

MARBLEHEAD MUNICIPAL LIGHT DEPARTMENT

To the citizens of Marblehead,

The Marblehead Municipal Light Department (MMLD) is pleased to share its 126th annual report and financial statements for the calendar year ending December 31, 2020.

Top-line Results:

In 2020 MMLD delivered 100,625 megawatt-hours (MWh) of electricity to 10,290 Marblehead customers (meters), generating revenue of \$17,433,321. The 2020 annual load of is a 1.0% increase from the 2019 load of 99,658 MWh and a 1.9% decline from the prior five-year (2015-19) average of 102,610 MWh. The 2020 annual power sales revenue is a 3.1% increase versus the 2019 revenue of \$16,905,077, and a 4.8% increase from the prior five-year (2015-19) average of \$16,627,380. The months with the greatest year-on-year increases in power usage were June, with a 7% increase and August with a 10% increase.

The 2019-20 Marblehead winter peak load of 20.4 MW occurred on December 17, 2019 between 6-7 p.m. The 2019-20 winter peak load was 9.3% lower than the 2018-19 winter peak load of 22.5 MW. The 2020 Marblehead summer peak load of 31.9 MW occurred on July 28, between 4-5 p.m. The 2020 Marblehead summer peak load was 4.2% higher than the 2019 summer peak load of 30.6 MW.

Our monthly energy usage exceeded 10,000 MWh twice in 2020; our July 2020 demand was 12.1 MWh and our August demand was 11.0 MWh, compared to only one month exceeding 10,000 MWh in 2019, which occurred in August 2019.

The ISO-NE 2020 system peak demand of 24,763 MWh occurred on July 27, from 5-6 p.m. The Marblehead demand at that hour was 31.6 MWh.

2020 Weather Conditions & Impacts on Electric Power Distribution

ISO-NE Report: New England weather remains a primary driver of the demand for electricity in New England. The weather of winter 2019-20 was mild compared to previous years. Temperatures in the 2019-20 winter months of December, January and February, were 4.3 degrees higher than average, with minimal periods of extremely cold weather in the region. The overall winter season demand and winter season peak demand were lower than the winter of 2018-19. The mild weather led to lower overall electricity use in New England during the winter. Total electricity use for the region in winter 2019-20, was down 2.1% from the previous year.

The 2019-2020 winter peak for ISO New England was 20,599 megawatts (MW) on December 19, 2019. Marblehead Municipal Light Department's peak load on that day was 2.04 MW, down slightly from the previous winter's peak load of 2.2 MW.

The summer saw warmer weather in 2020, along with a slight increase in consumer demand for electricity. There were 370 cooling degree days* in New England during the summer of 2020, a 23 percent increase over the summer of 2019.

The summer season demand was 33,550 gigawatt-hours, a 1.5 percent increase over summer of 2019. In the spring months of 2020 there was less overall electricity use, and an atypical use pattern, due to the Covid-19 pandemic. The pandemic changed the demand for electricity in the summer, especially during very hot periods. Under hot, humid weather conditions, more electricity was used during the pandemic versus history, and attributed to more air conditioning units being run for more hours, while people worked and self-quarantined at home.

* A degree day is a measure of heating or cooling. A zero degree day occurs when no heating or cooling is required. When temperatures drop, more heating days are recorded; when temperatures rise, more cooling days are recorded. The base point for measuring degree days is 65 degrees. Each degree of a day's mean temperature that's above 65 degrees is counted as one cooling degree day, while each degree of a day's mean temperature that's below 65 degrees is counted as one heating degree day. A day's mean temperature of 90 degrees equals 25 cooling degree days, while a day's mean temperature of 45 degrees equals 20 heating degree days.

Marblehead Specific: Marblehead was fortunate with regard to the 2020 weather conditions. Marblehead experienced no extreme weather events in 2020, compared to two extreme weather events in 2019 and two in 2018.

