



MMWEC **Annual Report**

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The Challenge of MMWEC

In the late 1800s only a few prophets could see the great potential of electricity. Among those pathfinders were residents of 34 Massachusetts cities and towns. Not long after Thomas Edison built the first central power plant, they created their own electric systems, inspired by the belief that electricity is a service that should be provided by and for the community.

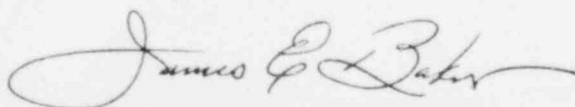
Since 1889 these systems have remained strong and independent in a region dominated by larger, private utilities. To maintain this independence they joined together in the 1960s and in the mid-1970s they formed a joint action agency.

Through such services as demand forecasting, power supply planning and tax-exempt financing, the agency they founded, the Massachusetts Municipal Wholesale Electric Company (MMWEC), has helped its members progress from wholesale customers of private electric companies to virtually self-sufficient electric systems.

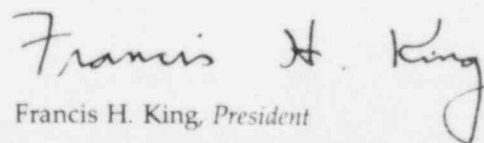
That transformation began with the building of a power supply program. Backed by the revenues of its members, MMWEC has secured ownership in major New England power plants and has built its own generating facilities. Six power plants now comprise the foundation of the power supply program.

In 1981, MMWEC members made an important transition. With a power supply program established, many members became, for the first time, fully committed to the MMWEC program as they ended their long-standing contracts to buy power at wholesale rates from other utilities.

With that landmark behind us, MMWEC now faces a new challenge — that of helping our members fine-tune their energy mixes to respond to the constantly changing regional and national energy situation. Those refinements will allow our members to continue to provide their customers with reliable electric service at the lowest cost possible.

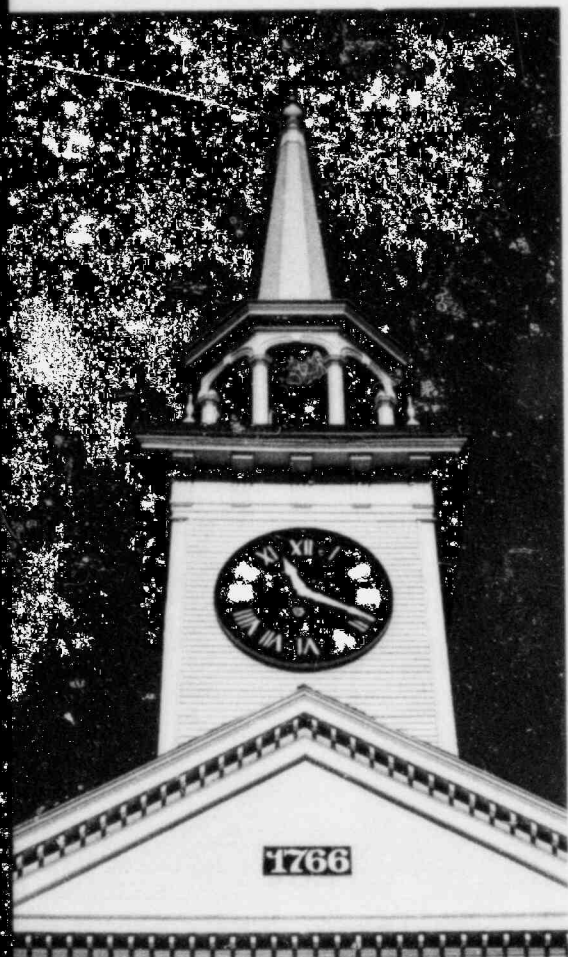


James E. Baker, Chairman



Francis H. King, President

Electricity: A New England Tradition



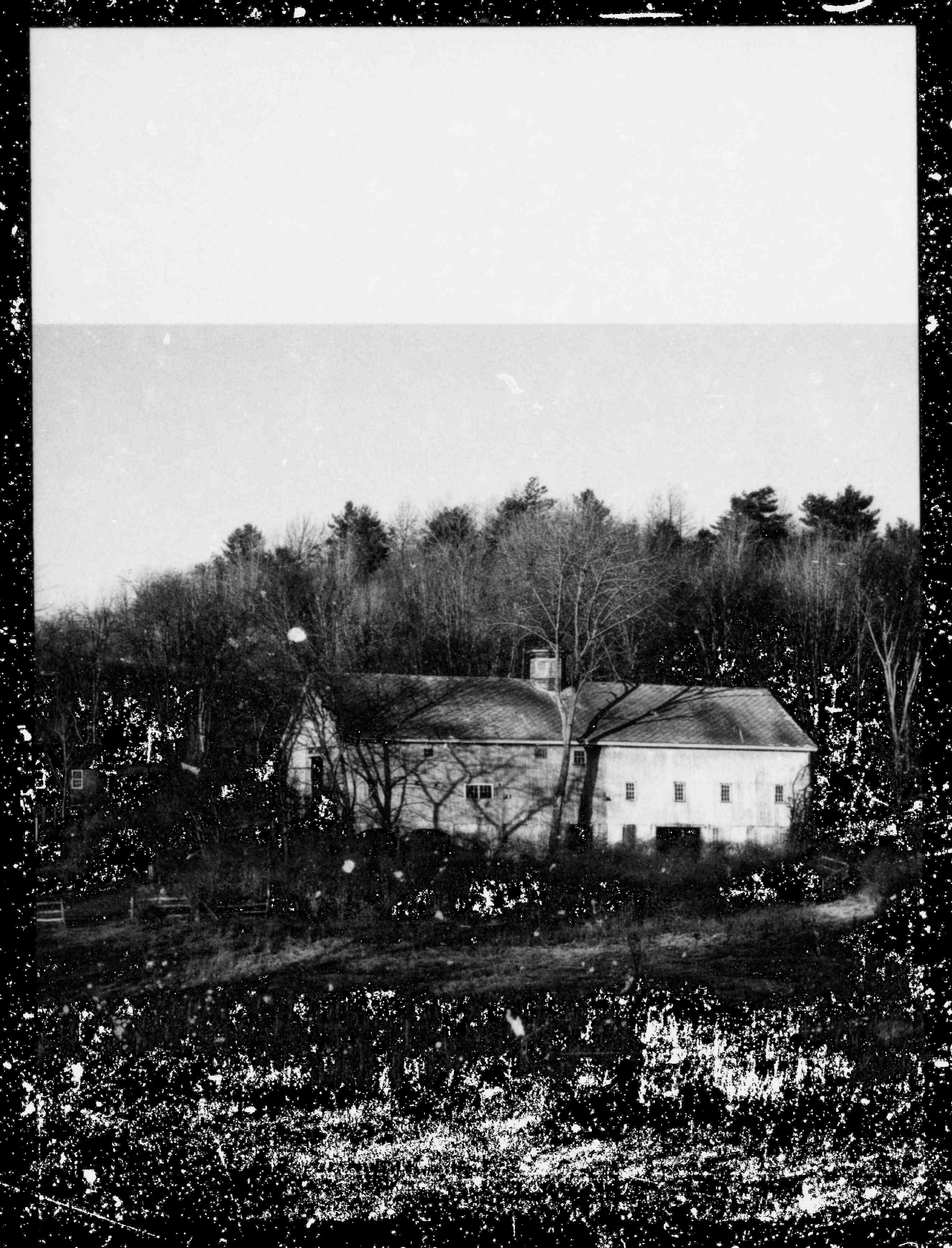
New England has been called a land of rugged individualists. This region was settled by hearty, strong-minded people whose ideals and intelligence founded an entire nation.

But New Englanders are also firm believers in the community. There is no problem too great, no obstacle too large that it can't be overcome by people working together.

So it was not surprising that when the dream of an electrically-powered world was first realized, people in many New England cities and towns decided to work together to energize their communities.

They strung wires, built power plants and bought power from nearby electric companies. Through hard work and perseverance, they brought to their communities high quality, economical electric service. And, more importantly, they kept the power over the power in their own hands.

