

MERRIMAC MUNICIPAL LIGHT DEPARTMENT



ANNUAL REPORT OF THE
YEAR ENDING DECEMBER 31, 2019

The Board of Light Commissioners and General Manager are pleased to submit the Annual Report of the Merrimac Municipal Light Department (“MMLD” or “Department”) for the year 2019.

MMLD MISSION STATEMENT

“The Merrimac Municipal Light Department (“MMLD”) exists to provide its owner, the Town of Merrimac’s ratepayers, safe and reliable electricity at a reasonable and competitive rate that sustains the healthy operations of the department, and the maintenance, expansion, and modernization of the electrical distribution system. This mission will be accomplished by a staff of responsible, dedicated and customer-oriented employees with superior work ethics, skills, and professionalism.”

NEW SERVICES

During 2019, there were a total of 69 new electrical services added to the MMLD's electric distribution system. The total number of electric meters in service at year's end was 2,985.

SYSTEM RELIABILITY

The MMLD is committed to providing the best electricity service to the Town of Merrimac residents. It also strives to provide safe and reliable power, by continuing capital improvements of the system, in turn, reducing the major industry-accepted indexes used to track the reliability of electric systems.

During 2019, the MMLD’s system experienced a total of 25 power outages, which affected a total of 673 customers, compared to 26 outages affecting 3,717 in 2018. The year had a lot of days with strong wind, but fortunately, no major storms, compared to 2018. Weather, trees and animal-related issues accounted for 84% of the total number of outages during the year. These types of events are hard to prevent, but the Department continues to work on tree trimming and other ways to reduce their impact.

The System Average Interruption Duration Index (SAIDI) measures the number of minutes, on average, a Merrimac customer is without power. The System Average Frequency Index (SAIFI) measures the average frequency of interruptions for a Merrimac customer. The Customer Average Interruption Duration Index (CAIDI) identifies the average length of time, in minutes, that a customer who is interrupted can expect that interruption to last. All the indexes results, for both the combination of equipment and non-equipment related outages, are found in Table 1 below.

SAIDI	SAIFI	CAIDI	TOTAL NUMBER OF OUTAGES
30.58	0.226	136	25

Table 1

CAPITAL PROJECTS

During 2019, the Municipal Light Department worked on several of customer-owned projects and on multiple capital projects that focused on improving the distribution system reliability, incremental replacement of equipment near the end of its useful life, and safety-related projects. In an electrical distribution system, targeting these projects will reduce the number of issues that could be sustained in major weather events such as those events we have experienced in past years. Storms can cause significant damages to the electrical distribution infrastructure, but systems that focus on on-going system improvements have less of an impact and can restore power much faster than other systems where this is not a priority.

The following are some of the customer-owned and capital projects the Department worked on during 2019:

Regency Office Park & New Police Station

The underground distribution system was installed for the first building of Regency Office Park and provisions were made to accommodate two additional buildings expected to be built soon. Additionally, the Department installed all electrical equipment necessary to supply power to the new Police Station at the same site. Three-phase underground cable, sectionalizer cabinets, and pad-mounted transformers were installed to supply power to these two neighboring sites.

Public Streetlights Retrofit Project

In 2017, the Municipal Light Department was able to get a grant from the Department of Energy Resources (DOER) for the replacement of High-Pressure Sodium (HPS) streetlights, and by the end of 2018; the Department had all the pole-mounted lights replaced. Other HPS technology-based ornamental lights were not covered under the original grant, but based on some rebates found, the Department was able to retrofit all the ornamental lights during 2019. These new LED lights last longer and use much less energy.

River Road (Locust to Broad St.) Area Conversion

This project consisted of the upgrade and conversion of the electrical infrastructure from the corner of Locust Street to the Broad Street intersection. Some of the poles, part of the electrical infrastructure, were old, and a large section of secondary cable needed to be updated to triplex secondary. The existing primary wire was already rated for 13.8 kV. This project was completed in 2019.

