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DOE and NYSERDA Join in \$7.1 Million Program to Demonstrate Advanced Electric Energy Storage Devices

WASHINGTON, DC -- Two major energy storage projects to demonstrate advanced electric energy storage devices in New York State have been selected as part of a joint initiative between the Department of Energy's (DOE) Energy Storage Research Program and the New York State Energy Research and Development Authority (NYSERDA). In addition, five smaller analysis and development projects for novel storage technologies have also been selected. The entire three-year program will cost \$7.1 million.

The DOE Energy Storage program will contribute \$900 K in funding and provide technical oversight for the design, operation, and monitoring of the demonstration sites through Sandia National Laboratories. NYSERDA will provide \$2.6 million in funding and administrative support. The awardees will provide the remaining \$3.6 million.

The NYSERDA / DOE energy storage initiative joins a similar collaboration between DOE and the California Energy Commission (CEC) in which 3 projects were selected earlier this year. The California program will cost \$9.6 million over a three year period.

"These two joint initiatives are an excellent example of the important role the States play in bringing technology from research to the market place," Secretary of Energy Spencer Abraham said. "Energy Storage is well suited to provide backup power and congestion relief in urban centers and to help make renewable energy dispatchable."

"NYSERDA's mission is to use innovation and technology to make a difference," said Peter R. Smith, NYSERDA President. "We are pleased to be able to partner with the Department of Energy through their Energy Storage Research Program, and look forward to demonstrating new energy storage technologies here in New York. Both of the technologies selected have tremendous potential to help improve New York's energy future."

Contracts for the following advanced energy storage demonstration projects are currently being negotiated and NYSERDA will announce the awards at a later date

- **New York Power Authority (NYPA), White Plains, NY.** A project to shift a compressor peak load to off-peak capacity and provide emergency backup power by utilizing a sodium-sulfur (NAS) battery system at a major Long Island Bus depot facility. Peak load reduction is becoming an urgent need in urban areas

suffering from congested transmission lines. The primary application will be to supply up to 1MW of power to a natural gas compressor for 6 – 8 hours/day, 7 days/week, particularly during the summer peak. The natural gas compressor fuels new natural gas busses that are replacing diesel fueled busses. The turnkey system will be provided by ABB, Inc. to include the power conversion system and overall system integration plus the NAS battery by NGK Insulators, Ltd.

- **Beacon Power Corporation, Wilmington, MA.** A project to provide grid frequency regulation by utilizing a high-energy flywheel energy storage system. Frequency regulation is necessary to balance the constantly varying differences between electricity generation and load. It is a key element for maintaining grid stability and expected to become increasingly important as renewable energy and distributed generation play a greater role. Using flywheels to provide frequency regulation will result in faster response and allow generators, presently used for this service, to operate at higher output with optimum efficiency and lower emissions. The demonstration will consist of a 50 – 100kW system of seven Beacon flywheels adapted to operate on Niagara Mohawk's distribution grid and physically located at an existing industrial site in Amsterdam, NY. Additional benefits of this unique emissions free, modular technology include local voltage stabilization and reactive power, reduction of operational costs, and improved power quality.