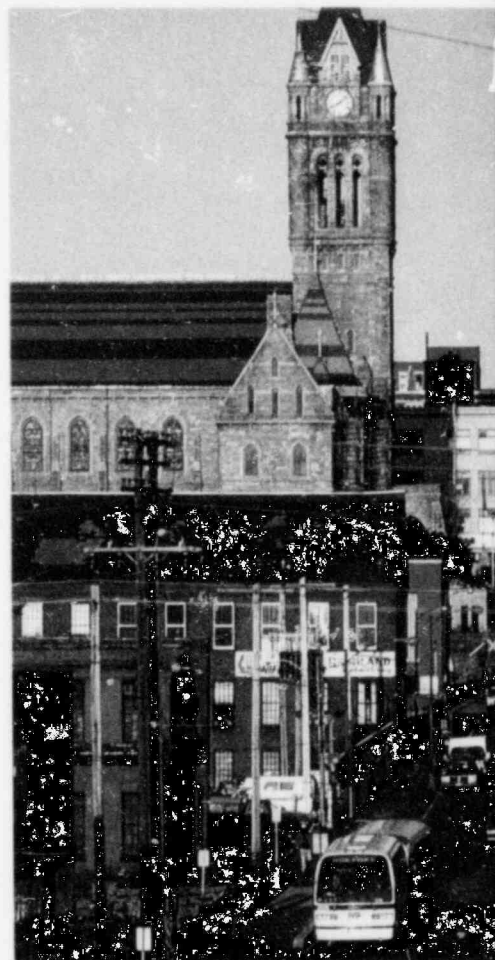




A Heritage of Independence

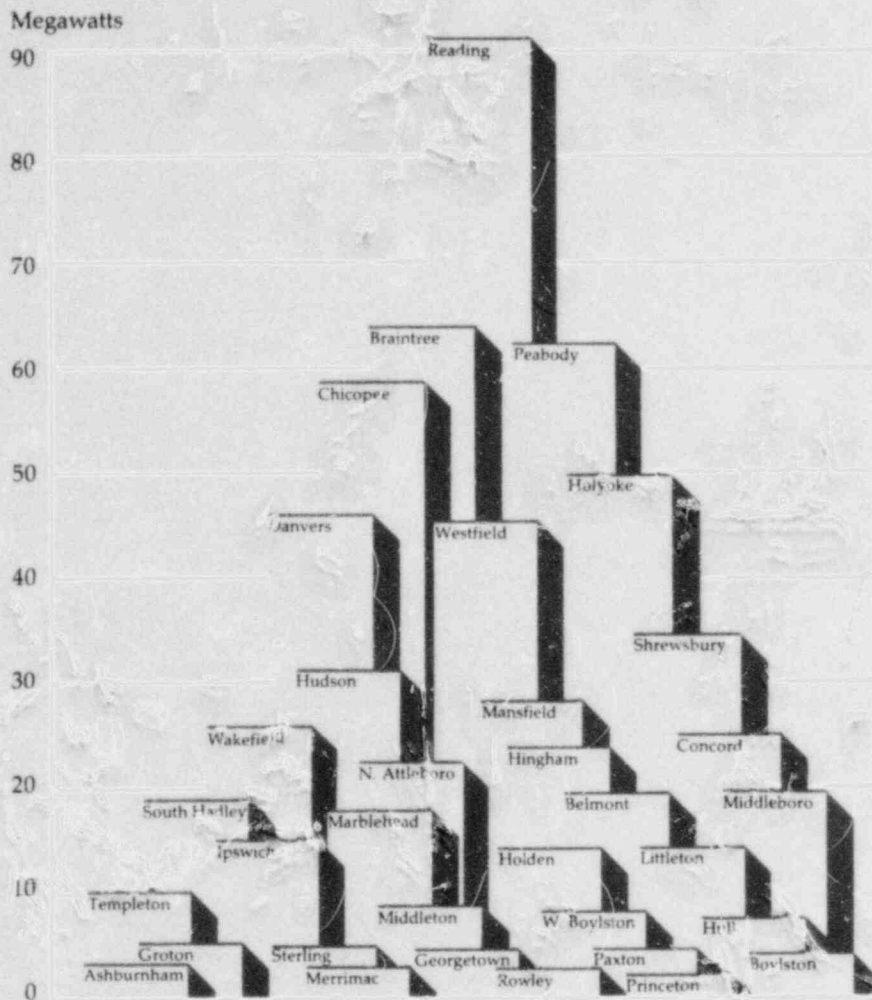
For almost 100 years, 40 such municipally-owned and operated electric systems have thrived in Massachusetts, maintaining that typically New England tradition of self-reliance. Thirty-four of these systems comprise MMWEC's membership.

They range from a city of 46,000 to a town of 2,400; from a seacoast resort community built on rugged granite cliffs to a farming town whose rolling hills are carpeted with some of the finest apple orchards in the region. Each community has a unique character and a unique set of strengths and requirements, including its individual need for economical, dependable electric power.





1982 Members' Peak Demand: A Portrait of Diversity



The 34 communities which comprise MMWEC have much in common. However, each system is unique. Perhaps no single variable reflects that diversity as clearly as the peak demand for electricity. The bars in this graph represent the highest demand recorded for each member system during the calendar

year 1982. Peak demand is a measure of the magnitude of an electric system's load. One of the primary responsibilities of MMWEC is helping to assure that adequate and economical resources are available to meet each system's load.



The MMWEC member systems are a diverse collection of residential suburbs, manufacturing centers, resort communities and farming towns. Despite their differences, they have many things in common. First among these is a heritage rooted in the values of freedom and independence.

Many of these towns played a role in a war 200 years ago to defend these values. On a bridge in Concord on April 19, 1775, for example, the Minutemen engaged British regulars in the first skirmish of the Revolutionary War and fired "the shot heard round the world."

Strong, robust economies, which in recent times have been fueled largely by power from municipal electric systems, are also part of that heritage. The 34 cities and towns which belong to MMWEC have continued to flourish though the national and regional economies have slowed. While electric demand is dropping off in most of the nation and the region, demand in our member systems is growing by 2 to 3 percent a year.

Industry: A Cornucopia of Products



In industry, commerce, education, agriculture and recreation, the 34 communities which make up MMWEC have always been leaders.

Our systems are home to industries which produce a variety of goods, from thousands of bushels of native cran-

berries to some of the most sophisticated computer hardware in the world. Among the products made in our member communities are shoes, office supplies, machine tools, soft drinks, steel, plastics, frozen foods, compressors, hardware, textiles, concrete, candy,

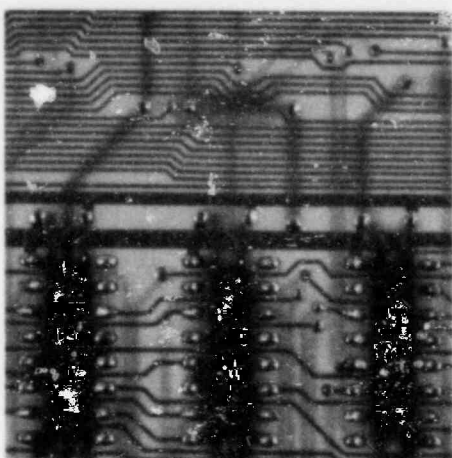
glass, hospital supplies, organ pipes, cutting dies, canned fruit, jewelry, generators, adhesives, metal cans, chemicals, plastic-coated fabric, books, electric lamps, motorcycles, furniture and *The Wall Street Journal*.

In Middleborough, the Maxim Motor Company builds fire engines for fire departments all over the country. In Templeton, huge paper-making machines at the Baldwinville Products Division of Erving Paper Mills turn out a variety of paper products. Leather goods are still produced in the city of Peabody, the self-proclaimed "leather-making capital of the world."