2020 The Changing Fuel Mix of our Electric Power Supply

With the growing awareness and concern regarding the impacts of climate change, MMLD: (1) continuously reviews our wholesale electric power sources, and (2) evaluates new options for cost-effective increases to our carbon-free generation. In November 2020 MMLD announced a new carbon-free energy supply agreement with Hydro-Québec (HQ), a Canadian public utility. The agreement provides Marblehead customers with 0.75 megawatts (MW) of firm hydropower that will deliver 6,570 megawatt hours of energy per year. The agreement represents the third or fourth largest carbon-free supply agreement in the MMLD portfolio, when compared to our 2019 & 2020 carbon-free energy sources:

Generator	2019 Actual Energy (MWh)	2020 Actual Power (MWh)	Generator Type
Seabrook	21,522	13,934	Nuclear
New York Power Authority	9,467	10,123	Hydroelectric
<i>Hydro-Quebec</i>	<i>6,570 (in 2021)</i>	<i>6,570 (in 2021)</i>	Hydroelectric
Millstone Point	6,305	13,934	Nuclear
Berkshire Wind	3,070	4,880	Wind

On a full-year basis the Hydro-Quebec agreement is expected to represent 6 % of the 2021 MMLD portfolio. The favorable energy pricing is an excellent step forward in the department’s strategy to “Go Green without Going in the Red.”

As of March 2021, a new comprehensive Climate Bill for Massachusetts, “An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy”, was overwhelmingly approved in the state Senate and House, and now awaits the Governor’s signature. The bill includes specific provisions for municipal light plant (MLP) communities, as Marblehead. In 2019 the Municipal Electric Association of Massachusetts (MEAM) assisted in drafting the MLP provisions in the bill, with the support and endorsement of the MMLD Board and GM Joe Kowalik. The bill establishes specific greenhouse gas emissions standards on the electricity MLPs will sell to retail end-user customers. The minimum standards are: 50% non-carbon

emitting energy by 2030, 75% by 2040, and net-zero emissions by 2050. To qualify, the renewable energy certificates (RECs) associated with the generation must be retired (held), not sold. Qualifying non-carbon emitting energy sources include (1) solar photovoltaic (PV); (2) solar thermal electric; (3) hydroelectric, including energy imported to the ISO-NE grid from NY and Canada; (4) nuclear; (5) marine or hydrokinetic energy; (6) geothermal energy; (7) landfill methane; (8) anaerobic digester gas; (9) wind energy; and (10) any other generation recognized by Mass DEP as qualifying for renewable portfolio standards. To meet the standards MLPs may also purchase qualifying New England-based RECs without energy.

When applying the proposed standards to 2020 retail sales MMLD is currently 38% non-carbon emitting. In 2020 MMLD sold the Berkshire RECs we generated, which represents an additional 5% of our retail sales. In only two months, November and December, Hydro-Quebec sourced energy represents 1%. New power portfolio updates will be posted on our website <https://www.marbleheadelectric.com>

2020 Department Actions and Initiatives

- In January, the MMLD Board voted to transfer \$22,294 to the Town's Strategic Electrification fund to enable the Town to purchase a new electric vehicle (EV): a 2019 Chevy Bolt, for the Town Building Department.
- In January, MMLD met for the first time with members of Raymond Design Associates, Inc. (RDA), the architectural firm designing the new elementary school in Marblehead. In addition to reviewing power requirements for the new school, MMLD's involvement included NREL guidance on the building roof design to enable the future installation of solar PV arrays on the roof and the siting and installation of level 2 electric vehicle (EV) chargers in the school parking lot.
- In March, the Department took delivery of a 2020 Freightliner M2 106 medium duty truck chassis with a 45' Terex Telect side-by-side boom bucket, to replace a 10 year-old bucket truck in need of replacement. The purchase price was \$220,645. The truck is vehicle number 34 in the department vehicle fleet.
- In March, the MMLD Board voted to approve the spending of \$2,066,541 from the MMLD Plant & Equipment Depreciation cash fund for new transformer and switchgear equipment at the Village 13 substation, the main substation in Marblehead. The purchase was delayed in 2020 while the Dept. and the South Essex Sewer District determine a safe means to drive the ~100,000 pound gross weight trucks on the utility right-of-way that's shared with the town's force sewer main.

