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## **2012 Annual Town Report**

Respectfully submitted is the one hundredth and second report of the Sterling Municipal Light Department (SMLD).

### **POWER**

The SMLD's Customer base has decreased to 3,717 (-9 accounts) as of December 31, 2012. We have 3,334 Residential, 138 Industrial, 204 Commercial, 31 Municipal, 9 Government and 1 Town Streetlight accounts.

A total of 58,958,846 kilowatt hours (kwhrs) of electricity were sold during the calendar year 2012. This represents an increase of 435,368 kwhrs over calendar the year 2011. Sterling's hourly peak demand was 12,468 kw set in July of 2012, a 780 kw reduction from the peak set in 2011 of 13,247 kw.

The 2012 *System Average Interruption Duration Index* (SAIDI) for normal outages affecting the Town of Sterling residents was 53.01 minutes per incident this compares to National Grid SAIDI numbers that averaged 102 minutes per incident in 2011. The *Average Service Availability Index* (ASAI) of electricity for Sterling residents in 2012 was 99.99525 %.

The New England Power Pool expenses continue to increase primarily driven by the return on equity (profit) allowance that the transmission owners received (11%-14%) for the reliability transmission projects. Through various associations including the Northeast Public Power Association (NEPPA) and the Massachusetts Municipal Wholesale Electric Company (MMWEC), we continue to contest these out of market returns. As a result of our efforts the Attorney General's office of Massachusetts and Connecticut, as well as a number of Washington Legislators have joined us in asking the Federal Energy Regulatory Commission (FERC) to review these returns again and look to a more equitable solution to the aging transmission problem.

Although we cannot control the transmission cost, we are able to lower our demand and locally produce our own energy by using alternatives that do not require transmission. The Pandolf Perkins solar array on Jewett Road is a 1 megawatt (MW) solar energy source that went online on December 19, 2011. In 2012 this project provided 1,138,000 kwhrs of clean renewable energy at below market prices to the residents of Sterling and does not require transmission for distribution purposes. During 2012 we also signed a contract with Community Energy Services (CES) Sterling LLC on a project to build two 1 megawatt solar arrays on Wiles Road. The construction on these projects began in October of 2012 and is expected to be online in early 2013. We anticipate that these projects will provide us with an additional renewable power source capable of producing over 2,500,000 kwhrs. These two projects combined are expected to produce enough energy to power approximately 450 average residential customers for one year. We continue to pursue alternative sources of power with competitive pricing to provide us with sustainable energy without producing damage to our environment.

## OPERATIONS

The following list summarizes completed and projects in progress for the Operations Department.

- Completed the transfer to the new overhead cable on Wiles Road and removed 2,400 circuit feet (7,200') of aged spacer cable.
- On Holden Road we installed 5,600' of 1/0 neutral wire to compliment the tree wire installed in 2011 and to provide better grounding on the system.
- On Pratts Junction Road we replaced 3,120 circuit feet (9,360') of spacer cable, the conductor had been in operation for over 35 years and was also damaged during the 2008 ice storm.
- On Osgood Road we installed 6,200' of 1/0 tree wire, transferred onto the new cable and removed 6,200 of bare #4 copper wire, we also installed new secondary cable and 1/0 neutral for better system grounding.
- On Wilder Road we completed the installation of 6,365 feet of 1/0 tree wire and installed 3,720 feet of 1/0 neutral and 760 feet of 1/0 triplex for secondary distribution and better system grounding, we also removed 5,400' of # 2 bare copper wire and 3,040' of # 6 bare copper wire.
- On Chad Lane we installed 800' of 1/0 underground primary cable and 300' of secondary cable.
- On Homestead Lane we installed 2,600' of underground primary cable and 400' of secondary cable.
- On Fox Run Road and Birch Drive we installed 9,800' of underground primary cable to replace the existing 30+ year old direct buried cable that has had multiple failures. Weather permitting, we expect to install the new replacement transformers and complete the transfer to the new cable in the first quarter of 2013.
- The above mentioned projects were performed as part of our continuing effort to upgrade our distribution system to minimize outages and improve our reliability.
- Installed two new house services and removed two.
- We Installed 10 new poles. 3 were relocated on Maple Street to assist the DPW with the water project and allow for sidewalk installation along Maple Street.
- Replaced the underground cable in the third of four switches at the Chocksett Substation after the failure in 2008. A future project will include changing out the remaining wire raceway in 2013. This has been performed by changing one per year for 4 years at an expected cost of \$23,000 each.