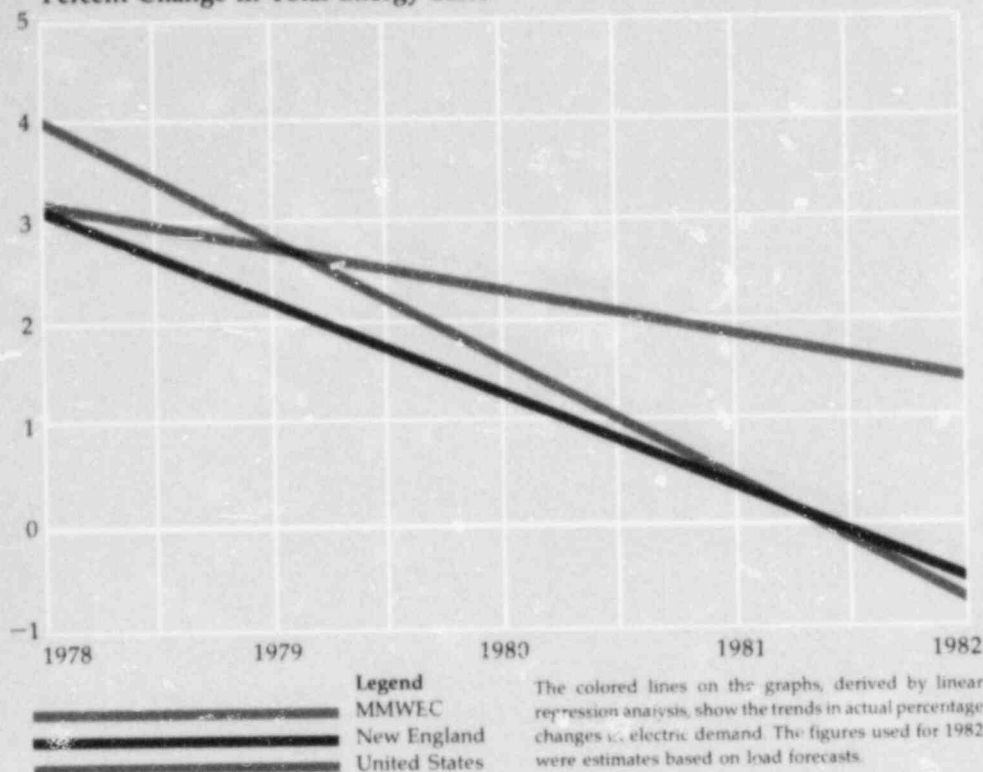




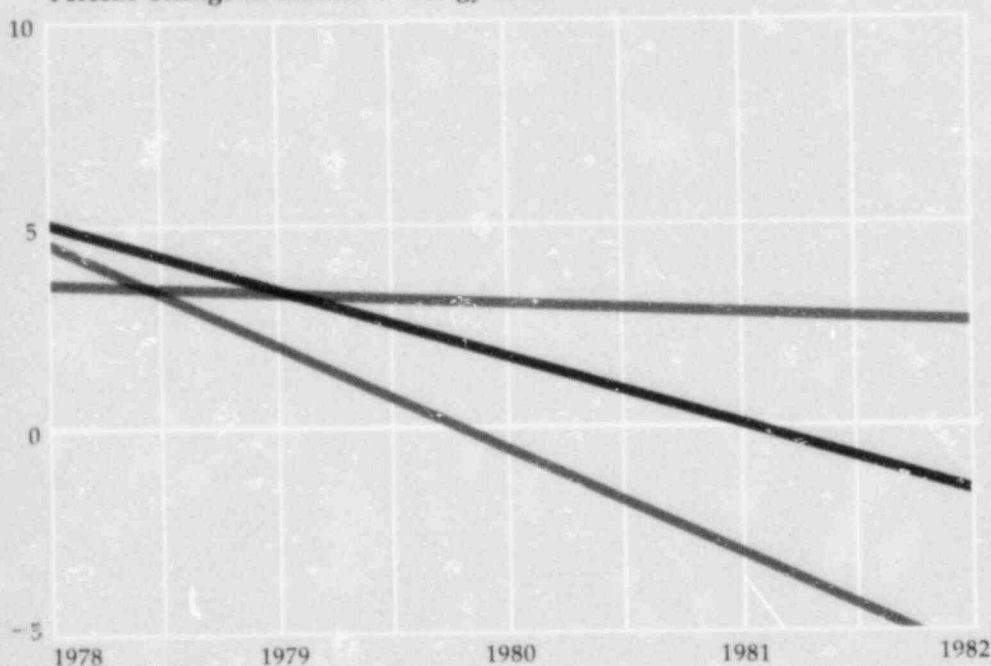
Several communities host companies which are at the leading edge of the high technologies industry. Computers are manufactured in facilities of the Digital Equipment Corporation in Westfield and Hudson and space-age plastics for medical equipment and other specialized products are made in several towns. In other member systems, companies turn out such products as printed circuits, semiconductors, switching devices, radio and television parts and telecommunications apparatus.



Percent Change in Total Energy Sales



Percent Change in Industrial Energy Sales



The MMWEC Load: A Healthy Rate of Growth

In recent years the rate of growth in the demand for electricity has slowed, due to high energy costs which have led many homeowners and businesses to conserve energy. While the growth in demand in the MMWEC systems has also diminished, it remains higher than that of the nation or the New England region (*top graph*).

Electric sales to industry have accounted for much of MMWEC's continuing growth rate. Our members are home to many industries which

have remained strong in the face of economic slumps and rising energy costs. These include a variety of high technology corporations, as well as service industries and institutions which support these firms and use their products.

Their success has meant a healthy growth in industrial electric sales by the MMWEC system, especially when compared to the declining sales in New England and the nation (*bottom graph*).

Commerce: The Thriving

Industry is not the major pursuit in most of our communities, though. Many towns are noted for small businesses, commercial centers, educational institutions and farms.



Marketplace

Commerce thrives under the roofs of major shopping centers in communities like Holyoke, Peabody and Danvers and in hundreds of stores and shops — some as small as the corner grocer, some as large as the Spagg's Supply Company in Shrewsbury, a well-known discount department store.



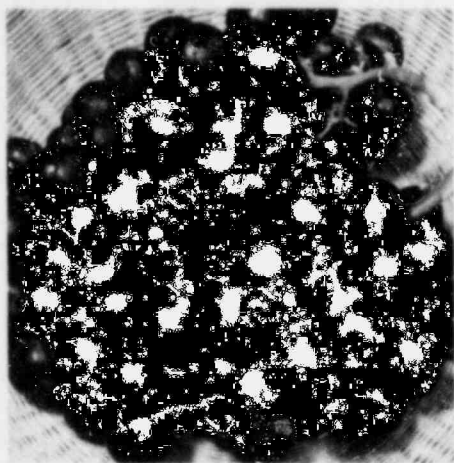
Agriculture: Riches from th



From the rich soil in some of MMWEC's member towns is harvested an abundance of crops. Fruit trees dot the landscape in Rowley, Sterling and Littleton. The quality of the apples from Littleton's orchards is widely known. The celebrated Concord grape is still grown in the town which gave it its name.



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The MMWEC Power Supply Program: Meeting Our Members' Needs

UNITS IN OPERATION

	Type of Unit	MMWEC ownership	
		MW	Percent
W.F. Wyman Unit No. 4	Oil	22.0	3.7
Stony Brook Intermediate Unit	Oil/Nat. Gas	303.1	90.8
Stony Brook Peaking Unit	Oil	170.0	100.0

UNITS UNDER CONSTRUCTION

	Type of Unit	MMWEC ownership	
		MW	Percent
Seabrook Unit No. 1	Nuclear	133.3	11.6
Seabrook Unit No. 2	Nuclear	133.3	11.6
Millstone Unit No. 3	Nuclear	55.2	4.8
TOTAL		816.9	

The MMWEC power supply program consists of ownership in six major New England power plants which will provide MMWEC members with a total of nearly 820 megawatts of generating capacity. Four of these power plants are baseload units which MMWEC jointly owns along with other New England utilities. The others are MMWEC's own Stony Brook intermediate and peaking units, the first major New England power plants to be built for and by municipal utilities. These six resources represent the foundation of the power supply program, which also includes power purchases acquired through contracts with other utilities, and resources owned by our members, exclusive of MMWEC.



It is in these agricultural and largely residential towns where the greatest growth in electric demand may come in the future. More and more, people are moving from urban areas such as Boston and Worcester to enjoy the quieter, more relaxed lifestyles of these suburbs.

The signs of this growth are already appearing. In Littleton, Shrewsbury, Holden, Sterling and Hudson, all residential suburbs of Worcester, new houses and businesses are on the rise.



The Rewards of Leisure and Learning

Some of the most renowned resorts and attractions on the eastern seaboard are located in MMWEC member communities. In Hull, thousands enjoy the three-mile stretch of Nantasket Beach, called the "Yankee Coney Island." The snow-covered slopes of Mt. Tom, a popular recreation center in Holyoke, attract thousands of skiers each winter.

Where crude fishermen's huts once clung to a rocky shore, sleek sailboats now glide and summer homes now grace the scenic harbor in Marblehead which has become a major east coast yachting center.

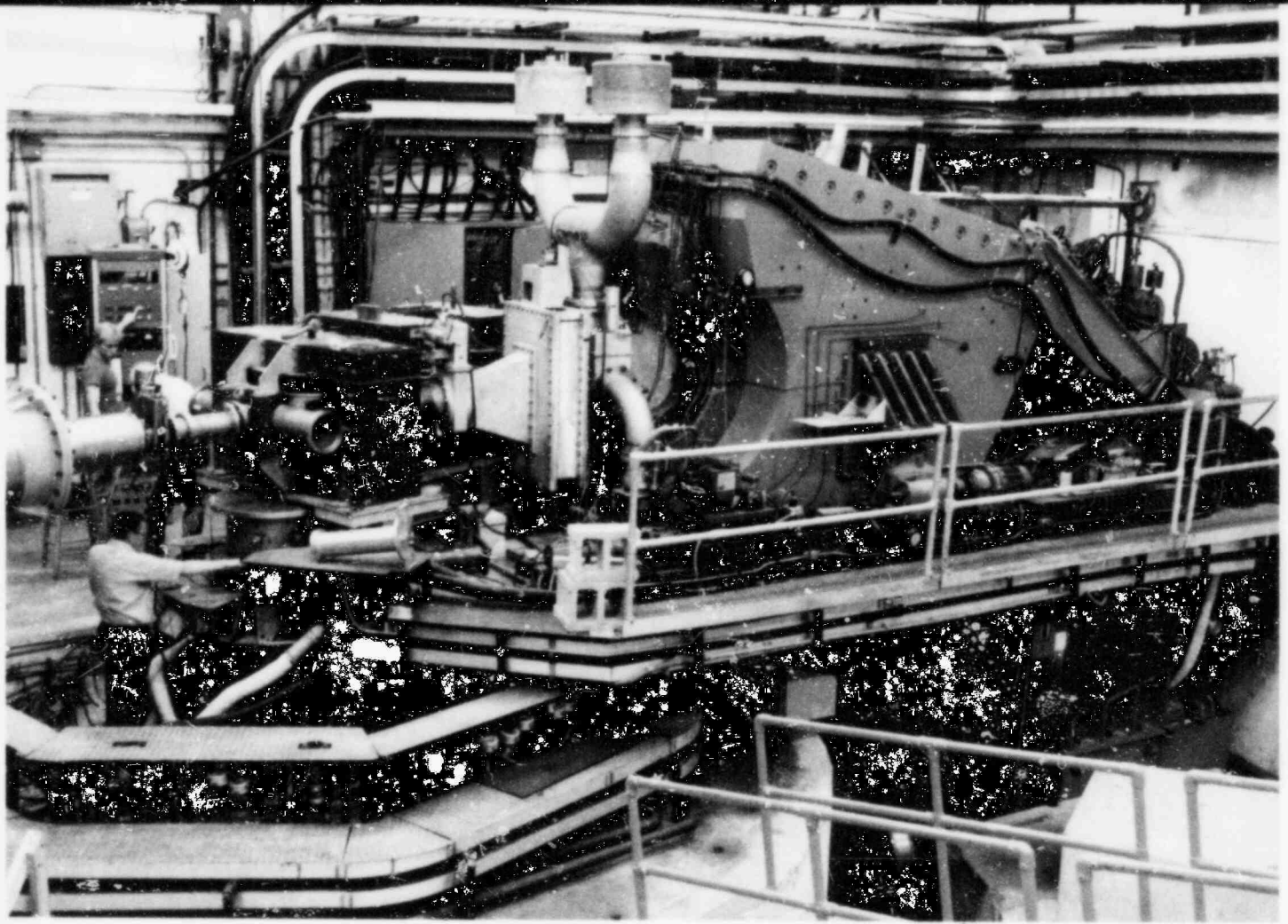
Our member cities and towns also cater to the mind. For decades, writers and artists have been attracted to the beauty and serenity of Concord and Ipswich. In the golden age of American literature, Concord was home to Henry David Thoreau, Nathaniel Hawthorne, Ralph Waldo Emerson and Louisa May Alcott. Many modern artists also call our member towns home.



