRIE	0.6545	0.02244	0.01469
AVERAGE			0.01709

ALLOCATION OF HISTORICAL VALUE

Historical Cost in Dollar Amounts (1948-1950)

	TOTAL DOLLARS	ARMENIA	GERMANTOWN	MONROE	NECEDAH	QUINCY	PORT EDWARDS	ROME	SARATOGA	STRONGS PRAIRIE
LAND AND LAND RIGHTS	3,700,000	654,900	669,700	928,700	136,900	340,400	62,900	388,500	88,800	429,200
STRUCTURES AND INPROVEMENTS	700,810	357,413				343,397				
RESERVOIRS, DAMS, AND WATERWAYS	15,769,910	756,956	536,177	47,310	5,677,168	6,465,663				2,286,637
WATER WHEELS, TURBINES, AND GENERATORS	1,234,010				623,175	610,835				
ACCESSORY ELECTRICAL EQUIPMENT	173,510				79,815	93,695				
MISCELLANEOUS POWER PLANT EQUIPMENT	20,330				12,401	7,929				
ROADS, RAILROADS, AND BRIDGES	42,860				23,573	19,287				
TRANSMISSION PLANT	344,110				158,291	185,819				
GENERAL PLANT	14,460				13,737	723				
TOTAL COST	$22,000,000	1,769,269	1,205,877	976,010	6,725,059	8,067,748	62,900	388,500	88,800	2,715,837

Historical Cost in Percentage Amounts (1948-1950)

	PERCENT OF TOTAL COST	ARMENIA	GERMANTOWN	MONROE	NECEDAH	QUINCY	PORT EDWARDS	ROME	SARATOGA	STRONGS PRAIRIE
LAND AND LAND RIGHTS	0.1682	0.177	0.181	0.251	0.037	0.092	0.017	0.105	0.024	0.116
STRUCTURES AND INPROVEMENTS	0.0319	0.510				0.490				
RESERVOIRS, DAMS, AND WATERWAYS	0.7168	0.048	0.034	0.003	0.360	0.410				0.145
WATER WHEELS, TURBINES, AND GENERATORS	0.0561				0.505	0.495				
ACCESSORY ELECTRICAL EQUIPMENT	0.0079				0.460	0.540				
MISCELLANEOUS POWER PLANT EQUIPMENT	0.0009				0.610	0.390				
ROADS, RAILROADS, AND BRIDGES	0.0019				0.550	0.450				
TRANSMISSION PLANT	0.0156				0.460	0.540				
GENERAL PLANT	0.0007				0.950	0.050				
TOTAL ALLOCATION	1.0000									

TABLE 5

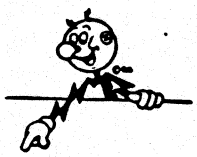
APPENDIX A

BASIC DESCRIPTIVE DATA ON

LOCATION, CAPACITY, AND WATER RESOUCE BASE OF

CASTLE ROCK-PETENWELL HYDROELECTRIC SYSTEM

Some Interesting Facts About The Projects



		PETENWELL	CASTLE ROCK
Estimated cost complete		$9,400,000	$7,600,000
Operation scheduled		Dec. 1, 1949	June 1, 1950
Plant capacity	Kilowatts	20,000	15,000
Estimated annual generation	Kilowatt-hours	102,000,000	75,000,000
Generating units	Number	4	5
Spillway gates in dam	Number	16	18
Operating head	Feet	42	30
Lake area	Square miles	36	26
Lands required	Acres	32,300	23,300
Length of:			
Concrete dam and powerhouse	Feet	701	831
Earth dam	Feet	8500	1200
Earth dikes	Miles	7.5	3.75
Lake	Miles	15	9
Concrete in dam and powerhouse	Cubic yards	60,500	50,000
Earth fill in dam and dikes	Cubic yards	3,440,000	1,100,000
Earth excavation	Cubic yards	297,500	291,000
Rock for riprap	Cubic yards	194,600	93,000
Nearest dam - upstream	Air miles	19 to Nekoosa	14 to Petenwell
Nearest dam - downstream	Air miles	14 to Castle Rock	19 to Wis. Dells

WE APPRECIATE YOUR VISIT AND HOPE YOU'LL COME AGAIN

WISCONSIN RIVER POWER COMPANY

AND ASSOCIATED COMPANIES
CONSOLIDATED WATER POWER & PAPER COMPANY
WISCONSIN POWER AND LIGHT COMPANY
WISCONSIN PUBLIC SERVICE CORPORATION

PLEASE BE CAREFUL — HELP US AVOID ACCIDENTS

ON CONSTRUCTION THERE IS DANGER, ESPECIALLY WHERE EQUIPMENT IS WORKING. FOR YOUR OWN SAFETY KEEP WITHIN THE LIMITS OF THE PLACES MARKED FOR VISITORS

CASTLE ROCK-PETENWELL PROJECT
5/6/85

1. The records were examined to establish average kilowatt hours generated. The average kilowatt low is directly related to the average flow of water. The average water flow is the basis of the wealth of the system and that water flow is converted to kilowatt hours, which has marketability.

2. All water flow records are taken from U.S. Geological Survey Water Resources data for a water year starting in October and ending in September of the year of records. (September 1961 started October 1960.)

3. All water flow records used in this study are from January through December to conform to the method of reporting of kilowatt hours.

4. Water flow into the system is measured at Wisconsin Rapids and water flow out of the system is measured at Wisconsin Dells.

5. The Yellow River adds to the Castle Rock pond. The average input is 150 cubic feet per second (cfs) which is too small to examine.

6. The Lemonweir River (330 cfs) enters the Wisconsin River below Castle Rock and above Wisconsin Dells and adds to the totals at the Dells. It does not effect the establishment of average flow.

7. The average flow years occurred in 1961, 1962, 1967, and 1975, and the kilowatt hours of those years were examined.

8. The yearly records of the Consolidated Water Power Company, the Wisconsin Public Service Co., and the Wisconsin Power and Light Co. for years 1961, 1962, 1967, 1973, 1975, and 1976, were examined and recorded.

9. Petenwell system average flow is 4,800 to 5,000 cfs. The average flow through Castle Rock is 6,600 to 6,800 cfs.

Source: U.S. Geological Survey, data gathered by Bertil W. Johnson, P.E.

YEAR	AVERAGE FLOW	CWPC KWH X 1000	TOTAL ALL 3 KWH X 1000	WPL KWH X 1000	WPSC KWH X 1000
1961	Average	65556.46	195622.00	63447.88	66618.00
1962	Average	69615.96	208852.00	69623.88	69612.00
1967	Average High	66212.00	199813.00	68566.00	65035.00
1975	Average Low	65337.00	196483.00	66282.00	64864.00
	Total (rounded)	266721		267920	266129
	Average (rounded)	66680		66980	66532

TOTAL PETENWELL AND CASTLE ROCK (SUM)

1961	195662
1962	208852
1967	199813
1975	196484
Total	800811
Average (rounded)	200203

	COMPARISON			
1973	High	80000	82060	77797
	Total	239857		
1976	Low	53971	55468	53223
	Total	162662		

Source: U.S. Geological Survey Water Resources Data

DATA ON ALTERNATIVE POWER COSTS

(A) COST OF POWER AT THE CASTLE ROCK/PETENWELL PROJECT.

(1) Kwh Generated: Public Service Commission (PSC) Bulletin No. 46 gives the following data on kwh generated at Castle Rock/Petenwell:

YEAR	NET Kwh GENERATED
1979	236,762,000
1978	243,285,000
1977	149,670,000

(2) Expense of Generation: Financial Statements filed by Wisconsin River Power Company give the following expenses:

YEAR	EXPENSES
1979	$1,942,807.23
1978	$1,809,444.81
1977	$1,659,050.67

(3) Average Cost per kwh: The average cost per kwh is obtained by dividing the expense by the kwh generated:

YEAR	AVERAGE COST per Kwh
1979	.82¢
1978	.74¢
1977	1.11¢

(B) COST OF POWER FOR CLASS A and B MUNICIPAL UTILITIES

(1) PSC Bulletin No. 18 gives the following data on the average cost of purchased energy for Wisconsin's 14 class A and B municipal utilities:

YEAR	COST PER Kwh
1979	2.40¢
1978	2.23¢
1977	2.10¢

(2) Difference in Costs: The difference in the costs of power to Class A and B Municipal Utilities and the cost of the Castle Rock/Petenwell power can be calculated as follows:

(a) Year - 1979

Average municipal cost	2.40¢
less(Average C.R./Petenwell cost)	(.82)¢
Difference per kwh	1.58¢
x Net kwh generated	236,762,000
	$3,740,839.60*

* Difference between municipal purchased power cost and Castle Rock/Petenwell cost for equivalent amount of power.