## **POWER SUPPLY**

In an effort to diversify our power resources and stabilize purchased power costs, we purchase electricity through fixed contracts and open market power purchases. Purchased power costs reflect the generation and delivery of electricity to the Town of Sterling. There are many circumstances beyond our control that make the cost of electric energy fluctuate. These include periods of peak power demands during extreme temperatures, unexpected plant shutdowns and spikes in fuel prices. Changing costs are triggered by a number of unpredictable events from the fluctuating fuel commodity markets to global unrest. Natural gas prices have declined in the last few years, but challenged with the uncertainty of the delivery. During cold spells gas constraints on the gas transmission lines are common. This leads to curtailments at the generating plants requiring them to switch to oil, a costlier alternative. Energy produced from natural gas has risen from 5% in 2000 to 55% in 2012 and is expected to continue to rise until new gas transmission pipelines can be put in place. Despite these concerns in 2012 our power costs have remained stable.

Although fuel remained steady our transmission costs continued to rise. These costs have increased mainly in part that transmission owners receive large returns between 11-14% on their investments in transmission line upgrades in New England. Other increased costs are due to the regional transmission upgrades. The Regional Network Service (RNS) rate rose by 22% from a \$605,664 (From June 2011 to May 2012) to \$739,853 (June 2012-May 2013). These costs are expected to continue to rise at an annual rate of 10%. Along with other Municipal Light Plants and Associations we continue to contest these charges in Washington with our Legislators and FERC. The outcome of these meetings resulted in the filing of various bills that will determine if these incentives are still warranted.

The SMLD continues to monitor the transmission charges that we receive from ISO New England that operates the region's electric power system. The shared goal is making reliability a top priority in the operation of the power grid. Before new rules and procedures are implemented we must carefully take into consideration the cost to the consumers.

The SMLD had been an active participant in the development of a new 280-megawatt natural gas power plant by The Massachusetts Municipal Wholesale Electric Company (MMWEC). The reduction in natural gas prices had a negative effect on the economics of this project. This project has been temporarily suspended until economics can prove ownership in this plant to be the better alternative to current market purchases.

Our power supply consists of a mixed portfolio of power agreements. These agreements consist of Hydro Power, (specifically from Baltic Mills Hydro), Contoocook Hydro, Mechanicsville Hydro, Methuen Falls Hydro, Public Authority State of New York Hydro (PASNY) and Centennial Falls Hydro Electric Facility. We are continuously exploring other cost efficient renewable energy supply options for our power portfolio. In 2012 over 22% of our power was received from renewable energy sources that includes 2,491,368 kWhrs from the Berkshire Wind Project which has maintained a capacity factor of over 35% in 2012. This 22% exceeds the Massachusetts requirement (Municipal Light Plants are exempt) for renewable energy supply in power portfolios of 20% by 2020. In addition, we receive nuclear power from the Millstone III Plant and the Seabrook Power Plant in New Hampshire. Other sources of our power supply come from the MMWEC Stony Brook Plant, combined cycle units I & II, and the Carbolon generating facility.

We continue to offer the following assistance programs to our Residents:

- HELPS Home Energy Audit (no cost to residents)
- Energy Star® Rebate Program
- Solar Installation Assistance
- Kill-A-Watt™ Electricity Usage Monitor
- TESCO Surge Arrester
- Customer Data/Billing Portals

Other community activities/contributions sanctioned by the SMLD Light Board:

- \$44,000 in-lieu-of tax payment, paid in January 2012
- Our Annual Open House
- Town Common Lighting
- Sterling Fair
- Banner Hanging
- Help fund roadside brush cutting with DPW
- Donated 2 surplus vehicles to the DPW
- Town Street Lights –reduced rate and full maintenance of the 489 streetlights by the SMLD for the Town of Sterling.
- Provide funds for annual maintenance of town owned generators.
- As a pilot program we installed 6 new Light emitting Diode (LED) streetlights along Main Street that use 67 % less electricity. We expect continued installation of the LED lights in 2013.
- In November 2012 SMLD contracted with GDS Associates Inc. at a cost of \$35,000 to perform energy audits on 7 of Sterling Municipal buildings. These audits are based on a level II, American Society of Heating, Refrigeration and Air Conditioners Engineers (ASHRAE) standards and will include a written report for each building and recommendations. We expect this to be completed in early 2013.

## Changes at SMLD

Personnel changes continued in 2012 with Tom Sparks becoming the Line Superintendent and Darren Borge filling in as the Operations and Metering Supervisor. With the completion of the Advanced Meter Infrastructure (AMI) the meter reader is working with the line crew as well as the Meter Department.. As a result of our succession plan we have two men in linemen training that will achieve Lineman 1<sup>st</sup> class status in early 2013. Our current staff of twelve employees puts us in line with similar municipal light plants our size.

Tree trimming services are primarily provided by outside contractors using a competitive bid process while additional tree trimming is also performed by the SMLD line crew.

In 2012 we finalized the purchase of our new Digger Derrick from James A. Kiley Company, replacing the 1996 International Digger Derrick. In October we purchased a new cab/chassis for anew bucket truck to be built in 2013.

We completed the installation of the SEDC billing system. The system allows for greater billing flexibility, payment options and access to a customer portal.

With the completion of the billing system we were able to install the remaining 2,500 meters for the AMI system. The AMI system enables us to read meters remotely, construct and outage management plan and to work with our customers to lower demand.

We continued to perform energy conservation measures at our own facilities with the installation of new Electric Thermal Storage (ETS). The ETS is designed to charge off peak at a lower rate and slowly dissipate heat during the day. We also replaced the electric baseboard units with ETS units at our Operations building at 2 Leominster Road. Other conservation measures included the replacement of the garage pass through doors and replacement of the bulkhead at 50 Main Street by the Montachusett Regional Technical School.

In 2012 there were no Workmen's Compensation claims or lost time reported. If we continue to have a clean record for two years with no claims we will be eligible for a reduction in our July 2013 policy.

The DPW has assisted us throughout the year with vehicle maintenance by providing oil changes and small repairs. The Water Department contributes in the reduction of our power demand by shedding loads during peak periods, reducing our transmission costs. We also shared in the cost of performing roadside mowing with the DPW to continue preventive tree trimming and increase the reliability of our system.

Starting in 2011 and throughout 2012 a cost service study was performed . This study reviewed our rates, revenues and expenses. In October of 2012 the Board of Commissioners accepted the recommendations from the study and beginning in April 2013, as a result of this study, the number of rates we offer will be reduces from 32 to 8. We will also be making rate changes to assure that we are providing fairness to each rate classification. With the exception of the Heat Storage and Controlled Service rates, the Residential rates will not be affected. Our Commercial and Industrial customers will see an increase of about 6-7% with the new rates. A good portion of this increase will be off-set by the two year reduction in the PPAC (.0340/kwhr to .0140/kwhr), averaging a 15% decrease in the rates. A letter explaining these changes will be enclosed with the bills during the month of February 2013 billing.

In May 2012 Matthew V. Stelmach was re-elected to a three-year term on the Light Board Commission.

In order for the SMLD to provide the best possible service to the residents and businesses it is essential that we work closely with other town departments. I would like to take this time to extend a sincere thank you to all the town departments and their employees for the assistance that they provided to the SMLD throughout the year.

I want to offer a special thank you and acknowledgement to the SMLD employees who have been nothing short of exemplary in their positions throughout the many changes that occurred at the SMLD during 2012.

Respectfully Submitted,

Sean Hamilton  
General Manager

Sterling Municipal Light Board Members:  
Michael Rivers, Chairman  
Matthew Stelmach, Vice-Chairman  
George Pape, Clerk

February 27, 2013