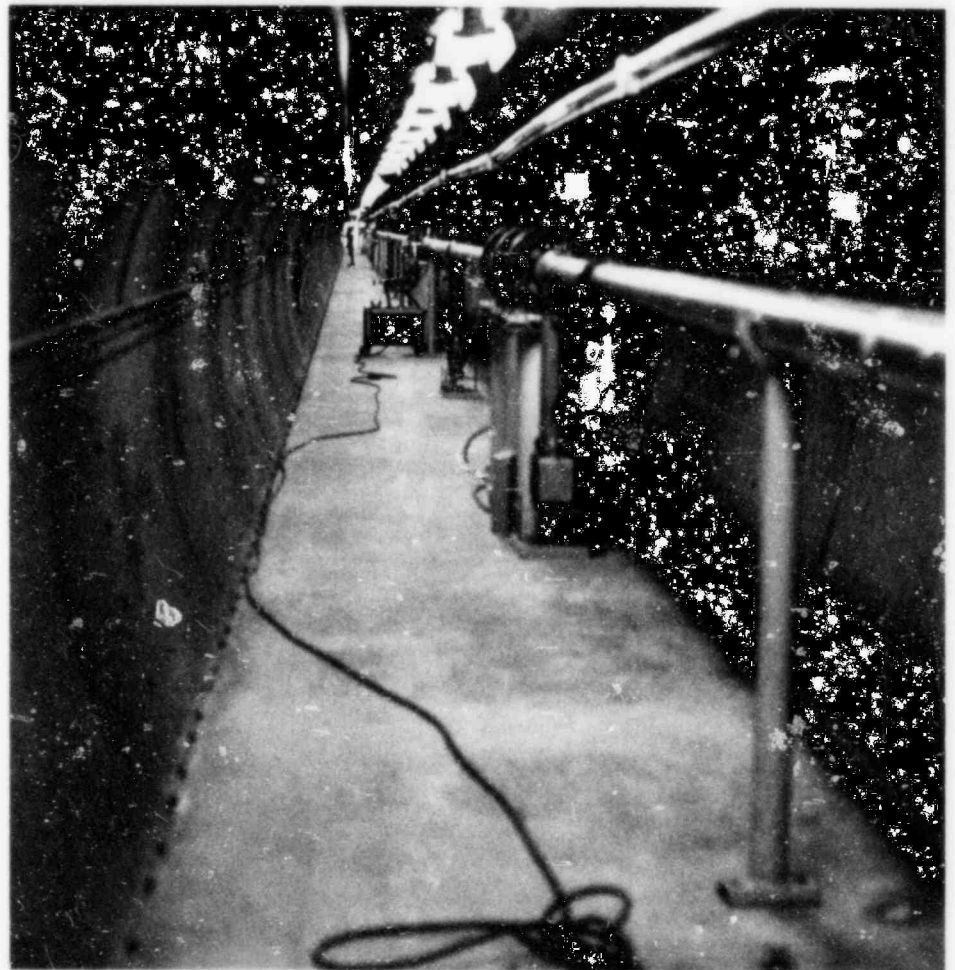


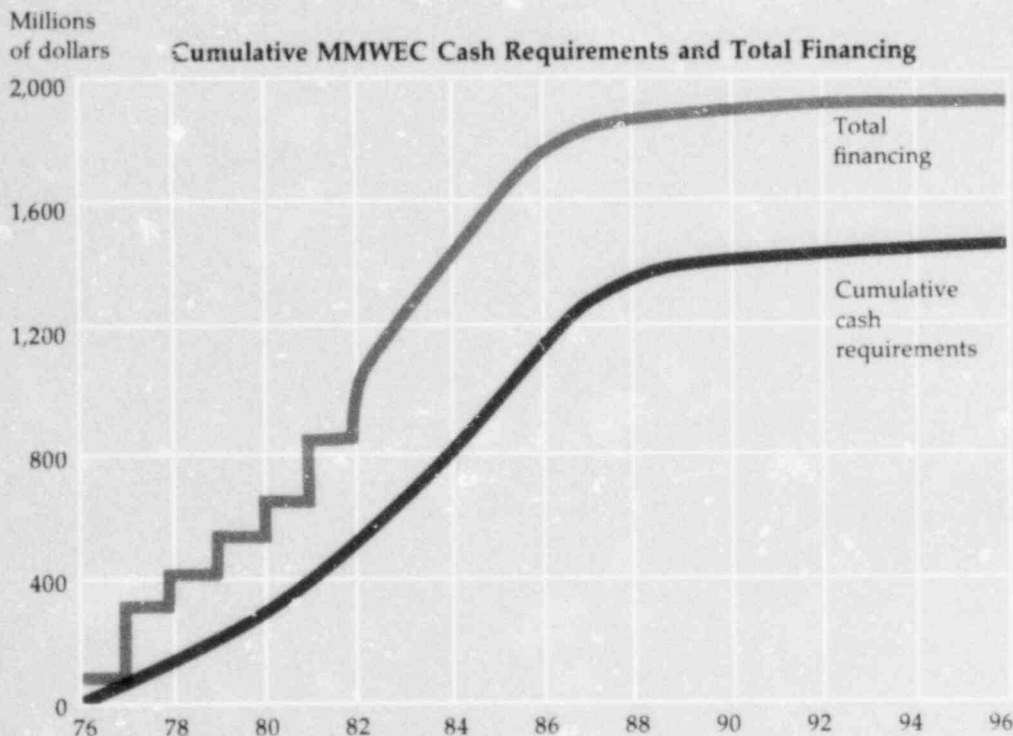
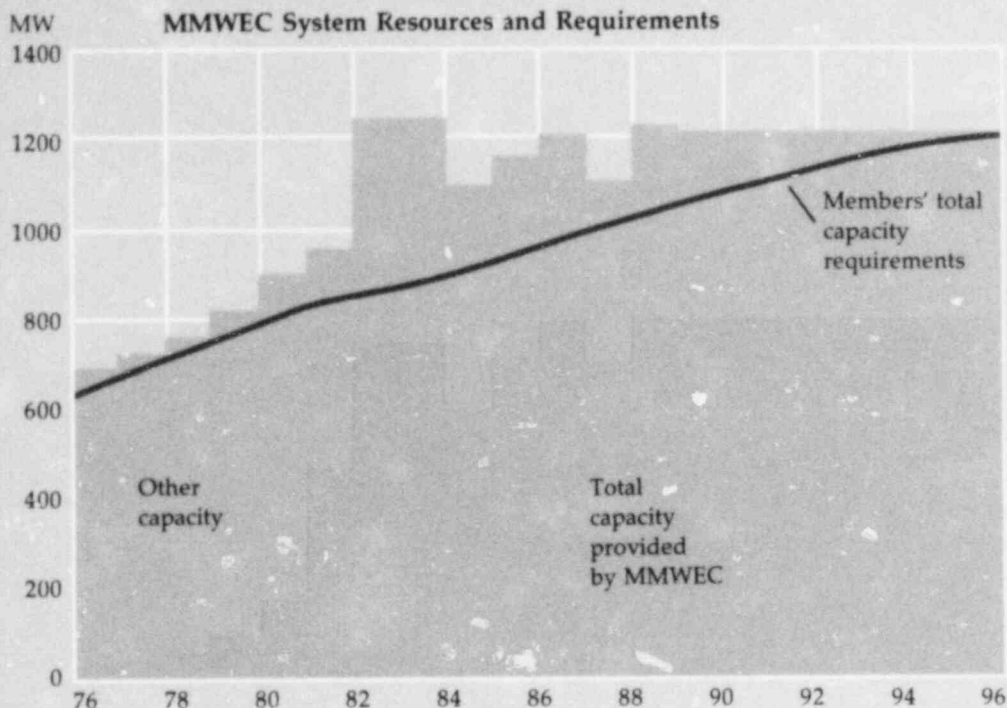
Some of the oldest and finest schools in the country are located within the boundaries of our systems. In Ashburnham, young scholars from around the world prepare for college on the attractive campus of Cushing Academy. Mount Holyoke College, the oldest of the prestigious New England colleges for women, presides graciously over the scenic center of South Hadley.





At the Bates Linear Accelerator in Middleton, a research facility run by the Massachusetts Institute of Technology, scientists and students use beams of electrons to study the nature of matter.





The MMWEC Story: Meeting Our Goals

One of MMWEC's chief responsibilities is helping to meet our members' requirements for power. In 1976, MMWEC began to build a power supply program to achieve that goal. Since then, MMWEC has acquired over 800 megawatts of jointly-owned capacity which, along with power obtained through contracts with other utilities and resources owned by members, exclusive of MMWEC, have more than met our members' requirements and

will continue to do so well into the 1990s.

