

## **New York Power Authority: Applications for Smart-Grid Funding**

The New York Power Authority (NYPA), which owns and operates more than one-third of New York State's high-voltage transmission, has applied for federal stimulus funding or supported applications in connection with a number of smart-grid proposals to the U.S. Department of Energy (DOE), to enhance transmission reliability and performance.

These projects will also support the ambitious goals under Governor Paterson's "45 by 15" plan for 45 percent of the state's electricity needs to be met through improved energy efficiency and clean, renewable energy by the year 2015.

Three proposals, submitted on Aug. 6, are for grants of nearly \$111 million with an additional application for a grant of approximately \$700,000 to be submitted on Aug 26.

The two DOE programs provide matching grants for up to 50 percent of the cost of the smart grid technologies being deployed. Details on the four application submittals involving the Power Authority are as follows:

**Smart Grid Investment Grant Program:** The DOE's \$3.4 billion Smart Grid Investment Grant Program seeks projects involving existing smart-grid technologies by utilities and other organizations.

- (1) Project: High-Voltage, Direct Current (HVDC) Converter Station:** The initiative, by Hudson Transmission Partners (HTP), would incorporate multiple smart-grid features to provide sophisticated monitoring and control capabilities to grid operators and interconnecting utilities. The converter station would be part of a nearly eight-mile 345-kilovolt (kv) transmission line from Bergen County, N.J., to midtown Manhattan that is in the process of receiving final regulatory approvals.

The line would be capable of delivering economical electricity from the PJM Interconnection, which includes all or parts of 13 states and the District of Columbia. It would be part of a long-term strategy for helping the Power Authority to meet the energy needs of its New York City governmental customers and the thousands of public facilities and services they operate and provide.

**Project Cost:** \$215 million

**Project Funding Request:** \$107.7 million

**Application Submitted by:** Hudson Transmission Partners, supported by NYPA

- (2) Project: Upgrade of Convertible Static Compensator (CSC)** The initiative will improve the performance and reliability of the transmission control device at NYPA's Clark Energy Center in Marcy – the hub of its 1,400 circuit miles of transmission. The device uses high-speed, solid state electronics rather than conventional electromechanical components to control transmission voltage and power flow. The improvements to the CSC, which is already one of the most

advanced transmission control devices, will further enhance the equipment's smart-grid functions, leading to additional power transfer capability across key power-flow interfaces.

**Project Cost:** \$6 million

**Project Funding Request:** \$3 million

**Application Submitted by:** New York Power Authority

- (3) **Project: Phasor Measurement Unit (PMU)/Phasor Data Collector.** These units will enhance the capability for undertaking "phasor measurements" of voltage and currents for providing instantaneous information on the power grid. The units are considered one of the most important measuring devices for obtaining real-time information for assessing the state of the electrical system and managing power quality.

The New York Independent Systems Operator (NYISO) - which is responsible for the state's bulk electricity grid - would allocate the funding from the DOE to New York transmission owners, including NYPA, for additional PMUs at critical transmission buses where power is routed into substations. The Power Authority would receive \$200,000 for a \$400,000 initiative involving the installation of PMUs at its Plattsburgh and Willis (Chateaugay) substations, the Clark Energy Center and at its Niagara Power Project.

**Project Cost:** \$12 million

**Project Funding Request:** \$6 million

**Application Submitted by:** NYISO, supported by NYPA

**Smart Grid Demonstration Program:** This \$615 million initiative, which is also administered by the DOE, is aimed at identifying and developing the newest smart-grid technologies.

- (1) **Project: Dynamic Thermal Circuit Ratings (DTCR):** The Power Authority is undertaking this initiative to improve the transmission capabilities between wind farms and the state's transmission system. Specifically, the project will test and verify the benefits of a technology for providing heightened situational awareness of the thermal conditions of three 230-kv transmission lines in Northern New York (Moses-Willis, Willis-Ryan and Moses-Adirondack). This will be made possible through the use of DTCR technology, consisting of advanced field instrumentation and software.

The real-time information from the DTCR technology should help to integrate additional amounts of available wind power on the affected transmission lines, enhancing NYPA's ability to maximize their use. In doing so, the demonstration project will provide greater transmission capacity at given times of the day or

night, resulting in lower energy costs to customers and enhanced flexibility of the transmission system.

**Project Cost:** \$1.4 million

**Project Funding Request:** \$700,000

**Application Submitted by:** New York Power Authority, to be submitted on Aug. 26.

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