(b) Year - 1978

Municipal Cost	2.23¢
Castle Rock/Petenwell Cost	(.74)¢
Difference per kwh	1.49¢
x Net kwh generated	243,285,000
Total difference in costs	$3,624,946.50

(c) Year - 1977

Municipal cost	2.10¢
Castle Rock/Petenwell Cost	(1.11)¢
Difference per kwh	.99¢
x Net kwh generated	149,670,000
Total Difference in Costs	$1,481,733.00

(C) COST OF POWER FOR CLASS C MUNICIPAL UTILITIES

(1) PSC Bulletin No. 18 gives the following data on the average cost of purchased energy for Wisconsin 50 Class C municipal utilities:

YEAR	COST PER Kwh
1979	2.73¢
1978	2.57¢
1977	2.27¢

(2) The difference in costs to the municipals can be calculated:

(a) Year - 1979

Average municipal cost	2.73¢
Castle Rock/Petenwell Cost	(.82)¢
Difference per kwh	1.91¢
x Net kwh generated	236,762,000
Total Difference in Costs	$4,522,154.20

(b) Year - 1978

Average municipal cost	2.57¢
Castle Rock/Petenwell cost	(.74)¢
Difference per kwh	1.83¢
x Net kwh generated	243,285,000
Total Difference in Costs	$4,452,115.50

(c) Year - 1977

Average municipal cost	2.27¢
Castle Rock/Petenwell cost	(1.11)¢
Difference per kwh	1.16¢
x Net kwh generated	149,670,000
Total Difference in Costs	$1,736,172.00

(D) COST OF POWER TO RURAL ELECTRIC COOPERATIVES

(1) PSC Bulletin No. 18 gives the following data on the cost of purchased power to five (Adams-Marquette, Central Wisconsin, Columbus, Rock County, Waushara) rural electric cooperatives. (REC's):

YEAR	COST PER Kwh
1979	2.61¢
1978	2.90¢
1977	2.21¢

(2) The difference in costs to the REC's can be calculated:

(a) Year - 1979

Average REC cost	2.61¢
Castle Rock/Petenwell cost	(.82)¢
Difference per kwh	1.79¢
x Net kwh generated	236,762,000
Total Difference in Costs	$4,238,039.80

(b) Year - 1978

Average REC cost	2.90¢
Castle Rock/Petenwell cost	(.74)¢
Difference per kwh	2.16¢
x Net kwh generated	243,285,000
Total Difference in Costs	$5,245,946.00

(c) Year - 1977

Average REC cost	2.21¢
Castle Rock/Petenwell cost	(1.11)¢
Difference per kwh	1.10¢
x Net kwh generated	149,670,000
Total Difference in Costs	$1,646,370.00

(E) COSTS OF POWER TO INDUSTRIAL CUSTOMERS

(1) Cost to Large Industrial Customer of Wisconsin Power & Light Company: For a large industrial customer (1000 kw demand, 400,000 kwh/month) of Wisconsin Power & Light, PSC Bulletin No. 9 gives the following cost per kwh as of January 1 of each year:

YEAR	COST PER Kwh
1979	3.14¢
1978	2.62¢
1977	2.56¢

(2) Difference in Costs: The difference in costs can be calculated as follows:

(a) Year - 1979

Cost to Industry	3.14¢
Castle Rock/Petenwell Cost	(.82)¢
Difference per kwh	2.32¢
x Net kwh generated	236,762,000
Total Difference	$5,492,878.40

(b) Year - 1978

Cost to Industry	2.62¢
Castle Rock/Petenwell Cost	(.74)¢
Difference per kwh	1.88¢
x Net kwh generated	243,285,000
Total Difference	$4,573,758.00

(c) Year - 1977

Cost to Industry	2.56¢
Castle Rock/Petenwell Cost	(1.11)¢
Difference per kwh	1.45¢
x Net kwh generated	149,670,000
Total Difference	$2,170,215.00

(3) Cost to Large Industrial Customer of Wisconsin Public Service Corporation: For a large industrial customer (1000 kw demand, 400,000 kwh per month) of Wisconsin Public Service Corporation, PSC Bulletin No. 9 gives the following costs per kwh as of January 1 of each year (Schedule R-1, winter rate).

YEAR	COST PER Kwh
1979	3.17¢
1978	2.83¢
1977	2.72¢

(4) Difference in Costs: The difference in costs can be calculated as follows:

(a) Year - 1979

Industry Cost	3.17¢
Castle Rock/Petenwell Cost	(.82)¢
Difference per kwh	2.35¢
x Net kwh generated	236,762,000
Total Difference	$5,563,907.00

(b) Year - 1978

Industry Cost	2.83¢
Castle Rock/Petenwell Cost	(.74)¢
Difference per kwh	2.09¢
x Net kwh generated	243,285,000
Total Difference	$5,084,656.50

(c) Year - 1977

Industry Cost	2.72¢
Castle Rock/Petenwell Cost	(1.11)¢
Difference per kwh	1.61¢
x Net kwh generated	149,670,000
Total Difference	$2,409,687.00

APPENDIX B

REPRODUCTION OF PARALLEL GENERATION OR AVOIDED COST RATE FILINGS FOR CENTRAL WISCONSIN POWER COMPANIES IN 1980

PARALLEL GENERATION | Rate Schedule Pg-1

Effective in: All territory served.

AVAILABILITY

Available to customers with their own electric generation facilities who want to connect such facilities in parallel with the Company's system and whose facilities are approved by the Company. Customers with Company-approved parallel generation facilities may interconnect with the Company's grid even if they do not elect to receive service under this tariff.

RATE

A. The Company shall purchase all quantities of surplus electric energy received from the customer's facilities during each month at the following rates:

	Billing Periods	
	Winter	Summer
All on-peak kWh, per kWh	2.22¢	2.75¢
All off-peak kWh, per kWh	1.50¢	1.50¢

B. The customer shall pay the appropriate fixed charge each month as follows:

1. Single-phase - $3.50 - $7.00 per month
2. Three-phase - $4.75 - $9.00 per month
3. For customers with a total load in excess of 200 kW, the Company shall enter into individual agreements.

PRICING PERIOD DEFINITIONS

Summer Season - Commences with the first scheduled meter reading on or after June 16 and terminates following the fourth scheduled meter reading thereafter (approximately 120 days).

Winter Season - All times of the year other than the defined summer season.

On-peak Periods - 10:00 a.m. through 9:00 p.m.; Monday, Tuesday, Wednesday, Thursday, and Friday, excluding holidays.

Off-peak Periods - 12:00 midnight through 10:00 a.m. and 9:00 p.m. through 12:00 midnight; Monday, Tuesday, Wednesday, Thursday, Friday, plus all day Saturday, Sunday, and holidays.

PARALLEL GENERATION

Effective In All Territories served by the Company.

Availability Available to any single or three-phase electric service customer who generates electrical energy in excess of their total energy requirements.

Customers with electrical generation who do not desire to sell electrical energy to Company may interconnect with Company's system but will not receive charges or credits under the Parallel Generation rate. Customers must, however, be in compliance with the Company's General Rules for Parallel Generation, Schedule PGX-1.

Rate

For Generating Facilities Rated At:

20 kW or less

Customer Charge	$3.00 per month
Customer Credit	
Energy credit - kWh's delivered to Company	
All on-peak kWh per month @	1.84¢ per kWh
All off-peak kWh per month @	1.14¢ per kWh

21 kW to 500 kW

Customer Charge	$3.00 per month
Customer Credit	
Capacity credit*	$4.00 per average kW
Energy credit** - kWh's delivered to Company	
All on-peak kWh per month @	1.60¢ per kWh
All off-peak kWh per month @	1.14¢ per kWh

*The NSP system currently has or is committed to an adequate supply of capacity to meet its customers estimated requirements through 1986. While this temporary condition exists, the Company will not pay a capacity credit for parallel generation.

**When NSP is not paying a capacity credit the on-peak energy credit will be 1.84¢ per kWh.

(continued)

WISCONSIN PUBLIC SERVICE CORPORATION

P.S.C.W. Volume No. 8

Original Sheet No. 6.60
Replaces Sheet No.
Amendment 550 Schedule PG-3

Parallel Generation - Firm Purchase By WPSC — Electric

EFFECTIVE IN — All Territory Served.

AVAILABILITY — To customers contracting for electric service, generating electrical energy and desiring to sell firm electrical energy and capacity to the Company.

MONTHLY RATE

FIXED CHARGE

SINGLE PHASE	$2.50/Month
THREE PHASE	$6.00/Month

CHARGES FOR DELIVERIES FROM COMPANY

Deliveries from the Company to the Customer shall be billed in accordance with the standard applicable rate schedules of the Company.

ENERGY CREDIT (Deliveries to Company)

On-Peak	All Kwh at $.0185/Kwh 8:00 A.M. to 10:00 P.M. Daily
Off-Peak	All Kwh at $.0132/Kwh 10:00 P.M. to 8:00 A.M. Daily

DEMAND CREDIT (Deliveries to Company)

The demand credit shall be calculated for each installation to reflect the degree of firmness associated with that specific generating facility and shall reflect the following criteria:

1. The availability of capacity during system daily and seasonal peak periods, including:

   a) The ability of the Utility to dispatch the generator.

   b) The ability and willingness to provide capacity during system emergencies.

   c) The length, frequency and scheduling flexibility of scheduled maintenance.

Issued April 16, 1980 Effective April 11, 1980

PSCW Authorization By

Wisconsin Power & Light Company

E07/80-DH

PARALLEL GENERATION - (UNDER 200 KW)

1. Effective In

All territories served by the Company.

2. Availability

Available for all single phase and three phase customers where a part or all of the electrical requirements of the customer are supplied by the customer's generation facilities, where such facilities are rated at less than 200 KW, where such facilities are connected in parallel with the company facilities, and where such facilities are approved by the Company.

3. Rate

A. For customer with generation facilities rated at less than 200 KW.

1. The customer shall pay a fixed charge of $3.00 per month.

2. The Company shall pay capacity and energy credits for all quantities of electricity received from the customer's facilities during each billing period at the following rates:

4.80¢ per KWH on-peak

1.75¢ per KWH off-peak

4. Pricing Periods

Unless specified to the contrary in writing by the Company to any customer using this schedule:

A. On-peak period - 8:00 a.m. to 10:00 p.m. Monday through Friday.

B. Off-peak period - 10:00 p.m. to 8:00 a.m. Monday through Friday, and all day Saturday and Sunday.

5. Metering and Service Facilities

The customer shall furnish, install and wire the necessary service entrance equipment, meter sockets, meter enclosure cabinets, or meter connection cabinets that may be required by the Company to properly meter on and off-peak usage.

The customer shall pay for the cost of rebuilding any company facilities to provide adequate capacity for the parallel generation system.

The Company will furnish and install appropriate metering to measure energy flow.

Issued: 3-5-80 Effective: 2-22-80

PSCW Authorization: Letter 6680 LTM/TBN dated 2-22-80

Class of Service	Firm Surplus Energy Purchases By Wisconsin Electric ... Electric
Effective in	All Areas Served

AVAILABILITY

To customers contracting for electrical service from Wisconsin Electric Power Company and who also generate firm electrical energy in excess of their own need and desire to sell it to Wisconsin Electric Power Company. For the purposes of this schedule, company is defined as Wisconsin Electric Power Company and customer is defined as the person or corporate entity desiring to sell excess electrical energy to the company.

RATE

Energy per kWh	Billing Periods July-October	November-June
On-Peak Energy (a)	3.65¢	3.45¢
Off-Peak Energy (b)	1.45	1.45

(a) On-peak energy is the energy in kilowatthours delivered to the company between the hours specified in the Time-of-Use rate schedule that corresponds to the customers class of service (for farm customers, hours specified in Schedule Rg 2 shall apply).

