NYSERDA Energy Storage Projects

Beacon Flywheel Plant at Stephentown, NY

Objective
Demonstrate 20 MW flywheel energy storage plant to provide ancillary services in NYISO market
- “Merchant” area regulation service provider
- Reduced air emissions
- Reduced need for regulation capacity.

Current Status
- Beacon Power LLC operating plant at full capacity
- System operates as the 1st response regulation provider to NYISO
- Exploring various bidding strategies

NaS Battery at MTA Long Island Bus Depot

Objective
- Demonstrate energy storage to reduce electric bills and lower operating costs (3-shift labor)
- Demonstrate long term operation of peak shift energy storage
- Reduce peak demand on loaded grid
- Increase backup power capability for regional emergency response plan

Current Status
- System removed, bus depot sold to private operator

Flow Battery at Niagara Falls State Park

Objective
Demonstrate technical and economic performance of Zinc Bromine flow battery at Niagara Falls State Park
- Reduce energy-related cost for 150kWh/day reduction of energy purchased
- Reduce peak demand charges with 100 kW peak demand reduction
- Reduce congestion at critical “load pockets”
- Mobile storage deployed for emergency backup

Current Status
- Operated during period installed
- Flow battery technical issues required removal
- Final performance report in progress

PV & Li-Ion at LaGuardia Community College

Objective
- Operate dispatchable PV system configured to shave peak load
- Demonstrate efficacy of renewable energy supplied storage systems for firming electrical capacity
- Demonstrate dispatchable PV to reduce demand charges
- Demonstrate dispatchable, peak-shaving PV for enhancing grid resiliency
- Evaluate dispatchable PV as an alternative to reverse power relay requirements

Current Status
- Final design phase
- Construction complete end of 2013