To meet the cash requirements involved in building the power supply program, MMWEC has issued tax-exempt revenue bonds. By the end of 1982, MMWEC had issued over \$1 billion in bonds, which are backed by the revenues of our participants. This figure is expected to rise to a total of about \$1.8 billion by the time the last of the six units in the power supply program begins operating in the late 1980s.

MMWEC is its Members

The same spirit which inspired these municipalities to create their own electric systems and which later brought them together to establish MMWEC, pervades the lives and pursuits of these unique cities and towns.

That spirit is also part of MMWEC. In our first half decade, we have helped our members become self-reliant, independent electric utilities. We have built a solid power supply system and supported it with timely power purchase arrangements. We have constructed the first major power plant built by and for New England municipal electric systems. We have established a philosophy of looking to the future to secure the best available power supply resources so our members can continue to bring the most economical service to their customers.

In all we have done, we have been guided and inspired by our membership. For our members — their heritage and people; their goals and ideals; their strengths and needs — are MMWEC.



1982: More Services, More Savings

In 1982, MMWEC provided its members with more and better services, while saving them just under \$3 million in power costs. We are continually refining our power supply program and hope for even greater savings in the future.

These are some of the strides made during 1982:

- Our Stony Brook intermediate unit recorded its first full year of operation, saving members \$4.7 million through its dual fuel capability which enables the unit to generate using both natural gas and oil. The peaking unit went into operation in November 1982 completing the Stony Brook project, on time and under budget.

- Construction of the Seabrook units was approximately 69 percent complete for Unit 1 and the common facilities and 17 percent for Unit 2 by the end of the year.

- Millstone Unit 3 in Waterford, Connecticut was more than 60 percent complete by year end. The unit has a scheduled on-line date in 1986.

- The sale of two revenue bond issues totalling \$245 million and issuance of \$40 million in notes financed a portion of our interest in the Millstone and Seabrook units. The year 1982 also saw

our total bonds issued to date surpass the \$1 billion mark.

- The Canadian National Energy Board approved the export to MMWEC of 100 MW of power from the 630 MW Point Lepreau nuclear plant in New Brunswick, which is to begin commercial operation in early 1983. Power from the unit, which is expected to save the 28 participating MMWEC members more than \$2 million by the summer of 1983, will be available to MMWEC members at least until 1987.

- Our Weekly Studies Program, which finds economical short-term sources of energy for members, saved \$775,000 for the 25 full-time participants during its first year.

- We submitted our latest 10-year forecast of energy needs and resources to the Massachusetts Energy Facilities Siting Council. Developed using a new econometric model, the forecast provides the basis for planning and acquiring power supplies.

- We continued our attempts to obtain power from the Power Authority of the State of New York (PASNY), and hope to see a resolution of the issues in 1983. We remain optimistic about winning our case, following several years of efforts to secure low-cost hydro-

generated PASNY power.

- During the summer, 32 of our members voted to join other utilities in New England in constructing a new, 690-megawatt transmission line which will bring energy from a huge hydro-electric power complex on James Bay in Quebec to New England as early as 1987.

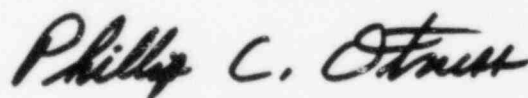
- Our membership grew to 34 in December, when the Concord Municipal Light Department joined MMWEC.

In the last quarter of 1982 we commenced two studies which could have far-reaching implications for the MMWEC program. These are:

- An investigation of the viability of the "all requirements" concept, under which our members' resources would be melded and integrated consistent with our goal of providing a reliable, economic resource mix while minimizing potential risks.

- A strategic planning program designed to chart our course into the next century through the identification of corporate goals and objectives and the development of plans for achieving them.

It has been an exciting and fulfilling year for MMWEC and our members; 1983 promises to be even better.



Phillip C. Otness, General Manager

Treasurer's Statement

MMWEC continued the financing of the projects in its power supply program during 1982 through the issuance of revenue bonds. Two series aggregating \$245 million of bonds were issued with \$47 million designated for Project No. 3 and \$198 million designated for Nuclear Projects Nos. 4, 5 and 6. These bond issues, MMWEC's ninth and tenth, increased the amount of bonds issued by MMWEC to \$1,117,870,000. After maturities and other bond retirements, bonds outstanding at December 31, 1982 amounted to \$1,109,060,000. MMWEC's bonds are rated "A" by Moody's Investors Service and "A-" by Standard and Poor's Corporation.

As a result of MMWEC's conservative financing practices for projects under construction, estimated construction cash flow requirements and the interest requirements on bonds issued for such projects in general have been funded through mid-1984 and longer in most cases. This practice provides flexibility in scheduling future financings which is advantageous, particularly in light of continuing changes in money market conditions.

In 1982, MMWEC continued a \$30 million revolving credit agreement with a group of banks to finance the acquisition of fuel inventory for the Stony Brook units; \$7,265,000 was outstanding under this agreement at December 31, 1982. During 1982 MMWEC also increased to \$17 million its revolving credit agreement which is used to provide temporary working capital to finance power purchases being resold to its members; \$3,912,000 was outstanding under that line at the end of 1982.

The board of directors continued the appointment of Arthur Andersen & Co. as independent certified public accountants for the corporation. The auditor's opinion and MMWEC's financial statements for the years ended December 31, 1982 and 1981 are included as a separate section of this annual report.

George E. Leary, Treasurer

BONDS ISSUED

Issue	Principal Amount (000)	Sale Date	Net Interest Cost %
1976 Series A	\$ 75,000	8/26/76	7.2
1977 Series A	177,370	7/27/77	6.4
1977 Series B	83,500	12/ 7/77	6.1
1978 Series A	75,000	9/13/78	6.8
1979 Series A	150,000	8/16/79	7.0
1980 Series A	112,000	8/ 6/80	10.2
1981 Series A	100,000	5/28/81	12.3
1981 Series B	100,000	8/ 6/81	13.4
1982 Series A	115,000	4/16/82	13.4
1982 Series B	130,000	10/15/82	10.2
	<u>\$1,117,870</u>		

PROJECTS FUNDED TO COMPLETION

	Bonds Outstanding (000)	Interest Requirements Outstanding Bonds
Nuclear Mix 1	\$180,200	1/1/85
Nuclear Mix No. 2	1,515	1/1/83
Stony Brook Intermediate Project	176,980	—
Stony Brook Peaking Project	85,020	1/1/83
Wyman Project	9,155	—

PROJECTS REQUIRING ADDITIONAL FUNDING

	Total Cash Flow Requirements*
Nuclear Project No. 3	4/1/85
Nuclear Project No. 4	1/1/85
Nuclear Project No. 5	2/1/85
Project No. 6	7/1/84
Sears Island Project	1/1/85

*The total cash flow requirements column represents the dates to which bond proceeds and estimated investment earnings will be sufficient to meet both estimated construction cash flow requirements and interest requirements on the outstanding bonds issued for each project, except for the Sears Island Project where it is the date to which interest on bonds outstanding for the project has been funded. The Sears Island Project is inactive and \$8.3 million of unexpended bonds proceeds and earnings are available to meet cash flow requirements.

The Board of Directors

MMWEC is governed by a nine-member board of directors. Seven of the members are elected by the membership and two are appointed by the governor of Massachusetts. The MMWEC public corporation also has six officers, including the chairman of the board of directors and the president of the corporation.

Pictured to the right (standing, left to right): Phillip C. Otness, *General Manager/Secretary*; Maurice J. Ferriter, *General Counsel/Assistant Secretary*; Walter Gaebler II, *Assistant Treasurer*. (Seated, left to right): James E. Baker, *Manager, Shrewsbury—Chairman of the Board*; Nathan S. Paven, *Attorney, Boston—Gubernatorial Appointee to the Board*. Not pictured: George E. Leary, *Treasurer*.

Pictured below (left to right): Richard Bailey, *Manager, Marblehead*; Neil Murray, *Manager, Holden*; Norbert Rhinerson, *Manager, Reading*; Horst Huehmer, *Manager, Hudson*; Curtis Lanciani, *Manager, Littleton*; Francis H. King, *Holyoke—President, Gubernatorial Appointee to the Board*; Bruce Patten, *Manager, Peabody*.



MMWEC
1982 Financial Statements

Table of Contents

	Page
Auditors' Report on Financial Statements	2
Balance Sheet	3
Statement of Operations	4
Statement of Changes in Financial Position	5
Notes to Financial Statements	6

Auditors' Report

To the Board of Directors of

MASSACHUSETTS MUNICIPAL WHOLESALE
ELECTRIC COMPANY:

We have examined the balance sheet of MASSACHUSETTS MUNICIPAL WHOLESALE ELECTRIC COMPANY (a Massachusetts public corporation) as of December 31, 1982 and 1981 and the related statements of operations and changes in financial position for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the financial statements referred to above present fairly the financial position of Massachusetts Municipal Wholesale Electric Company as of December 31, 1982 and 1981, and the results of its operations and the changes in its financial position for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

Arthur Andersen & Co.