- In April, the MMLD Board voted to approve a \$330,000 payment in lieu of taxes (PILOT payment) to the Town of Marblehead.
- In April, MMLD joined the National Community Solar Partnership-Municipal Utility Collaborative, sponsored by the US Dept. of Energy, to learn national best practices in the creating and adopting of community solar programs in Marblehead.
- In May, the National Renewable Energy Lab (NREL), presented their analysis to the MMLD Board, that identified the most feasible sites for installing municipal-scale solar PV arrays to generate renewable energy in Marblehead, based on overall project risks and costs (levelized cost of energy). The roofs of four Marblehead public schools, Marblehead High School, Village School, Veterans Middle School and new elementary school under construction were identified as the most attractive building sites. The Marblehead open space sites visited were determined to be less desirable, due to the higher site prep expense involved, and need to remove vegetation at the sites. Given the higher estimated solar PV energy costs of the sites evaluated (~\$0.08/kWh) versus the current average MMLD portfolio energy cost, (~ \$0.04/kWh) MMLD identified the possible to introduce a separate community solar price for solar PV-generated power.
- In parallel with the NREL study, MMLD's wholesale power partner, MMWEC, analyzed the potential for a utility-scale battery electric storage system at the Village 13 substation. The analysis concluded the economic viability of such a project, by providing a systematic way to reduce the towns peak load energy demand, thus reducing both capacity and transmission costs in future years. Such an addition is now included in Village 13 upgrade plans.
- In June, Marblehead voters elected Lisa Wolf to a three-year term as an MMLD Board member.
- In July Substation Senior Operations Specialist Jack Ravagno oversaw the purchase and installation of two Mitsubishi P-Series 36K BTU Ductless Heat Pump air conditioners in the switchgear room at the Commercial Street substation, at a price of \$17,719.
- In September, MMLD, the Town Public Works Dept., and EV charger installation vendor Voltrek, Methuen, MA began the site prep for the two public charging locations in Marblehead: the Mary Alley Building parking lot at Widger Road and the Round House Road parking lot at Anderson St. The final design includes two dual-head Level 2 chargers to be installed at each location. When completed each site will be capable of charging four EV at once, and be expandable to ten vehicles in the future.
- In October MMWEC disclosed MMLD was participating in a five-year hydropower purchase agreement with Hydro-Quebec for 0.75 MW of firm

hydropower at \$0.0385/kWh. MMWEC and MMLD estimate the new agreement will represent 6.2% of MMLD's annual power demand.

- In October MMLD announced the creation of the *Neighbors Helping Neighbors* Program, to provide support to MMLD customers in need with grants of up to \$300 or two months of electric bills. The North Shore Community Action Program (NSCAP), a long-standing north shore social services agency, administers the program for MMLD. Individuals who wish to apply for a grant, or who wish to contribute to the fund, can call our customer service line at 781-631-5600.
- In December MMLD ordered new poles and luminaires to replace the nine light poles on the Causeway. Delivery is expected in the spring of 2021.
- In December, at a joint meeting of the Town Selectmen and MMLD Board Nathanael A. Burke was elected to the MMLD Board. He filled an open position created by the resignation of Michael Maccario.
- Preventive maintenance and troubleshooting of our distribution system by MMLD line crews is a year-round responsibility. In 2020, 57 new utility poles were set, down from the 68 new poles set in 2019, but an increase from the 23 new poles set in 2018. Of the 57 utility poles set in 2020, 44 were preventive maintenance replacements, three were storm damage related, five were required in response to equipment upgrades made on the poles, and four were utility poles set in new locations.
- In 2020 seven residential customers added solar PV arrays to the roofs of their homes, bringing the total number of residential and commercial customers with solar PV to 57. The combined solar PV array nameplate capacity of the 57 installations is 459 kW an increase of 8% from 425kW in 2019. The 2020 renewable energy MMLD purchased from these customers was 256 MWh, a 33.3% increase from 192 MWh in 2019.
- In 2020 13 Marblehead EV owners received a FREE residential ChargePoint Level 2 charger from MMLD by enrolling in our Smart Charging Program. The 13 2020 participants represents an increase from five in 2019, five in 2018 and three in 2017, for a total enrollment of 26. However 26 is only 24% of the 109 Marblehead EV owners registered in the Mass Offers Rebates for Electric Vehicles (MOR-EV) program, as of March 2021. If you are a Marblehead EV owner, learn how you can get a FREE ChargePoint Level 2 charger. Visit <https://www.marbleheadelectric.com/ev-vehicles-chargers.html>
- Under the guidance of Lead Customer Services Rep. Megan Milan, MMLD participates in the MMWEC-sponsored Home Energy Loss Prevention Services (HELPS) Program. In 2020, 40 homeowners received free HELPS home energy efficiency audits. HELPS also provides Marblehead residents with cash rebates of up to \$500 on the purchase of a variety of energy efficient