(b) Off-peak energy is the energy in kilowatthours delivered to the company during all hours other than on-peak hours.

CONDITIONS OF PURCHASE

See Sheets 41.2 and 41.3.

Issued 4-18-80 Effective on bills for service furnished on or after 4-11-80

Issued under the authority of letter of the Public Service Commission of Wisconsin, Dated 4-11 19 80

Issued By N. A. Ricci Senior Vice President Milwaukee, WI

"PURPA" COMPLIANCE.
5/6/85

Docket No. 6690-UR-20
Exhibit _____ (WRD-3)

ANALYSIS OF AVOIDED COSTS

1. Avoided Capacity Cost (Peaker Method from 05-ER-12)

Capital Cost	$288.40	← PER KW - PEAKING GAS TURBINE
x Levelized Carrying Cost	.1857	
Annualized Carrying Cost	$53.56	
+ Fixed O&M	$2.17	
Cost/kW	$55.73	
x Reserve Factor	1.15	
x Reliability	.75	
x PV Factor	.7441	WPL.
Adjusted Cost/kW	$34.37	30.50

2. Wisconsin Public Service Corporation Marginal Energy Costs: 1985 $
On-Peak Hours: 6:00am - 10:00pm weekdays
excluding holidays

Cents/kWh		On-Peak	Off-Peak
1985	ACTUAL BASE	3.000	2.170
1986		3.030	2.220
1987		3.240	2.260
1988		3.390	2.310
1989		3.550	2.350
Average 1985-1989		3.242	2.262

3. On-Peak Energy Rate:

	Transmission (> 15 kV)	Primary (6kV-15kV)	Secondary (< 6 kV)
Marginal Energy Costs	$.0324	$.0324	$.0324
x Loss Factor	1.0443	1.0655	1.0918
Cost at Generator	$.0339	$.0345	$.0354
Capacity Cost (WPL - 3570)	$34.37	$34.37	$34.37
/ On-Peak Hours	4000	4000	4000
x Loss Factor (avoid using generator)	1.0443	1.0655	1.0918
Capacity Cost/kWh	$.0090	$.0092	$.0094
Total On-Peak Rate	$.0428	$.0437	$.0448

4. Off-Peak Energy Rate:

Marginal Energy Costs	$.0226	$.0226	$.0226
x Loss Factor	1.0406	1.0617	1.0879
Total Off-Peak Rate	$.0235	$.0240	$.0246

"PURPA" COMPLIANCE.
5-6-85

WISCONSIN POWER & LIGHT COMPANY
REVISION TO JOHN L. WALKER EXHIBIT 6 SCHEDULE 21
DOCKET 6680-UR-12

1. CAPACITY COST:

COST/KW	$47.52	
X RESERVE FACTOR	1.15	
X RELIABILITY	0.75	
X PV FACTOR	0.7441	
ADJUSTED COST/KW	$30.50	WPS 34.37

2. REVISED EASTERN WISCONSIN UTILITIES MARGINAL ENERGY COSTS:
(UPDATED TO ADVANCE PLAN 4, 8 AM TO 10 PM, 1984 $)

CENTS/KWH	ON PEAK PERIOD			OFF PEAK PERIOD		
	SUMMER (4 MO)	WINTER (8 MO)	AVERAGE	SUMMER (4 MO)	WINTER (8 MO)	AVERAGE
1984	3.28	4.09	3.82	1.84	2.13	2.03
1985	2.75	3.12	3.00	1.90	2.09	2.03
1986	2.65	2.90	2.82	1.94	2.14	2.07
1987	2.78	3.17	3.04	2.01	2.23	2.16
1988	2.93	3.31	3.18	2.06	2.28	2.21
1989	3.16	3.69	3.51	2.16	2.37	2.30
1984-88 AVERAGE			3.172			2.100
1985-89 AVERAGE			3.110			2.154

3. ON PEAK ENERGY RATE:

	TRANSM	DISTRIB	SECONDARY
MARGINAL ENERGY COST	$0.0311	$0.0311	$0.0311
X LOSS FACTOR	1.0428	1.073	1.1161
COST AT GENERATOR	$0.0324	$0.0334	$0.0347
CAPACITY COST (WPS-4000)	$30.50	$30.50	$30.50
/ ON PEAK HOURS	3570	3570	3570
X LOSS FACTOR	1.0373	1.0776	1.1481
CAPACITY COST/KWH	$0.0089	$0.0092	$0.0098
TOTAL ON PEAK RATE	$0.0413	$0.0426	$0.0445

4. OFF PEAK ENERGY RATE:

MARGINAL ENERGY COST	$0.0215	$0.0215	$0.0215
X LOSS FACTOR	1.0406	1.0616	1.1001
TOTAL OFF PEAK RATE	$0.0224	$0.0229	$0.0237

APPENDIX C

A COMPARISON OF COSTS OF PURCHASED ENERGY TO MUNICIPALITIES, SMALL PRIVATELY-OWNED UTILITIES AND SELECTED RURAL ELECTRIC COOPERATIVES IN WISCONSIN

1980

A COMPARISON OF COSTS OF PURCHASED ENERGY TO MUNICIPALITIES, SMALL PRIVATELY-OWNED UTILITIES AND SELECTED RURAL ELECTRIC COOPERATIVES IN WISCONSIN

1980

PUBLIC SERVICE COMMISSION OF WISCONSIN
Accounts and Finance Division
Bulletin No. 18
October, 1981

FOREWORD

This bulletin summarizes and compares per-kilowatt-hour costs of purchased energy for municipally-owned electric utilities, small privately-owned electric utilities and for selected rural electric cooperatives operating in Wisconsin.

Tables 1 and 2 compare average per-kilowatt-hour prices received by vendors for sales of wholesale electricity for 1980 and 1979. The prices given here are based only on sales to those utilities and cooperatives included in this bulletin. Tables 3 through 5 contain individual company detail for the various classes of municipal utilities. Tables 5 and 6 present similar data for small privately-owned utilities and rural electric cooperatives.

Averages and ranges of energy costs per kilowatt-hour to the various classes of purchasers are shown below. Statistics for 1979 are also given for comparison.

	Average Cost Per kWh		Range in Cost per kWh	
	1980	1979	1980	1979
Municipal Utilities				
Class A and B	2.66¢	2.43¢	2.06¢ - 3.27¢	2.02¢ - 3.85¢
Class C	2.90	2.73	2.02 - 3.47	2.00 - 3.34
Class D	2.95	2.90	2.41 - 3.75	2.06 - 3.51
Small Private Utilities	3.19	2.94	3.06 - 3.38	2.82 - 3.33
Rural Cooperatives	2.68	2.61	2.63 - 2.78	2.52 - 2.76

Purchased energy costs shown above and in the remaining tables are taken from annual reports filed with this commission. Accordingly, reported costs reflect interim or final rates as authorized by the FERC during the reporting period net of power cost refunds credited to purchased power. Any comments or suggestions regarding this bulletin should be directed to the commission's Accounts & Finance Division.

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TABLE 1

AVERAGE PRICE RECEIVED FOR WHOLESALE ENERGY BY VENDOR
1980

VENDOR	MUNICIPALLY OWNED UTILITIES						SMALL PRIVATELY OWNED UTILITIES		RURAL ELECTRIC COOPERATIVES	
	CLASS AB		CLASS C		CLASS D					
	CENTS PER KWH	NO. OF UTILITIES	CENTS PER KWH	NO. OF UTILITIES	CENTS PER KWH	NO. OF UTILITIES	CENTS PER KWH	NO. OF UTILITIES	CENTS PER KWH	NO. OF UTILITIES
THILMANY PULP & PAPER COMPANY	2.70	1								
BARRON ELECTRIC COOPERATIVE			2.72	2						
DAIRYLAND POWER COOPERATIVE			3.47	1						
GRANT ELECTRIC COOPERATIVE			2.93	1						
JACKSON ELECTRIC COOPERATIVE					2.55	1				
KAUKAUNA MUN WATER & ELECTRIC UTIL	2.06	1			2.41	1				
LAFAYETTE ELECTRIC COOPERATIVE					2.51	1				
LAKE SUPERIOR DISTRICT POWER COMPANY			2.95	1			3.08	1		
MENASHA ELECTRIC & WATER UTILITY 1/	2.70	1								
NORTHERN STATES POWER COMPANY			2.56	9	2.67	2				
NORTHWESTERN WISCONSIN ELECTRIC CO					3.45	1				
OAKDALE ELECTRIC COOP - LA VALLE			2.22	2						
PIERCE-PEPIN ELECTRIC COOPERATIVE			2.37	1						
PIONEER POWER AND LIGHT COMPANY							3.38	1		
SUPERIOR WATER LIGHT AND POWER CO							3.17	1		
TREMPELEAU ELECTRIC COOPERATIVE			2.39	1						
VERNON ELECTRIC COOPERATIVE					2.87	3				
WISCONSIN ELECTRIC POWER COMPANY	2.58	4	2.83	12						
WISCONSIN POWER AND LIGHT COMPANY.	3.12	4	3.15	26	3.33	3	3.21	2	2.68	5
WISCONSIN PUBLIC SERVICE CORPORATION	2.59	5	3.02	3	3.20	1				
MEANS AND TOTALS	2.66	16	2.90	59	2.95	13	3.19	5	2.68	5

1/ Menasha sold to Kaukauna which also buys from Wisconsin Electric Power Company and Thilmany Pulp Paper Company.

