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

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

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

PV & Li-Ion at LaGuardia Community College

Objective
Operate dispatchable PV system configured to shave peak load
- Demonstrate efficacious 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

Analysis Goals
- Verify ESS Performance
- Obtain, analyze & disseminate data on ESS economics and realized benefits
- Increase collective knowledge of ESS: operations, uses, benefits & potential issues
- Accelerate growth and maturation of the electricity storage industry