Broad, High & S. Pleasant Street Area Conversion

The work to be performed in this area included getting rid of the bare wire to install covered tree wire. Aged and damaged poles will be replaced, and transformers rated for 13.8 kV will be installed. The entire area was upgraded to 13.8 kV and is now being fed from the Mill Street Substation.

River Road Dead-End & North St. Area Conversion

The dead-end portion of River Road was very old, and while there are not a lot of houses there, the area needed to be upgraded and prepared for the conversion. The Department replaced several old poles, removed the bare primary and installed tree wire. Transformers rated for 13.8 kV were added to this area.

Transformer Cutout Installation

In the MMLD's distribution system, there are still transformers without a distribution cutout. This situation has proven to have a big impact on reliability. Large areas could go without power as a result of a problem involving a single distribution transformer in a distribution feeder. Additionally, distribution transformers could be significantly overloaded, resulting in reduced lifespan for those units.

Individual equipment protection is normal in electrical distribution systems, and to reduce unnecessary widespread outages, the MMLD continued working on the installation of cutouts for transformers that are part of Feeder 3 and Feeder 4. Since Feeder 2 will be completely upgraded in future years, the upgrade will involve installing cutouts for each distribution transformer at the time of the upgrade.

OTHER PROJECTS

City of Haverhill Streetlight Maintenance

During 2019, the Municipal Light Department was able to continue doing the maintenance of the streetlights they purchased from National Grid. This agreement has been very beneficial for the Department since, by sending guys to do streetlight maintenance in Haverhill during specific periods convenient to the Department, a profit is made. This profit continues to help the Department reduce its expenses.

POWER SUPPLY

The MMLD continues to work with Energy New England ("ENE"), who manages the MMLD's energy portfolio, to ensure energy contracts are in place to cover the Town's energy needs for future years. This is a

challenging task especially because of the congested energy load-zone that the Town of Merrimac is part of. Power congestion in Northeast Massachusetts ("NEMA") and old power plants coming offline have made a significant impact on transmission and capacity. For 2019, the Department spent \$3,226,227 in power supply expenses. The goal of the Department has been to maintain electric rates stable and affordable for all of our customers, even during the turbulent times in the Capacity and Transmission market.

The Department has a good portion of renewable energy in its energy portfolio, which includes the local 1.5 MW solar farm, hydropower from the Brown Bear II Hydro Plant, and wind power from the Canton Mountain, Spruce Mountain, and Saddleback Ridge projects. During 2019, the Department added hydro energy from Stevenson and Shepaug projects, located in Connecticut. Additional wind energy, from the Granite Wind project, was contracted to start in 2020. The Department made provisions to get a combination of solar and nuclear energy from a contract with NextEra, involving the Seabrook nuclear plant, starting in 2021. Additional solar energy was contracted to start in 2024 from the Chariot Solar and energy from a biomass plant located in Palmer, which will start in 2023.

At this point, the Department has secured power from different sources and has hedged close to 90% of its energy to 2023. The year 2024 is hedged at around 53.5%. Energy hedging, for future years, helps the Department have a good idea of what to expect and maintain rate stability.

CREDIT PROFILE

For the Municipal Light Department to secure good power contracts, it needs to have a good credit rating assigned by an independent institution. In 2019, Standard & Poor's Ratings Services upgraded the Municipal Light Department credit rating from "A/Stable" to "A+/Stable" based business practices and outlook.

AUDITED FINANCIALS

The Department used the services of Powers & Sullivan, LLC to audit the financial statements of the Department. The audit conducted during 2019 determined that the Department finances and processes are in order and conform to accounting principles generally accepted in the United States of America.

CONTRIBUTIONS TO THE TOWN

In 2019, based on what was approved by the Municipal Light Board of Commissioners, the MMLD provided the Town with a **\$15,000** cash payment for Payment in Lieu of Taxes. In addition to this cash payment, the MMLD had **\$6,141** of unbilled streetlight usage that was absorbed by the Department.