TABLE 2

AVERAGE PRICE RECEIVED FOR WHOLESALE ENERGY BY VENDOR
1979

VENDOR	MUNICIPALLY OWNED UTILITIES						SMALL PRIVATELY OWNED UTILITIES		RURAL ELECTRIC COOPERATIVES	
	CLASS AB		CLASS C		CLASS D					
	CENTS PER KWH	NO. OF UTILITIES	CENTS PER KWH	NO. OF UTILITIES	CENTS PER KWH	NO. OF UTILITIES	CENTS PER KWH	NO. OF UTILITIES	CENTS PER KWH	NO. OF UTILITIES
BARRON ELECTRIC COOPERATIVE		0	2.67	2		0		0		0
DAIRYLAND POWER COOPERATIVE		0	2.64	1		0	2.82	1		0
GRANT ELECTRIC COOPERATIVE		0	2.85	1		0		0		0
JACKSON ELECTRIC COOPERATIVE		0		0	3.49	1		0		0
KAUKAUNA MUN WATER & ELECTRIC UTIL	2.06	1		0	2.06	1		0		0
LAFAYETTE ELECTRIC COOPERATIVE		0		0	2.72	1		0		0
LAKE SUPERIOR DISTRICT POWER COMPANY		0	2.92	1		0	3.17	1		0
MENASHA ELECTRIC & WATER UTILITY [1]	3.85	1		0		0		0		0
NEW LISBON MUN WATER & ELECTRIC UTIL		0		0		0	16.65	1		0
NORTHERN STATES POWER COMPANY		0	2.23	9	2.34	2		0		0
NORTHWESTERN WISCONSIN ELECTRIC CO		0		0	3.08	1		0		0
OAKDALE ELECTRIC COOP - LA VALLE		0	2.47	2		0		0		0
PIERCE-PEPIN ELECTRIC COOPERATIVE		0	2.42	1		0		0		0
PIONEER POWER AND LIGHT COMPANY		0		0		0	3.33	1		0
SUPERIOR WATER LIGHT AND POWER CO		0		0		0	2.87	1		0
TREMPELEAU ELECTRIC COOPERATIVE		0	2.63	1		0		0		0
VERNON ELECTRIC COOPERATIVE		0		0	2.87	3		0		0
WISCONSIN ELECTRIC POWER COMPANY	2.20	4	2.55	12		0		0		0
WISCONSIN POWER AND LIGHT COMPANY	3.03	4	3.05	26	3.25	3	3.12	2	2.61	5
WISCONSIN PUBLIC SERVICE CORPORATION	2.44	5	3.13	3	3.38	1		0		0
MEANS AND TOTALS	2.43	15	2.73	59	2.90	13	2.94	7	2.61	5

[1] Menasha sold to Kaukauna which also bought energy from Wisconsin Electric Power Company and Thilmany Pulp Paper Company

TABLE 3

COST OF ENERGY PURCHASED BY
CLASS A AND B MUNICIPAL ELECTRIC UTILITIES
1980

UTILITY	VENDOR	THOUSANDS OF KWH PURCHASED	TOTAL COST	15 MIN. MAXIMUM DEMAND	LOAD FACTOR	AVERAGE COST PER KWH 1980	AVERAGE COST PER KWH 1979
CEDARBURG LIGHT AND WATER COMMISSION 1/	WISCONSIN ELECTRIC POWER COMPANY	67,579	$ 1,811,423	11,344	68.0	2.68	2.34
KAUKAUNA MUN WATER & ELECTRIC UTIL 1/	MENASHA ELECTRIC & WATER UTILITY	2,936	79,179	9,000	3.7	2.70	3.85
KAUKAUNA MUN WATER & ELECTRIC UTIL	THILMANY PULP & PAPER COMPANY	2,304	62,136	10,000	2.6	2.70	
KAUKAUNA MUN WATER & ELECTRIC UTIL	WISCONSIN ELECTRIC POWER COMPANY	434,122	10,588,686	60,000	68.8	2.44	2.02
	TOTAL	439,362	10,730,001	2/	2/	2.44	2.04
MANITOWOC PUBLIC UTILITY COMMISSION 1/	WISCONSIN PUBLIC SERVICE CORPORATION	202,394	4,443,347	36,000	64.2	2.20	2.07
MARSHFIELD WATER AND ELECTRIC DEPT 1/	WISCONSIN PUBLIC SERVICE CORPORATION	154,502	3,919,394	37,100	47.5	2.54	2.15
MENASHA ELECTRIC & WATER UTILITY 1/	KAUKAUNA MUN WATER & ELECTRIC UTIL	68,831	1,414,848	21,800	36.0	2.06	2.06
OCONOMOWOC UTILITIES	WISCONSIN ELECTRIC POWER COMPANY	111,187	3,137,550	20,934	60.6	2.82	2.47
PLYMOUTH UTILITIES	WISCONSIN POWER AND LIGHT COMPANY	103,944	3,176,019	18,408	64.5	3.06	2.97
SHAWANO MUN WATER & ELECTRIC UTILITY	WISCONSIN ELECTRIC POWER COMPANY	102,736	2,905,361	18,012	65.1	2.83	2.56
STOUGHTON MUNICIPAL ELECTRIC UTILITY	WISCONSIN POWER AND LIGHT COMPANY	70,979	2,193,693	14,904	54.4	3.09	3.02
STURGEON BAY UTILITIES	WISCONSIN PUBLIC SERVICE CORPORATION	91,812	2,735,622	18,232	57.5	2.98	3.06
SUN PRAIRIE WATER & ELECTRIC UTILITY	WISCONSIN POWER AND LIGHT COMPANY	79,938	2,491,199	17,586	51.9	3.12	3.04
TWO RIVERS WATER & ELECTRIC UTILITY	WISCONSIN PUBLIC SERVICE CORPORATION	69,275	2,006,954	13,308	59.4	2.90	2.75
WISCONSIN RAPIDS WATERWORKS & LIGHT	WISCONSIN POWER AND LIGHT COMPANY	50,793	1,660,417	11,072	52.4	3.27	3.16
WISCONSIN RAPIDS WATERWORKS & LIGHT	WISCONSIN PUBLIC SERVICE CORPORATION	114,064	3,275,404	21,657	60.1	2.87	2.71
	TOTAL	164,857	4,935,821	2/	2/	2.99	2.85
TOTAL		1,727,396	$45,901,232			2.66	2.43

1/ Generates a portion of its energy requirement.

2/ Not available.

TABLE 4

COST OF ENERGY PURCHASED BY
CLASS C MUNICIPAL ELECTRIC UTILITIES
1980

UTILITY	VENDOR	THOUSANDS OF KWH PURCHASED	TOTAL COST	15 MIN. MAXIMUM DEMAND	LOAD FACTOR	AVERAGE COST PER KWH 1980	AVERAGE COST PER KWH 1979
ALGOMA MUNICIPAL WATER AND ELECTRIC	WISCONSIN PUBLIC SERVICE CORPORATION	30,356	$ 828,868	6,016	57.6	2.73	2.98
ARCADIA MUN LIGHT AND WATER UTILITY 1/	TREMPELEAU ELECTRIC COOPERATIVE	22,957	547,762	5,630	46.6	2.39	2.63
BANGOR MUNICIPAL UTILITY	NORTHERN STATES POWER COMPANY	26,189	686,463	5,334	56.1	2.62	2.24
BARRON LIGHT AND WATER DEPARTMENT 1/	BARRON ELECTRIC COOPERATIVE	22,233	602,795	4,440	57.2	2.71	2.62
BLACK EARTH MUN WATER SEWER & ELEC	WISCONSIN POWER AND LIGHT COMPANY	9,967	311,885	1,959	58.1	3.13	3.05
BLACK RIVER FALLS WATER AND ELECTRIC 1/	NORTHERN STATES POWER COMPANY	35,509	716,762	7,280	55.7	2.02	2.00
BLOOMER MUNICIPAL ELECTRIC UTILITY	NORTHERN STATES POWER COMPANY	30,067	799,300	6,434	53.4	2.66	2.31
BOSCOBEL (MUNICIPAL) UTILITIES	WISCONSIN POWER AND LIGHT COMPANY	24,210	754,356	5,286	52.3	3.12	3.03
BRODHEAD WATER AND LIGHTING COMM.	WISCONSIN POWER AND LIGHT COMPANY	21,482	673,727	4,540	54.0	3.14	3.01
CLINTONVILLE WATER & ELECTRIC PLANT	WISCONSIN ELECTRIC POWER COMPANY	41,718	1,219,814	8,513	55.9	2.92	2.59
COLUMBUS WATER AND ELECTRIC UTILITY	WISCONSIN POWER AND LIGHT COMPANY	33,840	1,051,261	6,638	58.2	3.11	3.05
CORNELL MUN WATER AND ELECTRIC UTIL	NORTHERN STATES POWER COMPANY	9,643	249,757	2,187	50.3	2.59	2.34
CUBA CITY WATER AND ELECTRIC UTILITY	WISCONSIN POWER AND LIGHT COMPANY	12,358	397,805	2,750	51.3	3.22	3.17
CUMBERLAND MUNICIPAL UTILITY 1/	BARRON ELECTRIC COOPERATIVE	16,692	454,928	3,800	50.1	2.73	2.73
DEERFIELD MUN WATER & ELECTRIC UTIL	WISCONSIN ELECTRIC POWER COMPANY	8,462	253,841	1,846	52.3	3.00	2.67
EAGLE RIVER LIGHT AND WATER DEPT	WISCONSIN PUBLIC SERVICE CORPORATION	19,865	601,019	3,812	59.5	3.03	3.14
ELKHORN LIGHT AND WATER COMMISSION	WISCONSIN ELECTRIC POWER COMPANY	50,400	1,359,734	10,800	53.3	2.70	2.54
ELROY MUN WATER AND ELECTRIC UTILITY 1/	OAKDALE ELECTRIC COOP - LA VALLE	11,145	256,660	2,208	57.6	2.30	2.57

