



# Beacon Power/Stephentown Spindle Proposal to Establish Shortage Pricing for Regulation Movement

September 11, 2014

# Stephentown Flywheel Facility

- ▶ 20MW flywheel energy storage facility located in Stephentown, NY
- ▶ 200 flywheels
- ▶ Full commercial operations in 2011
- ▶ Only participates in NYISO Regulation market
- ▶ Through August 2014 has provided 575,000MW-hours of frequency regulation service
- ▶ Flywheel system availability >99.5%
- ▶ Facility runs continuously and dispatched in nearly all hours
- ▶ Stephentown Spindle is owned by Rockland Capital and the facility is operated and managed by Beacon Power



# Comprehensive Shortage Pricing

- ▶ NYISO proposal being discussed at MIWG
- ▶ Proposed Shortage Pricing demand curves include
  - ▶ 10 min Synch Reserve
  - ▶ 10 minute Reserve
  - ▶ 30 minute Reserve
  - ▶ Regulation Capacity
- ▶ Currently no proposed Shortage Pricing Demand curve for **Regulation Movement**

# Why Shortage Pricing for Regulation Movement?

- ▶ Movement payments should be treated equitably with capacity payments during shortages
- ▶ Regulation Movement reflects the deployment of resources to stabilize frequency in real-time. Capacity has value but if there is no movement, there is no frequency regulation.
- ▶ It is essential to provide adequate incentives for Regulation resources to provide accurate movement during shortage events
- ▶ Regulation Movement is deployed in all hours of the year
- ▶ Regulation Movement payments accounted for ~26% of total Regulation payments in 2Q2014
  - ▶ Based on the Quarterly Report on the New York ISO Electricity Markets, Second Quarter 2014 (Potomac Economics, p.28), average RT Regulation Price = \$11.83/MW/hr
    - ▶ Capacity = \$8.69/MW/hr
    - ▶ Movement = \$3.08/MW/hr (based on RT Scheduled Regulation Capacity)
    - ▶ BPCG = \$0.06/MW/hr (based on RT Scheduled Regulation Capacity)
- ▶ Shortage pricing would also help to address the potential increase in cost to provide movement due to higher energy prices during shortage events



# Beacon/Stephentown Proposal

- ▶ Include a Regulation Service Demand Curve for Regulation Movement as well as Regulation Capacity
- ▶ Demand Curve price levels could be tied to Regulation Movement Multiplier
  - ▶ For example:

Reserve Region	Regulation Capacity	Regulation Movement
NYCA	<=25 MW @\$25	<=25 MW @\$25/RMM
	>25 and <=80 MW @\$400	>25 and <=80 MW @\$400/RMM
	>80 MW @\$775	>80 MW @\$775/RMM

