

Wind Power Rules

for discussion only

Market Structures Working Group
January 27, 2006

Issues

- Applicability & Effective Date
- Capacity
- Day-Ahead
- Real-Time
- Summary of changes to Tariff

Applicability & Effective Date

- Intermittent Power Resources are wind and solar resources.
- The NYISO proposes that new rules for intermittent resources replace the existing rules in Articles 4 and 5 and Rate Schedule 3-A of the services tariff.
- The NYISO is not proposing that existing facilities be grandfathered under existing intermittent rules. The new rules would apply to all intermittent resources.
- The goal is to prepare a set of rules, consistent with our market, and plan their implementation.

Capacity

- Intermittent Power Resources will be able to offer unforced capacity in the capacity market.
- Unforced capacity will be based on actual energy production rates during peak hours (current proposal).
 - Similar treatment is under consideration for Special Case Resources and hydro resources.
- Intermittent Power Resources with a capacity obligation will not be required to participate in the Day-Ahead Market.

Day-Ahead

- Intermittent Power Resources (including those with a capacity obligation) may, but need not, offer energy in the Day-Ahead (“DA”) market.
- Intermittent Power Resources will not be qualified to supply reserve or regulation
- A forecast of the Energy expected to be generated by Intermittent Power Resources will be provided by a professional forecaster for use in the DA market software (SCUC).
 - Intermittent Power Resources must report outages & derates expected on the following day
- Intermittent Power Resources bidding into the Day-Ahead Market will face same market rules as any other generator:
 - Will be paid for DA scheduled Energy
 - Will follow normal RT balancing rules. Deviations from the DA schedule will be settled at RT prices.

Real-Time

- Intermittent Power Resources will not be qualified to supply reserve or regulation
- Intermittent Power Resources may be regarded as self-committed but flexibly operated, or ISO-committed and flexibly operated (tbd)
- Intermittent Power Resources may submit price-sensitive RT offers (tbd)
 - Capability of the wind generator will be forecast. Initially the actual measured output will be used as a forecast (persistence) of the wind generator's capability for the near future.
- Intermittent Power Resources will receive protection comparable to that given to Block-Loaded Gas Turbines:
 - Will be paid for all energy produced up to the upper operating limit
 - Will not face under generation penalties when operating above a threshold amount. The threshold value is a positive indication that the resource is on-line or has started successfully.
 - 70% for GTs (positive indication of a successful start)
 - ~5% (?) for Intermittent Power Resources

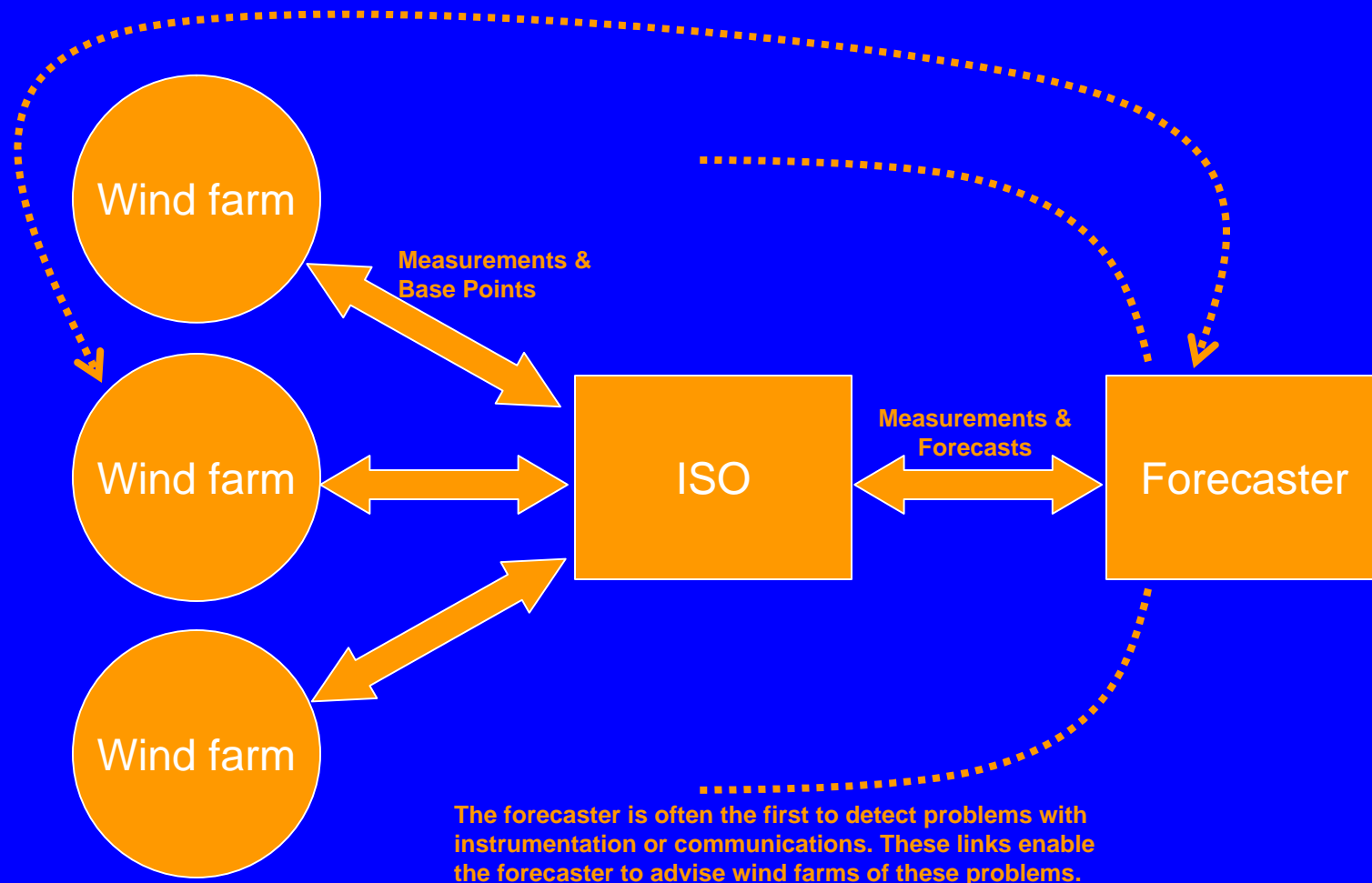
Wind Power Forecast

- The ISO will obtain a forecast of the expected energy production rate of each wind farm.
 - Day-Ahead initially
 - Real-Time forecast in 2007 or later.
 - A persistence forecast will be used in RT until a more sophisticated RT forecast is operational
- The ISO will use an external expert to produce the forecasts.
- Costs (some or all) of the professional forecaster will be borne by the Intermittent Resources
 - Percentage to be charged still under review

Instrumentation, Maintenance, and Reporting

- Wind farms will be required to install and maintain meteorological instrumentation to enable forecasting and tracking.
 - Communication pathway will be comparable to those used by other generators
 - May become an interconnection requirement
- Wind farms will be required to report the capacity of wind turbines that are out of service or otherwise derated in the same manner as other generators.
 - This will be required Day-Ahead even if unit does not bid Day-Ahead.

Probable Architecture



NEXT STEPS

- Complete wind rules concept development
- Get BIC approval to move forward
- Develop schedule and tariff submittal