TABLE 4

COST OF ENERGY PURCHASED BY
CLASS C MUNICIPAL ELECTRIC UTILITIES
1980

UTILITY	VENDOR	THOUSANDS OF KWH PURCHASED	TOTAL COST	15 MIN. MAXIMUM DEMAND	LOAD FACTOR	AVERAGE COST PER KWH 1980	AVERAGE COST PER KWH 1979
EVANSVILLE MUN WATER & ELECTRIC UTIL	WISCONSIN POWER AND LIGHT COMPANY	35,414	$ 1,152,933	8,032	50.3	3.26	3.13
FENNIMORE WATER AND LIGHT PLANT 1/	GRANT ELECTRIC COOPERATIVE	19,390	567,624	3,806	58.2	2.93	2.85
FLORENCE WATER AND LIGHT COMMISSION	WISCONSIN ELECTRIC POWER COMPANY	7,760	205,715	1,404	63.1	2.65	2.40
GRESHAM MUN. LIGHT AND POWER UTILITY 1/	WISCONSIN POWER AND LIGHT COMPANY	5,656	191,047	1,383	46.7	3.38	3.43
HARTFORD MUN WATER AND ELECTRIC	WISCONSIN ELECTRIC POWER COMPANY	57,091	1,571,258	12,710	51.3	2.75	2.64
HAZEL GREEN MUNICIPAL UTILITIES	WISCONSIN POWER AND LIGHT COMPANY	6,093	204,835	1,308	53.2	3.36	3.26
HUSTISFORD MUNICIPAL UTILITIES	WISCONSIN POWER AND LIGHT COMPANY	11,650	360,228	2,175	61.1	3.09	3.02
JEFFERSON WATER AND ELECTRIC DEPT	WISCONSIN ELECTRIC POWER COMPANY	86,534	2,460,972	16,262	60.7	2.84	2.53
JUNEAU UTILITY COMMISSION	WISCONSIN POWER AND LIGHT COMPANY	22,131	660,199	4,122	61.3	2.98	2.95
KIEL MUNICIPAL UTILITIES	WISCONSIN ELECTRIC POWER COMPANY	30,720	887,280	5,740	61.1	2.89	2.57
LAKE MILLS LIGHT AND WATER DEPT	WISCONSIN ELECTRIC POWER COMPANY	46,032	1,473,446	9,893	53.1	3.20	2.57
LODI MUN LIGHT AND WATER UTILITY	WISCONSIN POWER AND LIGHT COMPANY	12,627	395,378	3,004	48.0	3.13	3.07
MAZOMANIE ELECTRIC UTILITY	WISCONSIN POWER AND LIGHT COMPANY	7,191	246,201	1,736	47.3	3.42	3.34
MEDFORD ELECTRIC UTILITY	LAKE SUPERIOR DISTRICT POWER COMPANY	52,730	1,555,245	10,911	55.2	2.95	2.92
MOUNT HOREB ELECTRIC UTILITY	WISCONSIN POWER AND LIGHT COMPANY	28,546	877,424	5,292	61.6	3.07	2.95
MUSCODA LIGHT AND WATER DEPARTMENT	WISCONSIN POWER AND LIGHT COMPANY	12,588	411,215	2,772	51.8	3.27	3.12
NEW GLARUS MUN WATER & ELECTRIC UTIL	WISCONSIN POWER AND LIGHT COMPANY	12,768	418,250	2,757	52.9	3.28	3.16
NEW HOLSTEIN PUBLIC UTILITIES	WISCONSIN PUBLIC SERVICE CORPORATION	46,044	1,474,350	10,336	50.9	3.20	3.21

TABLE 4

COST OF ENERGY PURCHASED BY
CLASS C MUNICIPAL ELECTRIC UTILITIES
1980

UTILITY	VENDOR	THOUSANDS OF KWH PURCHASED	TOTAL COST	15 MIN. MAXIMUM DEMAND	LOAD FACTOR	AVERAGE COST PER KWH 1980	AVERAGE COST PER KWH 1979
NEW LISBON MUN WATER & ELECTRIC UTIL[1/]	CAKDALE ELECTRIC COOP - LA VALLE	10,332	$ 219,512	2,027	58.2	2.12	2.35
NEW LONDON MUN WATER & ELECTRIC DEPT	WISCONSIN ELECTRIC POWER COMPANY	105,980	2,820,315	18,150	66.7	2.66	2.45
NEW RICHMOND MUNICIPAL ELECTRIC UTIL	NORTHERN STATES POWER COMPANY	36,744	983,493	7,707	54.4	2.68	2.27
OCONTO FALLS WATER AND LIGHT DEPT	WISCONSIN ELECTRIC POWER COMPANY	16,758	457,203	3,200	59.8	2.73	2.44
PARDEEVILLE MUN. ELECTRIC UTILITY[1/]	WISCONSIN POWER AND LIGHT COMPANY	10,154	315,546	2,120	54.7	3.11	3.05
PRAIRIE DU SAC MUN WATER & ELECTRIC	WISCONSIN POWER AND LIGHT COMPANY	11,844	391,676	2,649	51.0	3.31	3.24
PRINCETON MUN WATER & ELECTRIC UTIL	WISCONSIN POWER AND LIGHT COMPANY	9,676	300,360	2,043	54.1	3.10	3.05
REEDSBURG UTILITY COMMISSION	WISCONSIN POWER AND LIGHT COMPANY	72,104	2,239,671	14,022	58.7	3.11	3.01
RICE LAKE MUN WATER & ELECTRIC UTIL	NORTHERN STATES POWER COMPANY	80,758	2,164,662	16,356	56.4	2.68	2.27
RICHLAND CENTER ELECTRIC UTILITY[1/]	DAIRYLAND POWER COOPERATIVE	32,497	1,127,674	12,900	28.8	3.47	2.64
RIVER FALLS MUNICIPAL UTILITIES[1/]	PIERCE-PEPIN ELECTRIC COOPERATIVE	44,521	1,053,514	11,383	44.7	2.37	2.42
SAUK CITY MUN WATER & ELECTRIC UTIL	WISCONSIN POWER AND LIGHT COMPANY	20,693	702,263	4,656	50.7	3.39	3.20
SHEBOYGAN FALLS MUN WATER & ELECTRIC	WISCONSIN POWER AND LIGHT COMPANY	84,924	2,559,955	14,634	66.3	3.01	2.91
SHULLSBURG ELECTRIC UTILITY	WISCONSIN POWER AND LIGHT COMPANY	8,140	269,444	1,695	54.8	3.31	3.16
SLINGER UTILITIES	WISCONSIN ELECTRIC POWER COMPANY	15,231	461,344	4,294	40.5	3.03	2.73
SPOONER MUNICIPAL UTILITY	NORTHERN STATES POWER COMPANY	18,247	460,716	3,614	57.6	2.52	2.23
WATERLOO WATER AND ELECTRIC COMM	WISCONSIN ELECTRIC POWER COMPANY	28,747	838,414	5,678	57.8	2.92	2.58
WAUNAKEE WATER AND LIGHT COMMISSION	WISCONSIN POWER AND LIGHT COMPANY	29,772	970,436	7,380	46.1	3.26	3.14

TABLE 4

COST OF ENERGY PURCHASED BY
CLASS C MUNICIPAL ELECTRIC UTILITIES
1980

UTILITY	VENDOR	THOUSANDS OF KWH PURCHASED	TOTAL COST	15 MIN. MAXIMUM DEMAND	LOAD FACTOR	AVERAGE COST PER KWH 1980	AVERAGE COST PER KWH 1979
BAUPUN PUBLIC UTILITIES	WISCONSIN POWER AND LIGHT COMPANY	51,930	$ 1,625,417	10,368	57.2	3.13	3.06
BESTBY MUN WATER & ELECTRIC UTILITY	NORTHERN STATES POWER COMPANY	14,178	353,656	2,797	57.9	2.49	2.20
WHITEHALL MUNICIPAL ELECTRIC UTILITY	NORTHERN STATES POWER COMPANY	15,312	403,514	3,214	54.4	2.64	2.23
WISCONSIN DELLS MUN ELECTRIC UTILITY	WISCONSIN POWER AND LIGHT COMPANY	26,016	823,403	7,788	38.1	3.16	3.07
WONEWOC MUN WATER & ELECTRIC UTILITY	WISCONSIN POWER AND LIGHT COMPANY	6,434	214,975	1,337	54.9	3.34	3.29
TOTAL		1,679,050	$48,637,500			2.90	2.73

1/ Generates a portion of its energy requirement.

TABLE 5

COST OF ENERGY PURCHASED BY
CLASS D MUNICIPAL ELECTRIC UTILITIES
1980

UTILITY	VENDOR	THOUSANDS OF KWH PURCHASED	TOTAL COST	15 MIN. MAXIMUM DEMAND	LOAD FACTOR	AVERAGE COST PER KWH 1980	AVERAGE COST PER KWH 1979
ARGYLE MUN WATER AND ELECTRIC UTIL [1]	LAFAYETTE ELECTRIC COOPERATIVE	4,745	$ 119,253	1,037	52.2	2.51	2.72
BELMONT MUN WATER AND ELECTRIC UTIL	WISCONSIN POWER AND LIGHT COMPANY	4,747	158,020	990	54.7	3.33	3.25
BENTON MUN WATER AND ELECTRIC UTIL	WISCONSIN POWER AND LIGHT COMPANY	4,067	135,162	870	53.4	3.32	3.28
CADOTT LIGHT AND WATER DEPARTMENT	NORTHERN STATES POWER COMPANY	8,630	238,399	2,016	48.9	2.76	2.39
CASHTON MUN WATER AND ELECTRIC UTIL [1]	VERNON ELECTRIC COOPERATIVE	5,158	125,959	1,291	45.6	2.44	2.55
CENTURIA MUNICIPAL ELECTRIC UTILITY	NORTHWESTERN WISCONSIN ELECTRIC CO	4,019	138,789	876	52.4	3.45	3.08
COMBINED LOCKS WATER & ELECTRIC UTIL	KAUKAUNA MUN WATER & ELECTRIC UTIL	380	9,155	[2]	[2]	2.41	2.06
FOOTVILLE WATER AND ELECTRIC COMM	WISCONSIN POWER AND LIGHT COMPANY	3,496	116,751	823	48.5	3.34	3.22
LA FARGE MUNICIPAL ELECTRIC UTILITY	VERNON ELECTRIC COOPERATIVE	4,441	166,554	914	55.5	3.75	3.51
MERRILLAN MUN WATER & ELECTRIC UTIL [1]	JACKSON ELECTRIC COOPERATIVE	2,570	65,486	566	51.8	2.55	3.45
STRATFORD MUN WATER & ELECTRIC UTIL	WISCONSIN PUBLIC SERVICE CORPORATION	7,552	241,446	1,673	51.5	3.20	3.38
TREMPEALEAU MUN WATER & ELECTRIC	NORTHERN STATES POWER COMPANY	6,318	161,164	1,416	50.9	2.55	2.28
VIOLA MUN WATER AND ELECTRIC UTILITY [1]	VERNON ELECTRIC COOPERATIVE	3,745	91,076	764	55.9	2.43	2.47
TOTAL		59,867	$ 1,767,214			2.95	2.90

[1] Generates a portion of its energy requirement.