appliances, heat pumps, smart thermostats and home efficiency upgrades. In 2020 more than \$41,700 was paid to 99 MMLD customers eligible for HELPS and Solar PV rebates.

For details visit: <https://www.marbleheadelectric.com/rebates-incentives.html>

MMLD Employee Recognition

MMLD's most important asset is our highly skilled workforce. The focus and dedication of our employees is essential to our mission to deliver reliable, cost competitive and environmentally responsible electric power to Marblehead customers, while ensuring a safe and healthy work environment for employees and customers alike.

We're pleased to recognize the following MMLD employees in 2020:

- Business Assistant Cheryl Stone celebrated her 20-year anniversary at MMLD;
- Substation Senior Operations Specialist Jack Ravagno, Working Foreman Greg Chane and Lead Lineman Kerry Homan celebrated 15-year anniversaries at MMLD;
- Lead Lineman Kirk Blaisdell celebrated his 10-year anniversary at MMLD
- Finance Manager Matt Barrett celebrated his 5-year anniversary at MMLD.
- We also congratulate Matt Barrett on his promotion to Business Manager, from Finance Assistant.
- We say goodbye to former Business Manager Mark Dugan who retired in 2020, after 34 years as an MMLD employee. At the time of his retirement Mark was the longest serving employee in the department. We wish him well in his retirement.

The Board and Department also wish to recognize and thank Mike Tumulty for his six years of leadership and service and Mike Maccario for his five years of leadership and service as MMLD Board members. We wish them well in their future endeavors.

Respectfully submitted,

Joseph T. Kowalik, General Manager
Michael A. Hull, Commission Chairman
Walter E. Homan, Commissioner
Karl A. Johnson, Commissioner
Lisa Wolf, Commissioner
Nathanael A. Burke, Commissioner

MUNICIPAL LIGHT DEPARTMENT

BALANCE SHEET

For the year ending December 31, 2020

Assets

Plant Investments		\$ 17,825,376.74
Current Assets:		
Cash - Operating	5,208,150.18	
Petty Cash	500.00	
Construction	18,908.88	
Accounts Receivable	3,018,660.92	
Interest Receivable	-	
Materials & Supplies	<u>164,558.23</u>	
Total Current Assets		\$ 8,410,778.21
Depreciation Fund		8,085,152.70
Insurance Escrow Account		995,676.31
Hydro Savings Reserve		42,108.77
MMWEC - NEPEX Reserve Trust		540,437.74
Rate Stabilization Reserve		900,000.00
Consumer Deposits		221,606.50
Prepayments		1,469,688.84
Pooled Financing Reserve-MMWEC		530,231.19
MMWEC 2015A Peabody Project		379,435.47
Deferred Outflows-Pensions		1,132,563.00
Deferred Outflows-Opeb		569,808.00
Total Assets		<u>\$ 41,102,863.47</u>

Liabilities And Surplus

Accounts Payable:		
Depreciation	\$ 6,326.40	
Operating	1,602,402.15	
Construction	-	
Consumer Deposits	<u>1,700.00</u>	
Total Accounts Payable		\$ 1,610,428.55
Consumer Deposits		219,906.50
Bonds Payable		4,580,756.68
Accumulated Provision For Rate Stabilization		900,000.00
Reserve-MMWEC Reserve Trust		540,437.74
Net Pension Liability		6,799,029.00
Deferred Inflows-Pensions		816,538.00
Deferred Inflows-Opeb		2,671,482.00
Reserve for Uncollectible Accounts		434,805.14
Reserve for Future Compensated Absences		106,108.07
Opeb Liability		6,233,513.00
Contribution In Aid For Construction		197,616.39
Unappropriated Earned Surplus		<u>15,992,242.40</u>
Total Liabilities And Surplus		<u>\$ 41,102,863.47</u>

