

Large Scale Solar Integration

David Edelson

Manager – Operations Performance and Analysis

MIWG

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Background

- At the 9/25/2017 MIWG, NYISO introduced a proposal to expand its market rules associated with in-front-of-the-meter (FTM) Solar resources. Expanded market rules include:
 1. Solar forecasting fee recovery
 2. Meteorological data requirements
 3. Solar on economic dispatch
- NYISO already has many of these Energy Market rules defined for Wind resources, and believes those rules are also appropriate for FTM Solar resources. Applying these rules to FTM Solar Resources will improve NYISO's ability to reliably integrate higher levels of solar onto the grid.
- Today we are proposing to move forward with tariff revisions for the first two items above. The third item, Solar on economic dispatch, is dependent upon the schedule of the EMS/BMS upgrade project and thus, will be brought to Stakeholders at a future date.

Solar Forecasting Fee Recovery

- **The NYISO procures a centralized Solar forecast for:**
 - Each of the eleven NYISO Load Zones for BTM Solar; and
 - Each individual FTM Solar Resource
- **The NYISO intends to recover the ongoing cost of procuring the FTM Solar forecast from each FTM Solar resource.**
 - This will be modeled exactly the same as our Wind Forecasting fee. Current wind forecast fee is:
 - \$500 fixed per month for each Resource, plus
 - \$7.50 per MW (nameplate) per month for each Resource.
 - As part of this effort, NYISO proposes to modify the forecasting fee rate to \$6.20 per MW (nameplate) per month for both Wind and Solar resources so that the fees remain in line with the costs NYISO incurs to develop the forecasts.
 - For example, a 50MW Solar/Wind Resource will pay \$810 per month in forecast fees ($\$500 + [\$6.20 * 50\text{MW}]$).
- **Proposed revision to MST Rate Schedule 7 posted with meeting materials.**

Meteorological Data Requirements

- **Each FTM Solar Resource will provide:**
 - Plane of array irradiance and back panel temperature
 - A sufficient quantity of measuring stations must be employed to ensure that all panels are within 5km of a measuring station
 - Data must be transmitted once every 30-seconds
- **Proposed revision to MST Section 5.8 ‘Communication and Metering Requirements for Control Area Services’ posted with meeting materials.**

Other related changes

- **One additional tariff change proposed as part of this effort, but is not directly related to FTM Solar.**
 - Eliminate the cap on Wind MW eligible for Compensable Overgeneration.
 - Wind MW currently eligible for Compensable Overgeneration are capped at 3,300 MW.
 - Cap was put in until NYISO could study the reliability impacts of higher levels of wind.
 - NYISO's 2010 Wind Study (updated again in 2016) concluded that NYISO can reliably integrate higher levels of Wind with our current capabilities.
 - Proposed revisions to MST Section 2.3 'Compensable Overgeneration' definition posted with meeting materials.

Timeline

- **November/December BIC/MC**
 - Vote on forecast fee recovery and meteorological data tariff revisions.
- **Targeting mid-2018**
 - Implement forecast fee recovery and collection of meteorological data.
- **After 2018 (dependent on EMS/BMS initiative and other priorities)**
 - Pursue tariff revisions and implementation of Solar on economic dispatch.

Questions and feedback?

The Mission of the New York Independent System Operator is to:

- Serve the public interest and
- Provide benefit to stakeholders by
 - Maintaining and enhancing regional reliability
 - Operating open, fair and competitive wholesale electricity markets
 - Planning the power system for the future
 - Providing factual information to policy makers, stakeholders and investors in the power system



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