As indicated in past reports, the MMLD has a reduced public streetlight rate of \$0.103/kWh; however, per the Department of Public Utilities, this rate should be more close to \$0.1783/kWh. This would make the Unbilled Streetlight Usage **\$10,629** for 2019.

The Municipal Light Department offers a reduced electric rate for all of the municipal buildings in Town. Those buildings include the schools, water and sewer plants, and all the other buildings used by the multiple Town departments. This reduced rate for municipal buildings resulted in savings close to **\$56,871** for the Town. The MMLD continues to contribute **\$3,000** annually for the Town's Code Red System which is a great asset to the Town.

COMMUNITY

The Municipal Light Department is a public utility, which means that it is owned by its ratepayers and not by a board of directors like the Investor-Owned Utilities (IOUs). One of the great advantages of a local municipal light department is that when people call or come into the office they get to talk to a person, someone who will help them with questions that they may have about billing or the services the Department provides. Most of the time, for customers being served by IOUs, it is difficult to speak with someone to answer questions. The Municipal Light Department is here to serve the community.

During 2019, the MMLD conducted an indoor and an outdoor electrical safety presentation at the Helen R. Donaghue School. This program was conducted by the MMLD's Public Safety Coordinator consultant, and electrical safety materials were given to the children. The objective of this program is to teach the young population in our community about the potential electrical hazards at home or outside, how to stay safe and how to keep others safe when dangerous electrical situations are encountered. The Municipal Light Department and its Board of Commissioners believe that investing in the safety of the children of the community is a priority.

The Department also attended other community events organized by other town departments where equipment, tools, and trucks were shown to the attendants. At the office, we also had a lot of materials for kids and parents regarding electrical safety and energy conservation tips.

The MMLD celebrated Public Power Week during the first full week in October. During that week, the Department gave away a lot of items to the public in celebration of being a non-profit, community-owned utility. The raffle for this year's Public Power Week celebration was a free month of electricity, which was excitedly received by one of the residents who participated in the raffle.

In December of 2019, the MMLD assisted the Santa Committee hanging wreaths at the Town Hall building and participated in the annual Christmas parade with two decorated trucks. Like in past years, the Department strung the lights for the annual Christmas Tree Lighting event at Kimball Park, which has become a family tradition well enjoyed and attended by hundreds in the community.

To promote energy conservation, the Municipal Light Department continued making available the Appliance Rebate Program and the free Residential Energy Audit program for the community. During 2019, the MMLD spent \$3,726 in appliance rebates and \$5,840 in the Residential Energy Audit program. The Appliance Rebate Program allows residential customers to obtain a rebate for qualified energy-efficient appliances, while the Residential Energy Audit program allows them to have an energy expert visit their homes to conduct a free energy audit and find ways to reduce energy consumption.

During 2018, the Municipal Light Department opted to be part of a solar rebate program with the DOER. The program allocates a fund made up by a contribution of the Light Department, which is then matched by the DOER. This fund will be used to provide rebates to residential customers looking to install solar arrays at their homes. The program was launched in 2019, and since the start of the program, a few customers enrolled to take advantage of this great program.

GENERAL MANAGER, STAFF AND COMMISSIONERS

Both the MLD's staff and Commissioners continue to be dedicated to having a municipal light department that provides safe and reliable electricity to the Town while maintaining rates stable, in an energy market where costs are periodically changing.

In 2019, the Department decided to add to its operations an apprentice lineman to start training to become a 1st class lineman. Cody Bernard was hired as an apprentice and he has progressing very well by going to linemen school and also receiving training by his more experienced coworkers. As some of our linemen approach retirement age, it is going to be important for the Department to add new talents that can learn the trade and take advantage of the experience of seasoned linemen.

The MMLD's General Manager, Francisco A. Frias, together with the staff and under the direction of the Municipal Light Board, continues to work towards making the Department's Mission Statement a reality in every aspect of the day to day operations.

Respectfully submitted,

Francisco A. Frias, General Manager

Board of Light Commissioners

Norman Denault

Term Expires 2020

Larry Fisher

Term Expires 2022

Paula Hamel

Term Expires 2021