[2] Not available.

TABLE 6

COST OF ENERGY PURCHASED BY
SMALL PRIVATE ELECTRIC UTILITIES
1980

UTILITY	VENDOR	THOUSANDS OF KWH PURCHASED	TOTAL COST	15 MIN. MAXIMUM DEMAND	LOAD FACTOR	AVERAGE COST PER KWH 1980	AVERAGE COST PER KWH 1979
CROSS PLAINS ELECTRIC COMPANY	WISCONSIN POWER AND LIGHT COMPANY	13,231	$ 445,135	3,032	49.8	3.36	3.25
DAHLBERG LIGHT AND POWER COMPANY 1/	SUPERIOR WATER LIGHT AND POWER CO	56,669	1,796,094	11,000	58.8	3.17	2.87
NORTH CENTRAL POWER COMPANY INC 1/	LAKE SUPERIOR DISTRICT POWER COMPANY	9,798	301,952	2,446	45.7	3.08	3.17
NORTHWESTERN WISCONSIN ELECTRIC CO 1/	DAIRYLAND POWER COOPERATIVE	0	0				2.82
NORTHWESTERN WISCONSIN ELECTRIC CO	NEW LISBON MUN WATER & ELECTRIC UTIL	0	0				16.65
	TOTAL	0	0	2/	2/		2.88
PIONEER POWER AND LIGHT COMPANY 1/	WISCONSIN POWER AND LIGHT COMPANY	14,206	435,255	3,168	51.2	3.06	2.99
WESTFIELD MILLING AND ELECTRIC LT CO	PIONEER POWER AND LIGHT COMPANY	7,167	242,080	2/	2/	3.38	3.33
TOTAL		101,071	$ 3,220,516			3.19	2.94

1/ Generates a portion of its energy requirement.

2/ Not available.

TABLE 7

COST OF ENERGY PURCHASED BY
RURAL ELECTRIC COOPERATIVES
1980

UTILITY	VENDOR	THOUSANDS OF KWH PURCHASED	TOTAL COST	15 MIN. MAXIMUM DEMAND	LOAD FACTOR	AVERAGE COST PER KWH 1980	AVERAGE COST PER KWH 1979
ADAMS-MARQUETTE ELECTRIC COOPERATIVE	WISCONSIN POWER AND LIGHT COMPANY	101,723	$ 2,686,208	21,198	54.8	2.64	2.56
CENTRAL WISCONSIN ELECTRIC COOP	WISCONSIN POWER AND LIGHT COMPANY	53,746	1,436,995	10,628	57.7	2.67	2.61
COLUMBUS RURAL ELECTRIC COOPERATIVE	WISCONSIN POWER AND LIGHT COMPANY	46,258	1,215,998	12,229	43.2	2.63	2.52
ROCK COUNTY ELECTRIC COOPERATIVE	WISCONSIN POWER AND LIGHT COMPANY	53,334	1,454,839	11,629	52.4	2.73	2.64
WAUSHARA ELECTRIC COOPERATIVE	WISCONSIN POWER AND LIGHT COMPANY	52,006	1,445,542	17,503	33.9	2.78	2.76
TOTAL		307,067	$ 8,239,582			2.68	2.61

APPENDIX D

DEFINITIONS OF FAIR MARKET VALUE

DEFINITIONS OF FAIR MARKET VALUE

FULL AND MARKET VALUE

The basis for the assessor's valuation of real property is found in s.70.32, (1) Stats., "Real property shall be valued by the assessor in the manner specified in the Wisconsin property assessment manual under s.73.03 (2a), Stats., from actual view or from the best information that the assessor can practically obtain at the full value which could ordinarily be obtained therefor at private sale." Numerous Wisconsin court cases have held that full value is equivalent to market value.

In the book Real Estate Appraisal Technology, market value is defined as: The highest price in terms of money which a property will bring in a competitive and open market under all conditions requisite to a fair sale. The buyer and seller, each acting prudently, knowledgeably and assuming the price is not affected by undue stimulus." Thus, the goal of the assessor is to estimate the full or market value of the real property.

There are certain conditions that are necessary for a sale to be considered a "market value" transaction. These are:

1. It must have been exposed to the open market for a period of time typical of the turnover time for the type of property involved.

2. It presumes that both buyer and seller are knowledgeable about the real estate market.

3. It presumes buyer and seller are knowledgeable about the uses, present and potential, of the property.

4. It requires a willing buyer and a willing seller, with neither party compelled to act.

5. Payment for the property is cash, or typical of normal financing and payment arrangements prevalent in the market for the type of property involved.

Real Estate Appraisal Terminology also defines value as, "The present worth of future benefits arising out of ownership to typical users or investors." What the investor is actually buying is the future income of the property. The users are typically purchasing the right to use the real property for personal satisfaction, shelter, or other benefits in the future. It is these future or anticipated benefits that give value to the property.

Source: Wisconsin Property Assessment Manual Volume I, Part I, page 7-3, 1980 edition, revised December 1982.

DEFINITION OF MARKET VALUE

The most probable price in cash, terms equivalent to cash, or in other precisely revealed terms, for which the appraised property will sell in a competitive market under all conditions requisite to fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress.

Fundamental assumptions and conditions presumed in this definition are

1. Buyer and seller are motivated by self-interest.

2. Buyer and seller are well informed and are acting prudently.

3. The property is exposed for a reasonable time on the open market.

4. Payment is made in cash, its equivalent, or in specified financing terms generally available for the property type in its locale on the effective appraisal date.

5. The effect, if any, on the amount of market value of atypical financing, services, or fees shall be clearly and precisely revealed in the appraisal report.

Source: American Institute of Real Estate Appraisers, The Appraisal of Real Estate, Eighth Edition, Chicago, IL, 1983, p. 33.

APPENDIX E

STANDARD LIMITING CONDITIONS

STATEMENTS OF GENERAL ASSUMPTIONS AND LIMITING CONDITIONS

1. Contributions of Other Professionals

   - Information furnished by others in the report, while believed to be reliable, is in no sense guaranteed by the appraisers.
   - The appraiser assumes no responsibility for legal matters.
   - All information furnished regarding property for sale or rent, financing, or projections of income and expenses is from sources deemed reliable. No warranty or representation is made regarding the accuracy thereof, and it is submitted subject to errors, omissions, change of price, rental or other conditions, prior sale, lease, financing, or withdrawal without notice.

2. Facts and Forecasts Under Conditions of Uncertainty

   - The comparable sales data relied upon in the appraisal is believed to be from reliable sources. Though all the comparables were examined, it was not possible to inspect them all in detail. The value conclusions are subject to the accuracy of said data.
   - Forecasts of the effective demand for space are based upon the best available data concerning the market, but are projected under conditions of uncertainty.
   - Engineering analyses of the subject property were neither provided for use nor made as a part of this appraisal contract. Any representation as to the suitability of the property for uses suggested in this analysis is therefore based only on a rudimentary investigation by the appraiser and the value conclusions are subject to said limitations.
   - Since the projected mathematical models are based on estimates and assumptions, which are inherently subject to uncertainty and variation depending upon evolving events, we do not represent them as results that will actually be achieved.

- Sketches in the report are included to assist the reader in visualizing the property. These drawings are for illustrative purposes only and do not represent an actual survey of the property.

3. Controls on Use of Appraisal

- Values for various components of the subject parcel as contained within the report are valid only when making a summation and are not to be used independently for any purpose and must be considered invalid if so used.

- Possession of the report or any copy thereof does not carry with it the right of publication nor may the same be used for any other purpose by anyone without the previous written consent of the appraiser or the applicant and, in any event, only in its entirety.

- Neither all nor any part of the contents of the report shall be conveyed to the public through advertising, public relations, news, sales, or other media without the written consent and approval of the author, particularly regarding the valuation conclusions and the identity of the appraiser, of the firm with which he is connected, or any of his associates.

- The report shall not be used in the client's reports or financial statements or in any documents filed with any governmental agency, unless: (1) prior to making any such reference in any report or statement or any document filed with the Securities and Exchange Commission or other governmental agency, the appraiser is allowed to review the text of such reference to determine the accuracy and adequacy of such reference to the appraisal report prepared by the appraiser; (2) in the appraiser's opinion the proposed reference is not untrue or misleading in light of the circumstances under which it is made; and (3) written permission has been obtained by the client from the appraiser for these uses.

- The appraiser shall not be required to give testimjony or to attend any governmental hearing regarding the subject matter of this appraisal without agreement as to additional compensation and without sufficient notice to allow adequate preparation.

APPENDIX F

CERTIFICATION OF VALUE

CERTIFICATION OF VALUE

We hereby certify that we have no interest, present or contemplated, in the property and that neither the employment to make the appraisal nor the compensation is contingent on the value of the property. We certify that we have personally inspected the property and that according to our knowledge and belief, all statements and information in the report are true and correct, subject to the underlying assumptions and limiting conditions.

