

MERRIMAC MUNICIPAL LIGHT DEPARTMENT



ANNUAL REPORT OF THE YEAR ENDING DECEMBER 31, 2016

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 2016.

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 2016 there were a total of 31 new electrical services added to the MMLD's electric distribution system. The total number of electric meters in service at year's end was 2,914.

SYSTEM RELIABILITY

The MMLD is committed to providing the best electric service to the Town of Merrimac residents. The MMLD 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 2016, the MMLD’s system experienced a total of 30 power outages, which affected a total of 5,152 customers. Quick response to these outages by the MMLD’s crews, resulted in 80% of the total number of customers interrupted being restored in less than 60 minutes, 18% restored between 61 and 120 minutes and only 2% restored in more than 2 hours. One outage, originated in National Grid territory, accounted for 2,850 customers affected during the year. Additionally, 80% of the total number of customers affected had a power interruption due to a combination of animal interference and weather related events. These two types of events are hard to prevent, but the Department continues to work on 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
90.22	1.808	50	30

Table 1

CAPITAL PROJECTS

During 2016, the Municipal Light Department worked on a number of capital projects focusing on improving the distribution system reliability, incremental replacement of equipment near the end of its useful life and safety related projects. In any electrical distribution system, targeting these projects will make a significant impact on the amount of damages 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 are able to restore power much faster than other systems where this is not a priority.

The following are some of the capital projects the Department worked on during 2016:

Emery Street Area Conversion

This project targeted the upgrade and conversion of the electrical infrastructure from the corner of Emery Street and Burnside Lane to the East Main Street intersection. This area included the mobile home park off Emery Street. The electrical infrastructure was old, and as part of the future Burnside Street Substation upgrade, it needed to be converted to 13.8 kV. New poles were installed in Fiscal Year 2014 as part of the 23 kV supply line extension to the Mill Street Substation.

Locust Street Area Conversion

The objective of this project was to upgrade and convert the electrical infrastructure on Locust Street. The electrical infrastructure was old, and as part of the future Burnside Street Substation upgrade, it needed to be converted to 13.8 kV. Locust Street was fed off Circuit 2, which is a 4.16 kV circuit that originates at the Burnside Substation. After project was completed, Locust Street started to be electrically fed from the Mill Street Substation through Circuit 3 at 13.8 kV.

Porcelain Cutout Replacement

The MMLD's distribution system still has a number of porcelain cutouts in service. These cutouts, over time, could crack and break and cause unnecessary outages to customers. The MMLD was able to continue replacing these cutouts as part of the Capital Work Plan during 2016.

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. Entire areas and even feeders could go without power as a result of a problem involving a single distribution transformer. Additionally, distribution transformers could be significantly overloaded resulting in reduced lifespan for those units.

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

New Developments:

In addition to the regular day to day maintenance, response to power outages and new service installations, the MMLD installed the underground electrical infrastructure for one major residential development in Town. The MMLD worked with the developers on the design and timely installation of the infrastructure needed to provide power to Abbey Road, located off Bear Hill Road.

POWER SUPPLY

The MMLD continues to work with Energy New England, 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 the Northeast Massachusetts ("NEMA") and old power plants coming offline have been driving transmission and capacity costs up. This is a problem that is affecting both the municipal and Investor-Owned electric utilities in this region and it will be getting worse before it gets better. As a result, electric rates have started to go up in many communities. During 2016, the Municipal Light Department paid \$459,639 in capacity costs and that number will increase to \$924,719 in 2017 and to \$1,066,265 in 2018. Transmission expenses will also be increasing over the next few years. Power expenses constitutes close to 80% of the Municipal Light Department's Operating Expenses; however, out of the three components of power expenses (Energy, Capacity and Transmission), Energy is only half of the overall power expenses or 40% of the Operating Expenses.

The Department has been able to have a good portion of renewable energy in its energy portfolio, which includes the local 1.5 MW solar farm, hydro power from the Miller Hydro plant, and wind power

from the Spruce Mountain, and Saddleback Ridge projects. Another wind resource, Canton Wind, will be added in 2018.

CREDIT PROFILE

In order for the Municipal Light Department to secure good power contracts, it needs to have a good credit rating assigned by an independent institution. In 2016, Standard & Poor's Ratings Services performed an analysis of the Municipal Light Department and assigned an "A/Stable" credit rating based on business practices and outlook.

CONTRIBUTIONS TO THE TOWN

Based on preliminary results of year 2016, and as approved by the Municipal Light Board of Commissioners, the MMLD will be providing the Town with the following contributions for Payment in Lieu of Taxes:

Cash Payment:	\$10,085.48
Unbilled Streetlight Usage:	<u>\$23,540.44*</u>
Total PILOT Payment	<u>\$33,625.92</u>

* The MMLD has a reduced streetlight rate of \$0.103/kWh; however per the Department of Public Utilities this rate could be more close to \$0.165/kWh. This would make the Unbilled Streetlight Usage about \$37,710. The resulting PILOT based on DPU rate calculations for streetlights would be **\$47,795**.

OTHER CONTRIBUTIONS TO THE TOWN

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. Annually, this is a savings close to \$59,183 compared to other commercial customers in town. In addition, the MMLD contributes \$3,000 annually for the Town's Code Red System. Total In Lieu of Tax contributions to the Town:

Cash Payment:	\$10,085.48
Reduced Electric Rate:	\$59,183.00
DPU-Based Unbilled Streetlight Usage:	\$47,795.00
Code Red System:	<u>\$3,000.00</u>
Recalculated Total PILOT Payment	\$120,063.48

COMMUNITY

The Merrimac Municipal Light Department is a Public Utility, which means it is owned by its rate payers and not by a board of directors like the investor owned utilities. This means 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 electric services. The Municipal Light Department is here to serve the community.

During 2016, the MMLD conducted an electrical safety program at the Helen R. Donaghue School. This program was conducted by the MMLD's Public Safety Coordinator consultant. The objective of this program is to teach the young population in our community about the possible electric hazards at home or outside, and how to stay safe and make 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 MMLD continues to work in collaboration with other Town departments, assisting them with the use of some of our equipment, trucks and electrical expertise which saves on expenses for those departments.

In December of 2016, the MMLD assisted the Santa Committee hanging wreaths at the Town Hall building and 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.

GENERAL MANAGER, STAFF AND COMMISSIONERS

Both the MMLD’s staff and Commissioners continue to be dedicated to having a municipal light department that provides safe and reliable electricity to the Town while managing to maintain rates stable in an energy market where costs are continually changing.

During 2016, one of the Department’s office clerks retired after almost 30 years of full time service. A new clerk has been added to our office staff and has been getting up to speed with every aspect of the job to make sure customers get the best service possible and the department can continue to operate adequately.

In 2016, the MMLD hired a part-time superintendent to assist management and the Operation’s staff to navigate through some of the changes negotiated with the Union. This position is only temporary and will be in place until management and Board of Commissioners determine it has served its purpose.

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 2017
Larry Fisher	Term Expires 2019
Paula Hamel	Term Expires 2018