



## **Consolidated Edison Company of New York Inc Secure Interoperable Open Smart Grid Demonstration Project**

### **Project Description**

The Consolidated Edison Company of New York and its partners is demonstrating a secure, interoperable, open Smart Grid that reduces electric demand and increases energy reliability and efficiency. The demonstration project, in New York City and its New York and New Jersey suburbs, has one of the highest load densities in the world representing a complex and diverse test bed, including critical organizations such as Wall Street, the Federal Reserve, major medical facilities, and hubs for national and global communications. Distributed storage, advanced metering infrastructures, home area networks, photovoltaics, and electric vehicle charging equipment will be demonstrated. Customers will have the ability to make decisions regarding the duration and type of energy used—including solar power—and be able to sell it back to the grid when generating surplus power. New technologies demonstrated include a rules-based dashboard for control center operators, a risk management engine to facilitate efficient operation, a transmission decision management engine that aggregates electricity supply data, an adaptive stochastic controller, and an intelligent maintenance system.

### **Goals/Objectives**

- Improve power quality and lower transmission and distribution losses
- Fewer and shorter power outages
- Lower operation and maintenance costs
- Protect secure sites and resources through Smart Grid cyber security
- Create a national blueprint for Smart Grid applications in urban underground networks

### **Key Milestones**

- Decision-aid applications and data integrated from distributed sensors in the field in Long Island City (2011)
- Decision-aid applications and data integration from distributed sensors in the field in Lower Manhattan (2012)
- Smart Grid transmission capabilities integrated with distribution networks in Long Island City and Lower Manhattan (2012)
- SIOSG ready to deploy across the U.S. (First quarter 2013)

### **Benefits**

- Job growth
- Customers save money
- Dependency on foreign oil reduced
- Catastrophic security breaches prevented
- CO<sub>2</sub> emissions reduced
- Energy generation diversity increased



### **CONTACTS**

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### **PARTNERS**

*Orange and Rockland Utilities Inc  
The Boeing Company  
Columbia University  
The Prosser Group  
CALM Energy Inc  
New York City Economic Development Corporation  
Rudin Management Company Inc Verizon Communications  
Viridity Energy Inc*

### **PROJECT DURATION**

1/4/10–9/30/2013

### **BUDGET**

**Total Project Value**  
\$92,388,217

**DOE/Non-DOE Share**  
\$45,388,291/\$46,999,926

### **EQUIPMENT**

Suntech-210 Solar Modules  
100 kW Satcon PVS100  
Lead-Acid Battery Bank  
Battery Charging Stations

### **DEMONSTRATION STATES**

New York  
CID: OE0000197

*Managed by the National Energy Technology Laboratory for the Office of Electricity Delivery and Energy Reliability*