Based on the information and subject to the limiting conditions contained in this report, we concluded that the fair market value of land, site improvements, and real estate structures related to the hydroelectric system owned by the Wisconsin River Power System and known as the Castle Rock-Petenwell Hydroelectric System, (the System), as of January 1, 1980, is:

FORTY EIGHT MILLION FIVE HUNDRED THOUSAND DOLLARS

($48,500,000)

We have further concluded that the total value of the system can be allocated by historical cost which indicates that 0.3207 of this total value is located in the Township of Quincy totalling $15,553,950 of fair market value. To this value allocation the

equalization rate for the Township of Quincy in 1980 of 0.3959 must be applied to determine that January 1, 1980, equalized assessment value to be recorded is:

SIX MILLION ONE HUNDRED THOUSAND DOLLARS

($6,100,000)

_____

James A. Graaskamp, Ph.D., SREA, CRE

_____

Date

APPENDIX G

QUALIFICATIONS OF APPRAISERS

J A M E S A. G R A A S K A M P

PROFESSIONAL DESIGNATIONS

SREA, Senior Real Estate Analyst, Society of Real Estate Appraisers

CRE, Counselor of Real Estate, American Society of Real Estate Counselors

CPCU, Certified Property Casualty Underwriter, College of Property Underwriters

EDUCATION

Ph.D., Urban Land Economics and Risk Management - University of Wisconsin
Master of Business Administration Security Analysis - Marquette University
Bachelor of Arts - Rollins College

ACADEMIC AND PROFESSIONAL HONORS

Chairman, Department of Real Estate and Urban Land Economics, School of Business, University of Wisconsin
Urban Land Institute Research Fellow
University of Wisconsin Fellow
Omicron Delta Kappa
Lambda Alpha - Ely Chapter
Beta Gamma Sigma
William Kiekhofer Teaching Award (1966)
Urban Land Institute Trustee

PROFESSIONAL EXPERIENCE

Dr. Graaskamp is the President and founder of Landmark Research, Inc., which was established in 1968. He is also co-founder of a general contracting firm, a land development company, and a farm investment corporation. He is formerly a member of the Board of Directors and treasurer of the Wisconsin Housing Finance Agency. He is currently a member of the Board and Executive Committee of First Asset Realty Advisors, a subsidiary of First Bank Minneapolis. He is the co-designer and instructor of the EDUCARE teaching program for computer applications in the real estate industry. His work includes substantial and varied consulting and valuation assignments to include investment counseling to insurance companies and banks, court testimony as expert witness and the market/financial analysis of various projects, both nationally and locally, and for private and corporate investors and municipalities.

C R A I G D. H U N G E R F O R D

EDUCATION

Master of Science in Business; major in Real Estate Appraisal and Investment Analysis - University of Wisconsin - Madison

Master of Arts in Landscape Architecture - University of Wisconsin - Madison

Bachelor of Science in Landscape Architecture - University of Wisconsin - Madison

PROFESSIONAL EXPERIENCE

Mr. Hungerford is currently associated with Landmark Research, Inc., as an appraiser and research consultant. He has a variety of experience in valuation, feasibility, and land use studies for private, corporate, and municipal clients. His specialties include computer applications and simulation for development and wilderness and valuation purposes.

APPENDIX I

COURT OF APPEALS DECISION

APPENDIX H

WISCONSIN RIVER POWER COMPANY
WISCONSIN RAPIDS, WISCONSIN

PERCENT OF NET PROPERTY VALUE BY TOWNSHIP

	12/31/79	12/31/83
Armenia	8.31	8.54
Germantown	7.41	8.13
Monroe	7.54	8.16
Necedah	27.88	25.63
Quincy	32.07	32.08
Port Edwards	0.53	0.63
Rome	3.08	3.78
Saratoga	0.70	0.80
Strongs Prairie	12.48	12.25
TOTAL	100.00	100.00

Source: Max Andrae

COURT OF APPEALS
DECISION
DATED AND RELEASED

MAY 23 1985

No. 83-2021

STATE OF WISCONSIN IN COURT OF APPEALS
DISTRICT IV

STATE OF WISCONSIN ex rel.
WISCONSIN RIVER POWER
COMPANY,

Petitioner-Appellant,

v.

BOARD OF REVIEW OF THE TOWN OF
ARMENIA and TOWN OF ARMENIA,

Respondents.

FILED

MAY 23 1985

CLERK OF COURT OF APPEALS
OF WISCONSIN

APPEAL from a judgment of the circuit court for Juneau county: WALLACE A. BRADY, Judge. Reversed and cause remanded with directions.

Before Gartzke, P.J., Dykman, J., and Rudolph T. Randa, Reserve Judge.

GARTZKE, P.J. Wisconsin River Power Company appeals from a judgment affirming the decision of the Town of Armenia's board of review upholding the 1980 valuation of that part of the company's dike which is in the township. The dispute is over the fair market value of the dike. The issue is whether the record supports the assessor's valuation. We conclude that it does not. We therefore reverse.

The company objected to the assessor's 1980 valuation of that part of its dike within the township at $1,502,000. The board of review held a hearing on the objection. Only the company presented evidence. The board upheld the assessor's valuation. The circuit court vacated the board's decision, concluding that the record did not support the valuation. The board held a second hearing. Both sides presented evidence. The company contended that the fair market value of the dike January 1, 1980 is $352,688. The board again upheld the assessor's $1,502,000 valuation, and the circuit court affirmed that decision.

The company operates a hydroelectric generating project on the Wisconsin River. The project includes a dike, 25,725 lineal feet of which are in the Town of Armenia. The project is owned equally by Consolidated Water Power Company,[1] Wisconsin Public Service Corporation and Wisconsin Power & Light Company. The entire project's original cost was $20,198,239. Its net book value (original cost less depreciation) was $11,786,169 January 1, 1980.

The company is licensed under The Federal Power Act to operate the project for fifty years. The license expires in 1998. The Federal Energy Regulatory Commission's approval is necessary to transfer the license. 16 USC sec. 801 (1982). The successor or assignee of the license takes subject to its terms and conditions. Id. The company cannot sell, lease or otherwise dispose of the whole of its facilities unless FERC finds that

the proposed disposition is consistent with the public interest. 16 USC sec. 824b(a). The United States may take over and operate the project when the license expires if it pays the owner its net investment. 16 USC sec. 807(a).

The company sells its power at wholesale. FERC regulates the rates, which must be "just and reasonable" and therefore enough to allow recovery of operating costs and a fair rate of return on investment. Anaheim, Riverside, etc. v. Fed. Energy Reg. Com'n, 669 F.2d 799, 801 (D.C. Cir. 1981). Net investment is defined as original cost less depreciation plus improvements. 16 USC sec. 796(13). A surplus earned over the specified rate of return on the net investment after the first twenty years of operation must be held in an amortization reserve. FERC may require that the reserve be applied to reduce the net investment or be held until the termination of the license. 16 USC sec. 803(d).

With this background in mind, we state the scope of our review. Judicial review of the board's decision is by statutory certiorari. Sec. 70.47(13), Stats. Review on statutory certiorari is the same as on common law certiorari, when the statute does not enlarge the scope of review. State ex rel. Ruthenberg v. Annuity & Pension Bd., 89 Wis.2d 463, 474, 278 N.W.2d 835, 840 (1979). We review the same record made before the board of review as did the trial court, and we are not bound by that court's conclusions.

The assessor's valuation is presumed to be correct. The presumption survives until credible evidence overturns it. Rosen v. Milwaukee, 72 Wis.2d 653, 661-62, 242 N.W.2d 681, 684 (1976). If the presumption is overcome, the question is whether credible evidence was presented to the board that may in any reasonable view support the board's determination. Id. at 662, 242 N.W.2d at 684. If the board has not acted arbitrarily and the evidence furnishes a substantial basis, the court will affirm the board's determination. East Briar v. Rome Board of Review, 113 Wis.2d 33, 35-36, 334 N.W.2d 692, 694 (Ct.App. 1983). The court does not substitute its opinion of value for that of the board of review. Id. The board cannot, however, disregard competent, unimpeached and uncontradicted evidence. Id. If the board disregards such evidence, the court must set aside its determination.

We turn to the record made before the board. We conclude that the company overcame the presumption that the assessor's $1,502,000 valuation is correct.

Assessors must value property in the manner provided in the Wisconsin Property Assessment Manual. Secs. 70.32(1) and 73.03(2a), Stats. The manual requires that the assessor use the best data available to arrive at an assessment.. 1 Property Assessment Manual for Wisconsin Assessors, 7-3 to 7-4 (Rev. 1982). This involves consideration of the market, cost and income approaches to value.

The company's appraiser, an officer of the regulated industries division of American Appraisal Company, testified that because no comparable sales are available, he did not use the market approach. In his opinion, a reasonable investor would value the project on the basis of its income-producing potential. He testified that FERC limits the company's return to a percentage of its "rate base" or original cost less depreciation and does not generally approve sales of federally licensed projects for more than net book value if the purchaser will pass on the excess cost to consumers. He concluded that no reasonable investor would pay more than net book value for the project. The net book value of the company's project was $11,786,169 January 1, 1980. The dike is carried in the company's account for "Reservoirs, Dams and Waterways." The appraiser allocated $352,688 from that account to the part of the dike in the town as that part's fair market value January 1, 1980.

The company's appraiser also valued the project at $11,786,169, using the cost approach. He first calculated the project's reproduction cost less depreciation. He reduced that amount to the project's net book value because its rates are regulated. In his view, rate regulation is an economic obsolescence factor that must be considered under the cost approach.

We conclude that the company's appraiser valued the property in the manner provided in the Wisconsin Property Assessment manual, as must the

town assessor under secs. 70.32(1) and 73.03(2a), Stats. The appraiser arrived at an opinion based upon facts which he presented to the board. The connection between those facts and his opinion employs a logical rationale. Consequently, the appraiser's opinion is reasonable. The company therefore came forward with credible evidence that the assessor's valuation is incorrect and overcame the presumption in favor of that valuation. Rosen, 72 Wis.2d at 662, 242 N.W.2d at 684.

Because the presumption favoring the assessor's valuation was overcome, the next question is whether credible evidence was presented to the board that may in any reasonable view support the assessor's valuation. Id.

The assessor testified only at the second hearing. He bases his valuation solely on net reproduction cost, citing sales of other utility properties at prices over net book value. He used his predecessor's valuation, having determined from Army Corps of Engineers personnel that his predecessor had conservatively estimated the dike's replacement cost less depreciation. He analyzed his $1,502,000 valuation, using the 1979 report which American Appraisal Company had submitted at the first hearing. The appraisal company's $356,715 valuation as of January 1, 1979 was 4.8 percent of the company's account for "Reservoirs, Dams and Waterways" as of that date. He applied the 4.8 percent, to the appraisal company's finding in the 1979 report of a $28,868,045 reproduction cost

less depreciation for the reservoirs, dams and waterways. He compared the result, $1,385,660, with his $1,502,000 original valuation. He considered the difference to be reasonable in view of the high inflation rate in 1979. He made no adjustment to net reproduction cost for income limitations on the project and did not use the income or market approach.

The town called its 1981 assessor even though he did not participate in the 1980 valuation at issue. He testified that the project's reproduction cost less depreciation in 1980 was $45,000,000 to $55,000,000. He based his opinion on the costs of recently constructed facilities and on his conversations with engineers. He assumed that a buyer would be able to earn a return on the entire purchase price but subtracted a "negligible" amount to account for the possibility that the purchaser would not. He did not offer an opinion as to the dike's value in 1980.