February 25, 1983

Massachusetts Municipal Wholesale Electric Company

Balance Sheet

December 31, 1982 and 1981

ASSETS	(Dollars in Thousands)	
	1982	1981
Electric Plant		
In Service	\$ 195,449	\$133,058
Accumulated Depreciation (Note 3)	(6,973)	(1,103)
	<u>188,476</u>	<u>131,955</u>
Under Construction (Notes 2 and 6)		
Jointly-Owned	323,504	214,353
MMWEC Projects	—	48,710
	<u>323,504</u>	<u>263,063</u>
Total Electric Plant	<u>511,980</u>	<u>395,018</u>
Other Property and Equipment	4,463	5,212
Accumulated Depreciation (Note 3)	(580)	(464)
	<u>3,883</u>	<u>4,748</u>
Total Property, Plant and Equipment	<u>515,863</u>	<u>399,766</u>
Special Funds (Note 2)	<u>500,084</u>	<u>391,568</u>
Current Assets		
Cash and Temporary Investments	4,582	4,564
Accounts Receivable	2,893	4,390
Unbilled Revenues (Note 2)	7,031	7,641
Inventories—principally fuel oil on a last-in, first-out basis	8,954	15,411
Prepaid Expenses	235	404
	<u>23,695</u>	<u>32,410</u>
Deferred Charges		
Costs Recoverable in the Future Under Terms of		
Power Sales Agreements (Notes 2 and 5)	67,942	55,667
Unamortized Debt Discount and Expenses	33,654	27,328
Other	323	1,033
	<u>101,919</u>	<u>84,028</u>
	<u>\$1,141,561</u>	<u>\$907,772</u>
LIABILITIES		
Long-Term Debt (Note 4)		
Bonds	\$1,108,920	\$866,905
Notes	7,265	16,900
	<u>1,116,185</u>	<u>883,805</u>
Current Liabilities		
Current Portion of Long-Term Debt	140	135
Notes Payable (Note 4)	3,912	3,668
Accounts Payable	9,538	9,159
Accrued Expenses	11,197	8,132
Contractors' Retention	461	2,749
	<u>25,248</u>	<u>23,843</u>
Commitments and Contingencies (Notes 6 and 8)		
Advances from Members (Note 1)	128	124
	<u>\$1,141,561</u>	<u>\$907,772</u>

The accompanying notes are an integral part of these financial statements.

Massachusetts Municipal Wholesale Electric Company

Statement of Operations

For the years ended December 31, 1982 and 1981

	(Dollars in Thousands)	
	1982	1981
Revenues:		
Electric Sales For Resale	\$100,446	\$32,069
Service Revenues	2,864	1,389
Interest Income	60,526	48,625
Total Revenues and Interest Income	<u>\$163,836</u>	<u>\$82,083</u>
Operating and Service Expenses:		
Fuel Used in Electric Generation	\$ 23,021	\$ 4,699
Purchased Power	67,213	25,994
Other Operating	7,196	2,259
Maintenance	1,494	113
Depreciation (Note 3)	6,085	701
Taxes Other Than Income	775	134
	<u>105,784</u>	<u>33,900</u>
Interest Expense:		
Interest Charges	88,265	60,320
Interest Charged to Projects During Construction (Note 2)	(18,313)	(10,865)
	<u>69,952</u>	<u>49,455</u>
Loss on Cancelled Units (Note 5)	1,679	52,321
Gain on Retirement of Debt (Note 5)	(1,304)	(2,177)
	<u>375</u>	<u>50,144</u>
Costs Recoverable in the Future Under		
Terms of the Power Sales Agreements (Notes 2 and 5)	(12,275)	(51,416)
	<u>\$163,836</u>	<u>\$82,083</u>

The accompanying notes are an integral part of these financial statements.

Statement of Changes in Financial Position

For the years ended December 31, 1982 and 1981

	(Dollars in Thousands)	
	1982	1981
Sources of Funds:		
Internal Sources:		
Revenues and Income	\$163,836	\$ 82,083
Expenses	(163,836)	(82,083)
Charges Not Involving Funds:		
Depreciation (Note 3)	6,085	701
Amortization (Note 2)	1,121	772
	<u>7,206</u>	<u>1,473</u>
External Sources:		
Bond Proceeds	245,000	200,000
Note Proceeds	—	16,900
	<u>245,000</u>	<u>216,900</u>
Total Sources of Funds	<u>252,206</u>	<u>218,373</u>
Uses of Funds:		
Additions to Plant and Construction Work in Progress	122,682	109,626
Increase in Costs Recoverable in the Future Under Terms of the Power Sales Agreements (Notes 2 and 5)	12,275	51,416
Note Repayments	9,635	—
Bond Redemptions	2,985	5,835
Additions to Debt Discount	7,447	8,617
Decrease in Other Deferred Charges	(709)	(629)
Other	95	(101)
	<u>153,810</u>	<u>174,764</u>
Changes in Working Capital, Including Notes Payable and Special Funds	<u>\$ 98,396</u>	<u>\$ 43,609</u>
Change in Working Capital Consists of:		
Increase in Special Funds	\$108,516	\$ 18,657
Increase (Decrease) in Current Assets—		
Cash and Temporary Investments	18	4,226
Accounts Receivable	(1,497)	3,140
Unbilled Revenues	(610)	5,734
Inventories	(6,457)	14,833
Prepaid Expenses	(169)	83
	<u>99,801</u>	<u>46,673</u>
Increase in Notes Payable	(244)	(3,481)
(Increase) Decrease in Current Liabilities—		
Current Maturities of Long-Term Debt	(5)	(5)
Accounts Payable	(379)	5,327
Accrued Expenses	(3,065)	(6,204)
Contractors' Retention	2,288	1,299
	<u>(1,405)</u>	<u>(3,064)</u>
	<u>\$ 98,396</u>	<u>\$ 43,609</u>

The accompanying notes are an integral part of these financial statements.

Notes to Financial Statements

December 31, 1982 and 1981

(1) MASSACHUSETTS MUNICIPAL WHOLESALE ELECTRIC COMPANY (MMWEC)

MMWEC is a political subdivision of the Commonwealth of Massachusetts, authorized to issue revenue bonds secured by power sales agreements with its members and other electric systems to finance the construction and ownership of electric power facilities.

A Massachusetts municipal electric department authorized by majority vote of the city or town's governing body may become a member by applying for admission to MMWEC and agreeing to comply with the terms and conditions of membership as outlined within the MMWEC By-Laws. As of December 31, 1982, thirty-four Massachusetts municipalities had received votes of their respective city councils or town meetings authorizing membership by their respective municipal electric systems.

Power Supply System

MMWEC is obtaining power supply capacity by acquiring interests in various generating units from investor-owned utilities and the operation of its own electric generating facilities. See Note 6 for a discussion of MMWEC's construction program and commitments related to these facilities. In addition, MMWEC contracts for power for resale to its members.

Advances

MMWEC is authorized to assess each member to provide working capital. Advances may be returned to the members upon approval by MMWEC's Board of Directors or the dissolution of MMWEC. The Board of Directors has authorized working capital advances of up to \$2,000,000 from Project Construction Funds in addition to amounts assessed members. At December 31, 1982 and 1981 advances from Project Construction Funds were \$2,000,000. These inter-fund advances have been eliminated for primary financial statement reporting purposes.

(2) SIGNIFICANT ACCOUNTING POLICIES

Interest Charged to Projects During Construction

MMWEC capitalizes interest as an element of the cost of electric plant and other property during the period it is under construction. A corresponding amount is reflected as a reduction of interest expense. The amount of interest capitalized is based on the cost of debt, including amortization of debt discount and expenses, related to each project, net of investment income derived from unexpended project funds.

Special Funds

Proceeds from the sales of Revenue Bonds are deposited with Trustees to be invested until they are required for construction or debt service payments. Note proceeds are placed with depositories and are invested by MMWEC. The investments are carried at cost, adjusted for amortization of premium or discount.

Revenues and Costs Recoverable in the Future Under Terms of the Power Sales Agreements

Under the terms of the Power Sales Agreements with project participants, revenues include billings to participants for debt principal and interest payments in the period in which they are due. For financial reporting purposes, MMWEC recognizes currently the depreciation and amortization expense of assets financed by bond principal. The differences between current expenses and amounts billed currently under terms of the Power Sales Agreements are deferred to the future periods in which these amounts will be recovered through revenues.

Notes to Financial Statements

December 31, 1982 and 1981

Unbilled Revenues

MMWEC bills its members for costs incurred in providing services and purchased power obtained on their behalf under terms of the Service Agreement and the Power Sales Agreements. Revenues are recorded in the accounts as the expenses are incurred. Amounts which are not yet billed are included in Unbilled Revenues in the accompanying balance sheets.

(3) DEPRECIATION

Property, plant and equipment in service is depreciated using the straight-line method. Depreciation of electric plant in service amounted to \$5,870,000 using an average rate of 4%. Depreciation of other property and equipment aggregated \$396,000, of which \$181,000 was allocated to projects under construction or operation and represents an average rate of 9%. In 1981 the depreciation of electric plant in service was \$668,000 and other property was \$120,000 of which \$87,000 was allocated to projects under construction.

(4) DEBT**Power Supply Revenue Bonds**

To finance construction or ownership interests in electric generating projects, MMWEC issues Power Supply System Revenue Bonds. The Bonds are secured by a pledge of the revenues derived by MMWEC, under terms of power sales agreements, from the ownership and operation of its power supply system. Pursuant to the power sales agreements with the participants, each participant is obligated to pay its share of the actual costs relating to the generating units planned or under construction. The participants' obligations are not contingent upon the completion or operational status of the units.

The Power Supply System Revenue Bonds consist of Serial and Term Bonds. The Bonds, which are comprised of the following issues, are subject to redemption approximately ten years after the issue date, at 103% of the principal amount, descending periodically thereafter to 100%.

