Sterling Municipal Light Department (SMLD)

Community Clean Energy Resiliency Initiative

PROJECT FACT SHEET

PROJECT DESCRIPTION

A new clean energy storage project will provide vital resiliency and economic benefits to the town of Sterling, MA. This 2-megawatt/3.9 megawatt-hour battery storage system will be able to isolate from the main grid in the event of a power outage and provide emergency backup power to the Sterling police station and dispatch center, a critical facility providing first responder services. In addition to the resilient power benefits, the town will also save on energy costs over the project's lifespan due to the grid services the batteries will provide. This project is the first utility-scale energy storage facility in Massachusetts, and will be the largest battery installation of its kind in New England. Construction will start in the fall of 2016, and the project is expected to be fully operational by the end of 2016.

Project Highlights

- 2 megawatts of **batteries for energy storage** will be installed at the substation
- The 3.9 megawatt-hour energy storage system **will support critical emergency response functions** by providing **up to 12 days of backup power** to the Sterling police station and dispatch center during grid outages
- The battery storage system **will support the utility's distribution system** on a daily basis, which will provide economic returns to the utility and ratepayers

Projected Financial Benefit

- Projected revenues from utilizing the batteries for grid services are expected to result in a payback of installed costs in less than seven years.

Project Implementation

- Reynolds Engineering has been contracted to manage project engineering
- NEC Energy Solutions has been contracted to supply, install, and commission the batteries. The energy storage system is being assembled at NEC Energy Solutions headquarters in Westborough, MA.
- Site construction will start in the early fall of 2016 and the batteries are expected to be installed and operating by the end of 2016

Project Support

The total cost of the project is approximately $2.7 million. The project was funded in part by a $1.46M grant from the Massachusetts Department of Energy Resources (DOER), under the leadership of Commissioner Judith Judson, with additional financial and technical assistance from the U.S. Department of Energy, Office of Electricity (DOE-OE) under the direction of Dr. Imre Gyuk, and Sandia National Laboratories (Sandia) under the leadership of Dan Borneo. Additional technical support was provided by the Clean Energy States Alliance through its Energy Storage Technology Advancement Partnership (ESTAP), and by Clean Energy Group's Resilient Power Project through a generous grant from Barr Foundation.

- $1,463,194 in grant funds was awarded to the town of Sterling by DOER as part of the Community Clean Energy Resiliency Initiative
- $250,000 in grant funds was provided by U.S. DOE-OE
- Technical assistance, including economic analysis, was conducted by Sandia, U.S. DOE-OE, Clean Energy States Alliance and Clean Energy Group

Project Partners

- Sterling Municipal Light Department (SMLD) (www.energysterling.com)
- Town of Sterling Board of Selectman (www.sterling-ma.gov/board-of-selectmen)
- Massachusetts Department of Energy Resources (www.mass.gov/eea/grants-and-tech-assistance/guidance-technical-assistance/agencies-and-divisions/doer/)
- U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability (http://energy.gov/oe/office-electricity-delivery-and-energy-reliability)
- Sandia National Laboratories (www.sandia.gov)
- Clean Energy States Alliance (www.cesa.org)
- Clean Energy Group (www.cleanegroup.org)
- Barr Foundation (www.barrfoundation.org)
- NEC Energy Solutions (https://neces.com/)
- Reynolds Engineering (www.treynoldsengineering.com)