NOTE: The Marblehead Municipal Light Department's financials are based on a calendar year and are subject to an independent audit by Goulet, Salvadio & Associates P.C. of Worcester, MA

MUNICIPAL LIGHT DEPARTMENT

STATEMENT OF INCOME

For the year ending December 31, 2020

Operating Revenue		\$ 17,543,145.86
Less Expenses:		
Operating	12,521,641.79	
Maintenance	1,366,784.43	
Depreciation	2,036,778.56	
Total Expenses	<u>15,925,204.78</u>	
Operating Income		1,617,941.08
Interest Income		51,009.93
Other Income		(99,450.00)
Less Interest on Long Term Debt		<u>153,121.35</u>
Net Income Transferred to Surplus		<u>\$ 1,416,379.66</u>

STATEMENT OF SURPLUS

For the year ending December 31, 2020

Balance December 31, 2019		\$ 14,930,896.00
Add: Credit balance transferred from income		1,416,379.66
Adjustment to transfer prior years		
Power Refunds to surplus		<u>-</u>
Subtotal		16,347,275.66
Deduct: Amount transferred to Town Treasurer		
strategic electrification fund		(22,294.00)
payment in lieu of tax payment (Pilot)		(330,000.00)
adjusting audit entries for year ended December 2019		<u>(2,739.26)</u>
Balance December 31, 2020		<u>\$ 15,992,242.40</u>

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MUNICIPAL LIGHT DEPARTMENT

OPERATING EXPENSES

For the year ending December 31, 2020

Power Generation Expenses:		
Fuel	\$ 4,321.87	
Generating Expense - Lubricants	-	
Misc. Other Power Generating Expense	4,341.71	
Maint. of Other Power Generation	<u>107,129.79</u>	
Total Power Generation Expense		\$ 115,793.37
Power Supply Expenses:		
Electric Energy Purchased	6,639,701.20	
Misc. Purchased Power Expense	<u>2,659,641.11</u>	
Total Power Supply Expenses		9,299,342.31
Transmission Expense:		
Maintenance of Overhead Lines		-
Distribution Expenses:		
Station Expense - Labor & Other	15,828.75	
Station Expense - Heat & Electricity	50,174.68	
Street Lighting	16,762.89	
Meter Expense - Inspection, Testing, Removing, Resetting	88,691.98	
Customer Installation Expense	42,435.78	
Misc. Distribution Expense	219,819.79	
Maintenance of Structures	-	
Maintenance of Station Equipment	83,201.36	
Maint. of Overhead & Underground Lines	1,068,474.58	
Maintenance of Line Transformers	(2,370.95)	
Maintenance of Meters	<u>17,050.59</u>	
Total Distribution Expenses		1,600,069.45
Customer Account Expenses:		
Supervision of Customer Accounting	66,284.35	
Meter Reading - Labor & Expenses	42,435.78	
Customer Records & Collections	263,895.23	
Uncollectible Accounts	150,761.76	
Interest Paid on Consumer Deposits	<u>4,172.62</u>	
Total Customer Account Expenses		527,549.74
Advertising, Conservation, Energy Audits		150,677.47
Administrative & General Expenses:		
Administrative Salaries	185,252.45	
Office Supplies & Expenses	264,380.16	
Outside Services Employed	115,452.08	
Property Insurance	34,053.21	
Injuries & Damages	4,470.31	
Rents	7,201.23	
Employee's Pensions & Benefits	1,426,324.82	
Maintenance of General Plant	28,794.84	
Transportation	64,504.22	
Miscellaneous General Expense	<u>64,560.56</u>	
Total Administrative & Gen. Expenses		<u>2,194,993.88</u>
Total Operating & Maintenance Expenses		<u>\$ 13,888,426.22</u>

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