Issue	Net Interest Cost	1982	1981
		(Dollars in Thousands)	
1976 Series A	7.2%	\$ 68,775	\$ 70,855
1977 Series A	6.4%	174,785	175,685
1977 Series B	6.1%	83,500	83,500
1978 Series A	6.8%	75,000	75,000
1979 Series A	7.0%	150,000	150,000
1980 Series A	10.2%	112,000	112,000
1981 Series A	12.3%	100,000	100,000
1981 Series B	13.4%	100,000	100,000
1982 Series A	13.4%	115,000	—
1982 Series B	10.2%	130,000	—
		<u>1,109,060</u>	<u>867,040</u>
Less: Current Portion		<u>140</u>	<u>135</u>
Total Power Supply System Revenue Bonds		<u>\$1,108,920</u>	<u>\$866,905</u>

The aggregate annual principal payments due in the next five years are as follows: 1983—\$140,000; 1984—\$4,085,000; 1985—\$5,816,000; 1986—\$6,186,000 and 1987—\$8,101,000.

Notes to Financial Statements

December 31, 1982 and 1981

(4) DEBT, continued**Net Revenue Available For Debt Service**

In accordance with the provisions of the MMWEC Bond Resolution, MMWEC covenants to the bondholders that it shall fix, revise and collect rates, tolls, rents and other fees and charges, sufficient to produce revenues to pay all operating and maintenance expenses and principal of, premium if any and the interest on the Bonds and to pay all other obligations against its revenue. Revenues, which include applicable interest earnings from investments, are required to equal 1.10 times the annual debt service, for each contract year ending June 30, after deduction of operating and maintenance expense exclusive of depreciation.

For the contract year ended June 30, 1982, MMWEC met the debt service coverage requirement for the Wyman project as shown below. Debt service for the Stony Brook Intermediate and Peaking projects has been funded to July 1, 1982 and January 1, 1983, respectively and is not included in the table.

Debt Service Coverage:

Revenues	\$3,004,000
Reserve and Contingency Fund Billings	70,000
Total	3,074,000
Deduct—Operation and Maintenance Expenses	2,304,000
Available Revenues Net of Expenses	<u>\$ 770,000</u>

Debt Service Requirement for contract year ended June 30, 1982	<u>\$ 699,000</u>
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Coverage (110% Required)	<u>110%</u>
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Notes Payable

MMWEC has arranged with a group of banks a \$30,000,000 revolving line of credit to be used to finance fuel oil for the Stony Brook projects. The borrowings under this line of credit are at a floating interest rate of 70% of the lead bank's prime rate plus a commitment fee of $\frac{1}{2}$ of 1% per annum on the unused portion of the line. The current agreement is scheduled to terminate on July 1, 1983, at which time it may be extended, converted to a term loan, or be refinanced. Borrowings under the line are secured by fuel oil inventory and are payable from revenues derived by MMWEC from fuel charges under the Power Sales Agreements for the Stony Brook projects. MMWEC had an outstanding balance of \$7,265,000 under this line of credit as of December 31, 1982 and \$16,900,000 as of December 31, 1981.

MMWEC increased its \$12,000,000 revolving line of credit to \$17,000,000 in December 1982. This line of credit is used to temporarily finance certain power purchases made by MMWEC for resale to the power purchase contract participants. Borrowings are secured by the corresponding receivables from these participants. The balances outstanding on December 31, 1982 and 1981 were \$3,912,000, and \$3,668,000, respectively, at a rate of 70% of the bank's prime rate plus a commitment fee. The commitment fee is equal to $\frac{1}{2}$ of 1% per annum on the unused portion of the line based upon the average daily principal amount of the loan outstanding when it does not at least equal 20% of the loan commitment.

(5) UNIT CANCELLATIONS

MMWEC's Nuclear Mix No. 1 project is comprised of ownership interests in the Millstone No. 3, Seabrook 1 and 2 and Pilgrim No. 2 units. On October 22, 1981, the Boston Edison Company cancelled the Pilgrim No. 2 Unit. MMWEC's costs associated with the unit, which aggregated \$53,155,000 as of December 31, 1982, were deferred and will be recovered under the terms of the Power Sales

Notes to Financial Statements

December 31, 1982 and 1981

(5) UNIT CANCELLATIONS, *continued*

Agreements. Future expenditures for contract settlements, which are projected to be offset by credits, will be recorded by MMWEC as they are incurred.

The Nuclear Mix No. 2 project was comprised of ownership interests in the NEP 1 and 2 units sponsored by New England Power Company and the Montague 1 and 2 units sponsored by Northeast Utilities. The Nuclear Mix No. 2 project units were cancelled prior to 1981, and MMWEC's costs associated with the project, aggregating \$3,637,000, have been deferred as Costs Recoverable in the Future Under the Terms of the Power Sales Agreements. MMWEC has terminated the Nuclear Mix No. 2 project in accordance with the provisions of the Power Sales Agreements and MMWEC's Bond Resolution. Such procedures call for the realization of salvage and the satisfaction of liabilities to the extent possible from remaining funds available for such purposes. Any remaining liabilities, including debt service on bonds outstanding, will be recovered from the participants as they become due. With a portion of the remaining funds, MMWEC retired \$2,845,000 of Nuclear Mix No. 2 bonds in 1982 and \$5,700,000 in 1981 at gains of \$1,304,000 and \$2,177,000, respectively. As of December 1982 MMWEC had a balance outstanding of \$1,515,000 of the \$10,060,000 bonds issued. The gain on the retirement of these bonds reduces the amounts deferred as Costs Recoverable in the Future Under Terms of the Power Sales Agreements for Nuclear Mix No. 2.

(6) CONSTRUCTION AND FINANCING

Construction Program

MMWEC's plans for construction and acquisition of ownership interest in additional generating capacity are under continuing review. Currently forecasted construction costs for the generating facilities, as shown on the following page, amount to approximately \$1.1 billion, including estimates for contingencies, interest, and MMWEC costs charged to projects during construction. This amount does not include a proposed additional ownership interest of up to 28.1 MW in the Northeast Utilities Company Millstone Unit No. 3 or an estimate of MMWEC's costs associated with Central Maine Power's Sears Island Coal Unit No. 1.

A substantial portion of MMWEC's construction program is its ownership interest in the Seabrook Nuclear Units No. 1 and 2, which are currently being constructed by Public Service Company of New Hampshire (PSNH). This project has experienced numerous delays due to regulatory, legal and other problems, resulting in significant increases in cost estimates. PSNH was previously directed by the New Hampshire Public Utilities Commission (NHPUC) to reduce its ownership interest in the Seabrook Units No. 1 and 2 to a level of ownership the NHPUC believed was consistent with PSNH's financing abilities. PSNH's offer to sell off a portion of Seabrook to other utilities received no substantial responses. Subsequently, the NHPUC attempted to prohibit PSNH from using financial proceeds for the construction of Seabrook Unit No. 2 until Unit No. 1 is completed. PSNH appealed the order and the New Hampshire Supreme Court vacated it, concluding that the NHPUC does not have authority to impose such a prohibition on financing. Late in 1982, PSNH announced a 43% increase from its 1981 estimate of the total cost of this project and delayed the operation dates of the units to December 1984 and July 1987. Independent construction consultants have been retained by PSNH to review and evaluate the validity of its estimated cost and completion dates. PSNH has indicated that adequate and timely rate increases and external financing are both essential to enable PSNH to continue its construction program and business operations.

The cost estimates and completion dates for those and other units listed on the following pages are those used by MMWEC and its Consulting Engineer for power supply and financial planning purposes. Total costs are based on the latest

Notes to Financial Statements

December 31, 1982 and 1981

(6) CONSTRUCTION AND FINANCING, continued

information available from the lead participant, adjusted by MMWEC and its Consulting Engineer to reflect later completion dates and other considerations.

Financing Program

To finance its ownership share of the costs of these projects, MMWEC intends to issue additional series of revenue bonds, the timing and size of which will be based upon construction cash flow requirements and bond market conditions prevailing at the time.

revaluing at the time.

Unit (Lead Participant) – Estimated Completion Date	Proposed MMWEC Capability (MW)	(Dollars in Thousands)		Total Estimated MMWEC Cost
		Costs to December 31, 1981	1982	
Nuclear Mix No. 1 (See Note 5)				
Millstone Unit No. 3 (Northeast Utilities) – 1986	18.4	\$ 15,932	\$ 20,334	\$ 83,192
Seabrook Units Nos. 1 and 2 (Public Service Co. of N.H.) – 1986 and 1989	3.7	2,615	3,334	16,680
	<u>22.1</u>	<u>\$ 18,547</u>	<u>\$ 23,668</u>	<u>\$ 99,872</u>
Nuclear Project No. 3				
Millstone Unit No. 3 (Northeast Utilities) – 1986	36.8	\$ 37,169	\$ 50,285	\$ 128,216
Nuclear Project No. 4				
Seabrook Units Nos. 1 and 2 (Public Service Co. of N.H.) – 1986 and 1989	99.7	\$ 64,455	\$ 90,703	\$ 303,708
Nuclear Project No. 5				
Seabrook Units Nos. 1 and 2 (Public Service Co. of N.H.) – 1986 and 1989	25.2	\$ 16,846	\$ 24,000	\$ 82,570
Project No. 6				
Seabrook Units Nos. 1 and 2 (Public Service Co. of N.H.) – 1986 and 1989	138.0	\$ 76,189	\$134,017	\$ 508,834
Sears Island Project				
Sears Island Coal Unit No. 1 (Central Maine Power) – 1995	78.9	\$ 1,147	\$ 831	\$ (1)
Total	<u>400.7</u>	<u>\$214,353</u>	<u>\$323,504</u>	<u>\$1,123,200</u>

(1) Due to uncertainties associated with the Sears Island Project, the Total Estimated MMWEC Cost cannot be determined.