The general manager of Kaukauna Electric and Water Company, a municipally-owned utility, testified that his company is interested in purchasing additional hydrocapacity. In his opinion, $26,000,000 is a low valuation of the Wisconsin River Power project. His company would "jump" at the chance to purchase the project at its net book value, $11,786,169. That price equals about $336 per kilowatt capacity. One Wisconsin utility has offered its coal-fueled plant for sale at about $1,500 per kilowatt of its capacity. Another coal-fueled plant has been offered at approximately $750-$800 per kilowatt. Neither offer has been accepted. No hydrounits

are being offered for sale. A hydrounit is preferable because it needs no fuel. Kaukauna's production cost is about .5¢ per kilowatt hour, and the cost of the power it purchased in 1980 was 2.45¢ per kilowatt hour. The cost of the company's power is .92¢ per kilowatt hour. The purchase price of the project would become more attractive as the sale price approached net book value, assuming that the restrictions in the Wisconsin River Power license (with which he is not completely familiar) are similar to the Kaukauna Electric licenses, and that his company could overcome the major obstacle of having to pay for the use of another company's lines to transmit the power from the project to another location. He offered no opinion on the value of the dike.

The town's attorney put in copies of FERC orders approving transfers of project licenses that it found were in the public interest. He submitted a copy of a FERC order approving the buyer's request to include in its rate base the amount it paid over net book for facilities. He also introduced copies of orders by Wisconsin Public Service Commission approving sales of facilities in excess of net book and in one case at net reproduction cost. PSC required the buyers to accept the sellers' rate base in these facilities but permitted the buyers to amortize the amount paid in excess of net book against expenses over a period of years.[2]

When upholding the assessor's 1980 valuation of the dike, the board reasoned as follows: No legal limit exists on a price for the project.

Utilities have purchased physical assets at above original cost less depreciation. Regulatory agencies have approved sales of utility assets at reproduction cost depreciated. The board "considered" and rejected the income approach taken by the company's appraiser. The effect of income limitations on the value of the project cannot be determined without knowing the particular facts of the transaction. The income approach depends on the amount of investment one assumes the regulator will permit the owners to recover from rate payers. The company's income approach would yield a lower valuation each year because of depreciation, unless improvements are made, and is unreasonable. The project would be substantially undervalued at its depreciated original cost because it produces power at a cost substantially below average, and the relative value of hydroelectric projects has been increasing in recent years. Some buyers would measure its value on the basis of the relative value of the power it produces, not on the basis of FERC rate regulation. The board accepted the assessor's valuation as a reasonable estimate of reproduction cost less depreciation January 1, 1980.

We are not the first court faced with the issue whether an assessor in valuing a utility's property for tax purposes can completely ignore evidence that the utility is subject to rate regulation. Other courts have held that the evidence cannot be ignored. Montaup Elec. v. Bd. of Assessors of Whitman, 460 N.E.2d 583, 586 (Mass. 1984), Boston Edison Co. v. Board of Assessors, etc., 439 N.E.2d 763, 767 (Mass. 1982);

Public Serv. Co. of N.H. v. Town of Ashland, 377 A.2d 124, 126 (N.H. 1977); New England Power Company v. Town of Barnet, 367 A.2d 1363, 1367 (Vt. 1976); New Haven Water Co. v. Board of Tax Review, 348 A.2d 641, 644 (Conn. 1974); Independent Sch. Dist. No. 99 v. Commissioner of Tax., 211 N.W.2d 886, 890 (Minn. 1973).

The Massachusetts Supreme Court dealt with the issue realistically in Boston Edison, supra, and Montaup, supra. The Boston Edison court reversed a valuation of a state regulated utility's property, based almost exclusively on reproduction cost less depreciation, with only minimum weight to net book or rate base value. The court agreed that the net book value is not an upper limit on the value for purposes of taxation. It recognized that circumstances could induce a buyer to pay more than the value of the utility's rate base. The utility's actual earnings might exceed its approved rate of return. The return from the investment might exceed the return available elsewhere. The governing regulatory agency might reasonably be expected to abandon the principle by which the buyer takes the seller's rate base. The growth potential might warrant a higher price. The property could be purchased by a nonregulated buyer. 439 N.E.2d at 768-69. Notwithstanding those possibilities, the court held that the record "must show why a willing buyer would reasonably be expected to pay the value placed on the property by the board," and because the record did not, the court remanded for a redetermination. Id. at 769.

Relying on Boston Edison, supra (to which it refers as the "Watertown case"), the Massachusetts Supreme Court in Montaup, supra, set aside a valuation based on 95 percent of net reproduction cost and 5 percent of the utility's rate base. The court said:

> Although the burden of establishing overvaluation is on the taxpayer, the taxpayer, which is a regulated utility, should not be required to establish a lack of special circumstances which were enumerated in Watertown, until there is some evidence offered by the assessors to show that, because of such circumstances, the relevance of rate base value is put in question. The board "nowhere explains, by reference to substantial evidence or to a reasoned principle, why a buyer would want to pay more than [the taxpayer's] net book value, when by investing the same dollars elsewhere that buyer could obtain a better return." There is no indication in the board's opinion that the assessors presented any evidence at all which forecasted a change in the utility company's net earnings, as currently regulated, nor did the board assert that a change was likely in the FERC's rate-base carry-over policy. The board does not rely on evidence showing that profit available to a prospective purchaser of Montaup's property exceeded that obtainable from an investment with comparable risk. Finally, the board does not rely on any evidence to raise the possibility that any purchaser other than another utility company might buy the Montaup property. The board thus does not rely on either "substantial evidence" or "a reasonable basis in logic" for ignoring the rate base value, which significantly influences the price which a public utility would be willing to pay for Montaup's property.

460 N.E.2d at 588. (Citations omitted.)

The Massachusetts approach is realistic because it takes into account all relevant factors. It recognizes that factors other than the return on investment allowed by law have affected the value of some properties, but

requires a showing that those factors can reasonably be expected to affect the value of the property in question. It requires a logical connection between such factors and the tax value placed on a property. It avoids the arbitrariness of fixing a value based solely on the allowed return when other factors could reasonably be expected to increase that value. It avoids the arbitrariness of fixing a value on the basis of factors which have not reasonably been shown to bear on that value.

Thus, valuation should not stop with the principle announced in several cases cases holding that a utility's net book value is not the upper limit of value for property tax purposes merely because it is subject to rate regulation. See Wisconsin Gas & Electric Co. v. Tax Comm., 221 Wis. 487, 509-10, 266 N.W. 186, 195-96 (1936), Kittery Electric Light Co. v. Assessors of Town, 219 A.2d 728, 737 (Me. 1966); Independent Sch. Dist. No. 99, 211 N.W.2d at 890; New England Power Company, 367 A.2d at 1367; New Haven Water Co., 348 A.2d at 643. Those decisions, like Montaup Elec., supra, and Boston Edison Co., supra, support the proposition that factors exist in addition to a utility's rate base that may affect the fair market value of its property and are consistent with the Massachusetts approach to valuation. The Massachusetts cases hold that such of those factors as are relevant to the property being valued should be considered.

Returning to the case on appeal, the evidence does not support the board's total rejection of the company's valuation. The board had evidence that FERC generally will not allow the buyer of a utility to earn a return on an investment greater than the company's original cost less depreciation. It also had evidence that some buyers have paid more than the original cost less depreciation for some utility property, one buyer having paid reproduction cost less depreciation. The board had insufficient evidence, however, that any buyer could be reasonably expected to pay more than net investment less depreciation for the company's project. It had no evidence that FERC could reasonably be expected, for example, to authorize a buyer of the company's project to earn a return on a higher rate base than the company's original cost less depreciation, or that the company's return on its investment exceeds returns available elsewhere. See, e.g., Montana Power Co. v. Federal Energy Reg. Com'n, 599 F.2d 295 (9th Cir. 1979) (FPC did not err by fixing buyer's rate base at $156,117, the depreciated original cost, to prevent consumers from paying twice for same asset, although buyer paid $3,250,000).

The testimony of the manager of Kaukauna Electric indicates that his company would be interested in acquiring the company's project at a price exceeding its net book value. The manager failed, however, to place a particular value on the project, except to say that $26,000,000 was low and that the price would become more attractive as it approached net book

value. He acknowledged that the restrictions on the Wisconsin River Power license would affect the value, and that the cost to transmit power from the project to another location was a "major obstacle," but did not relate those negative factors to the value of the project to a buyer such as his company. His testimony does not support the board's exclusive reliance on the project's net reproduction cost.

We do not suggest that a witness must state that he or his company is willing to pay or accept a certain price. Specified factors, such as comparatively low production costs, may affect the value to a class of buyers. The existence of members of that class may be shown, but all factors affecting value to that class should be taken into account when evidence is offered of that value.

During oral argument, the company requested that we instruct the circuit court to direct the board to value the dike on the basis of the present record, relying on State ex rel. Keane v. Board of Review, 99 Wis.2d 584, 299 N.W.2d 638 (Ct.App. 1980) and State ex rel. I.B.M. Corp. v. Board of Review, 231 Wis. 303, 285 N.W. 784 (1939). We will not do so.

In Keane, we directed the circuit court to enter judgment vacating the assessments because the board of review had ignored uncontroverted comparable sales, the best evidence of fair market value. 99 Wis.2d at 596-97, 299 N.W.2d at 644-45. The State ex rel. IBM Corp. court was

convinced that one valuation method was fair and just. The court remanded, suggesting a method to value the taxpayer's property. 231 Wis. at 314-15, 285 N.W. at 789. We are not convinced that only one method will result in a fair and just value of a utility's property. We conclude that the board may conduct further hearings if it decides not to accept the company's evidence of fair market value.

Accordingly, we will reverse the judgment and direct that the circuit court remand the matter to the board.

By the Court.--Judgment reversed and cause remanded with directions.

Inclusion in the official reports is recommended.

APPENDIX

[1] Consolidated Papers, Inc., is the parent-owner of Consolidated Water Power.

[2] The company attached to their brief several FERC orders, some of which approached sales of facilities at net reproduction cost.