Collection of Meteorological Data from Wind Resources

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Background

- With the growth of wind power in NY, much of which is concentrated in three distinct regions, the risk of experiencing large ramps up or down over short timeframes increases.

- Other ISOs/RTOs around the world are grappling with the issue of predicting significant wind ramp events.

- Traditional forecasting models are tuned to provide the best prediction of average wind conditions over time. They are not tuned to predict high wind cutouts or other fast moving significant weather events that could cause large swings in wind output. Nor do they have timely data for such predictions.

- NYISO is proposing more timely and more comprehensive meteorological data to give grid operators information they need to protect system security when the threat of a significant wind power ramp is detected.

Wind Ramp Alert Tools

- ◆ NYISO will develop internal tools to use this data to alert operators of an increased threat of significant wind ramp events such as:
  - ▪ *Sudden drop-off of wind speeds*
  - ▪ *Sudden increase in wind speeds*
  - ▪ *Wind speeds approaching wind turbine cutout levels*

- ◆ To support NYISO in this effort, NYISO will require more timely and more robust real-time meteorological data from each wind resource than is currently required for the centralized wind forecasting program.

Data requirements

- **Existing data requirement:**
  - *Wind speed and wind direction from at least one point at the plant.*
  - *Optional: temperature, pressure, humidity, dew point*
  - *Transmitted to NYISO's Forecast vendor at least once every 5, 10, or 15 minutes.*

- **New requirement:**
  - *Wind speed and wind direction such that all turbines are within 5km of a meteorological measurement delivered to NYISO.*
  - *Optional: temperature, pressure, humidity, dew point*
  - *Transmitted to NYISO every 30 seconds.*

Expected benefits

- ◆ Provides NYISO operators warnings about threats to system security.

- ◆ Streamlines the data setup process for new wind plant operators. They will only be required to communicate directly with NYISO. NYISO will take care of transmitting the necessary data to AWS.

- ◆ Provides a richer dataset for improved forecasting.

- ◆ Supports the continued growth of wind power penetration in NYS.

Next steps

- Present proposal at November 13, 2008 CDAS
- Tariff language reviewed at December 4, 2008 MIWG
- Present tariff language at January 2009 BIC
- Present tariff language at February 2009 MC
- Present to BOD February/March 2009
- Tariff filing in March 2009
- Implement software changes May 2009

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The New York Independent System Operator (NYISO) is a not-for-profit corporation that began operations in 1999. The NYISO operates New York's bulk electricity grid, administers the state's wholesale electricity markets, and provides comprehensive reliability planning for the state's bulk electricity system.

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