Notes to Financial Statements

December 31, 1982 and 1981

(7) RETIREMENT PLAN

Retirement benefits are provided to MMWEC's eligible employees through its participation in the Retirement and Security Program sponsored by the National Rural Electric Cooperative Association. It is MMWEC's policy to fund all accrued benefits. Pension costs were \$300,000 for 1982, and \$184,000 for 1981. Information from the Plan Administrator is not available to permit MMWEC to determine its share of accumulated benefits nor assets available for plan benefits. There are no unfunded vested benefits associated with this Plan.

(8) COMMITMENTS AND CONTINGENCIES

Power Purchases

MMWEC has entered into a contract with the New Brunswick Electric Power Commission (NBEPC) for the purchase of 100 MW of capacity from the Point Lepreau nuclear unit. The contract is effective from the unit in service date through October 1987, with options for extensions.

MMWEC has also contracted with New England Power Company for 150 MW of capacity, of which 75 MW is oil fired and the other 75 MW coal fired. This contract period is from November 1981 through October 1984.

The contract payment provisions require MMWEC to pay in all events certain fixed, operation, maintenance and other charges relating to the units. The fixed minimum payments for the next five years as estimated by MMWEC for its planning purposes are as follows: 1983-\$47,000,000; 1984-\$48,900,000; 1985-\$39,084,000; 1986-\$40,200,000 and 1987-\$34,333,000.

MMWEC has entered into corresponding agreements, with its members and one other utility, to resell the power.

Litigation

As a consequence of an accident on the Stony Brook construction site, suits for damages have been initiated by employees of one of the contractors and members of the employees' families naming the contractor, the construction management firm, MMWEC and others as defendants. The amount of damages claimed aggregate \$54 million. MMWEC has denied any liability and in the opinion of MMWEC's counsel, the likelihood of any such suits being successful against MMWEC is remote.

Other

In a proceeding initiated by several public interest groups, the Vermont Public Service Board (PSB) is investigating whether the Seabrook project remains an attractive investment for Vermont utilities and, if not, whether the PSB can or ought to take any action to relieve Vermont rate payers of the burden of that investment. Vermont utilities which have a 14.9% interest in MMWEC's Project No. 6 are among the parties to that proceeding.

(9) SUPPLEMENTARY INFORMATION TO DISCLOSE THE EFFECTS OF CHANGING PRICES (UNAUDITED)

The following supplementary information has been prepared in accordance with the Statement of Financial Accounting Standards No. 33 for the purpose of providing certain information about the effect of changing prices. It should be viewed as an estimate of the approximate effect of inflation, rather than as a precise measure.

Constant dollar amounts represent historical costs stated in terms of dollars of equal purchasing power, as measured by the Consumer Price Index for All Urban Consumers (CPI-U). Current cost amounts reflect the changes in specific

Notes to Financial Statements

December 31, 1982 and 1981

(9) SUPPLEMENTARY INFORMATION TO DISCLOSE THE EFFECTS
OF CHANGING PRICES (UNAUDITED), *continued*

prices of plant from the date the plant was acquired to the present, and differ from constant dollar amounts to the extent that specific prices have increased more or less rapidly than the general rate of inflation. The current cost of electric generating and transmission plant and construction work in progress is determined primarily by indexing plant by the Handy-Whitman Index of Public Utility Construction Costs. Since the utility plant is not expected to be replaced precisely in kind, current cost does not represent the replacement cost of MMWEC's productive capacity.

Fuel inventories and the cost of fossil fuel used in generation have not been restated from their historical cost in nominal dollars. Under provisions of the power sales agreements, revenues are limited to the recovery of fuel at actual cost. For this reason fuel inventories are effectively monetary assets.

Depreciation is determined by multiplying MMWEC's historical cost depreciation by the appropriate index conversion factors.

Under the MMWEC power sales agreements which govern its billing procedures, only the principal maturities of debt relating to the historical cost of the utility property are recoverable. Therefore, the amount of plant stated in terms of constant dollars or current cost that exceeds the historical cost of plant has been adjusted down to its net recoverable costs.

During a period of inflation, holders of monetary assets suffer a loss of general purchasing power while holders of monetary liabilities, such as MMWEC, experience a gain. The gain from the decline in purchasing power of net amounts owed is primarily attributable to the substantial amount of debt which has been used to finance property, plant, and equipment. Since the recovery of utility plant is limited to amounts based on historical costs, the holding gains on debt are in effect realized by MMWEC's members.

Notes to Financial Statements

December 31, 1982 and 1981

Statement of Operations Adjusted for Changing Prices
For the Year Ended December 31, 1982
(Dollars in Thousands)

	Conventional Historical Cost	Constant Dollar Average 1982 Dollars	Current Cost Average 1982 Dollars
Revenues and Interest Income	<u>\$163,836</u>	<u>\$163,836</u>	<u>\$163,836</u>
Fuel Used in Electric Generation	23,021	23,021	23,021
Purchased Power	67,213	67,213	67,213
Other Operations & Maintenance	8,690	8,690	8,690
Depreciation	6,085	7,522	7,312
Taxes Other Than Income	775	775	775
Interest Expense	69,952	69,952	69,952
Loss on Cancelled Units	1,679	1,679	1,679
Gain on Extinguishment of Debt	(1,303)	(1,304)	(1,304)
Less—Costs Recoverable in Future	<u>(12,275)</u>	<u>(13,712)</u>	<u>(13,502)</u>
	<u>\$163,836</u>	<u>\$163,836</u>	<u>\$163,836</u>
Gain from Decline in Purchasing Power of Net Amounts Owed		<u>\$ 16,615</u>	<u>\$ 16,615</u>
Reduction to Net Recoverable Amount		<u>\$ 15,135</u>	<u>\$ 15,863</u>
Specific Prices of Property, Plant and Construction Work in Progress Held During the Year Increased by \$19,092 which was Greater than the Increase Caused by Inflation by			<u>\$ 513</u>

Notes to Financial Statements

December 31, 1982 and 1981

**Five Year Comparison of Selected Supplementary Financial Data
Adjusted to Average 1982 Dollars (Except Historical Amounts) for the
Effects of Changing Prices
(Dollars in Thousands)**

	Year Ended December 31,				
	1982	1981	1980	1979	1978
Revenues and Interest Income					
Historical	\$163,836	\$ 82,083	\$47,156	\$29,571	\$23,539
Adjusted for Inflation	\$163,836	\$ 87,115	\$55,237	\$39,323	\$34,827
Net Property, Plant and Equipment, Including Construction Work in Progress Before Write-down to Net Recoverable Amount:					
Historical	\$515,863	\$399,766			
Adjusted for Inflation	\$602,613	\$487,175			
Adjusted for Specific Price Changes	\$589,437	\$478,294			
General Information					
Gain from Decline in Purchasing Power of Net Amounts Owed	\$ 16,615	\$ 32,118			
Current Cost Information					
Excess of Increases in Specific Prices Over Increases in General Price Level, Before Reduction to Net Recoverable Amount	\$ 513	\$ 1,201			
Average Rate of Inflation (based on CPI-U)	6.1%	10.4%	13.5%	11.2%	7.7%

Consultants and Financial Advisors

Bond Fund Trustee

*Continental Illinois National Bank and
Trust Company of Chicago, Illinois*

Paying Agents

*Continental Illinois National Bank and
Trust Company of Chicago, Illinois*

1976 Series A Bonds

1977 Series A Bonds

1977 Series B Bonds

1978 Series A Bonds

1979 Series A Bonds

1980 Series A Bonds

1981 Series A Bonds

1981 Series B Bonds

1982 Series A Bonds

1982 Series B Bonds

Citibank, N.A., New York, New York

1976 Series A Bonds

1977 Series A Bonds

1977 Series B Bonds

1978 Series A Bonds

1979 Series A Bonds

1980 Series A Bonds

1981 Series A Bonds

1981 Series B Bonds

1982 Series A Bonds

1982 Series B Bonds

New England Merchants National Bank Boston, Massachusetts

1976 Series A Bonds

1977 Series A Bonds

1977 Series B Bonds

Shawmut Bank of Boston, N.A.

Boston, Massachusetts

1978 Series A Bonds

1979 Series A Bonds

1980 Series A Bonds

1981 Series A Bonds

1981 Series B Bonds

1982 Series A Bonds

1982 Series B Bonds

Construction Fund Trustees

*Continental Illinois National Bank and
Trust Company of Chicago, Illinois*

Nuclear Mix No. 1

Nuclear Mix No. 2

Nuclear Project No. 4

Shawmut Bank of Boston, N.A.

Boston, Massachusetts

Nuclear Project No. 3

Third National Bank of New England Springfield, Massachusetts

Wyman Project

Nuclear Project No. 5

Sears Island Project

Stony Brook Intermediate Project

Stony Brook Peaking Project

Project No. 6

Financial Advisor

Lazard Freres & Co.

New York, New York

Bond Counsel

Wood and Dawson

New York, New York



Copies of this report and supplementary financial information can be obtained, free of charge, by writing to the Public Affairs Office, Massachusetts Municipal Wholesale Electric Company, P.O. Box 426, Ludlow, MA 01056. All requests for information about MMWEC should be directed to this office.

MMWEC Massachusetts Municipal Wholesale Electric Company
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