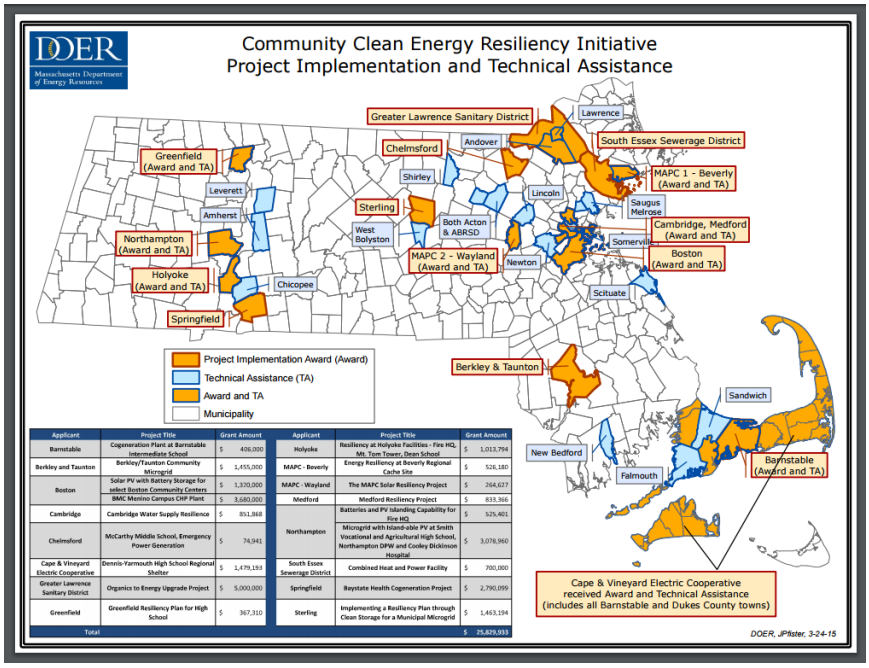
Learn More About this Project

For general project information, contact SMLD General Manager Sean Hamilton at shamilton@energysterling.com or visit www.energysterling.com.

To learn more about DOER's Community Clean Energy Resiliency Initiative, visit http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/resiliency/resiliency-initiative.html

To learn more about how resilient power systems can benefit your community, contact Energy Storage Technology Advancement Partnership (ESTAP) Project Director Todd Olinsky-Paul at todd@cleanegroup.org, or visit http://bit.ly/ESTAP.

Join us for a free webinar on this project on October 25, 2016. Details at: http://cesa.org/webinars/sterling/.



Applicant	Project Title	Grant Amount
Barnstable	Cogeneration Plant at Barnstable Intermediate School	$ 406,000
Berkley and Taunton	Berkley/Taunton Community Microgrid	$ 1,455,000
Boston	Solar PV with Battery Storage for select Boston Community Centers	$ 1,330,000
	BMC Menino Campus CHP Plant	$ 3,680,000
Cambridge	Cambridge Water Supply Resilience	$ 851,868
Chelmsford	McCarthy Middle School, Emergency Power Generation	$ 74,941
Cape & Vineyard Electric Cooperative	Dennis-Yarmouth High School Regional Shelter	$ 1,479,193
Greater Lawrence Sanitary District	Organics to Energy Upgrade Project	$ 5,000,000
Greenfield	Greenfield Resiliency Plan for High School	$ 367,310

Applicant	Project Title	Grant Amount
Holyoke	Resiliency at Holyoke Facilities - Fire HQ, Mt. Tom Tower, Dean School	$ 1,013,794
MAPC - Beverly	Energy Resiliency at Beverly Regional Cache Site	$ 526,180
MAPC - Wayland	The MAPC Solar Resiliency Project	$ 264,627
Medford	Medford Resiliency Project	$ 833,366
Northampton	Batteries and PV Islanding Capability for Fire HQ	$ 525,401
	Microgrid with Island-able PV at Smith Vocational and Agricultural High School, Northampton DPW and Cooley Dickinson Hospital	$ 3,078,960
South Essex Sewerage District	Combined Heat and Power Facility	$ 700,000
Springfield	Baystate Health Cogeneration Project	$ 2,790,099
Sterling	Implementing a Resiliency Plan through Clean Storage for a Municipal Microgrid	$ 1,463,194
Total		$ 25,829,933

This map shows the many Massachusetts communities that have received Community Clean Energy Resiliency Initiative grants from Massachusetts Department of Energy Resources.

Clean Energy States Alliance

Clean Energy Group
Innovation in Finance, Technology & Policy