

Report on  
**CURRENT MARKET INITIATIVES RELEVANT TO RELIABILITY**  
**July 8, 2016**

**1) Behind the Meter: Net Generation Model**

The NYISO's market rules do not include provisions that clearly explain how generation whose primary purpose is to serve onsite load can sell their excess generation into the wholesale electricity markets. This effort would look to clearly define those rules to allow this incremental generation capability to participate in the NY wholesale electricity markets.

**Implications to Reliability:** Increased transparency and ability to schedule generation which is currently behind the meter.

**Update:** NYISO received stakeholder approval of the market design in December and has sought FERC approval of the relevant tariff changes. NYISO will also engage with stakeholders on further enhancements as part of the Distributed Energy Resources Roadmap development.

**2) Distributed Energy Resources Roadmap**

The NYISO has commenced discussions on the future of the current Demand Response programs in the context of the NY State REV initiative and post Supreme Court's ruling on FERC 745. NYISO is soliciting stakeholder feedback at this point. A draft white paper on the DER Roadmap is expected in the July time frame.

**Implications to Reliability:** Enhanced system reliability and resiliency through distributed resource availability and active management of load consumption based upon market conditions.

**3) Reforming the Energy Vision (REV)**

The NYS Public Service Commission (PSC) initiated the "Proceeding on Reforming the Energy Vision (REV)" with the goal of aligning electric utility practices and the regulatory paradigm with technological advances in information management, power generation, and distribution. These changes include:

- A new business model in which Distributed Energy Resources (DERs) become a primary tool in the planning and operation of electricity systems. Utilities would be encouraged to invest in DERs that help to avoid or defer the need for more historically traditional distribution system investments.
- The establishment of a Distributed System Platform Provider (DSP) that actively manages and coordinates DERs while providing a market in which customers are able to utilize DERs in response to dynamic system conditions. Such customers would provide, and be compensated for, any system benefits associated with their responses.

**Implications to Reliability:** Enhanced system reliability and resiliency through distributed resource availability and active management of load consumption based upon market conditions.

**Update:** The NYISO is looking to partner in various REV demonstration projects to evaluate the potential for operational and market impacts from DER participation.

#### 4) Comprehensive Shortage/Scarcity Pricing/Fuel Assurance

The Comprehensive Shortage Pricing tariff changes were implemented in November 2015. The Comprehensive Scarcity Pricing tariff changes were implemented in June 2016.

Improvements to fuel and performance incentives are aimed at creating additional incentives for ICAP suppliers to be available on critical operating days. The NYISO will evaluate the need for additional mechanisms to enhance incentives for suppliers to be available to reliably meet the real-time needs of the NYCA, especially on days when there is a high risk of a reduction in real-time resource availability due to factors including high demand and fuel supply uncertainty.

**Implications to Reliability:** Improved real time market incentives will promote increased unit availability.

**Update:** The NYISO is reviewing various options for recognizing fuel-constraints through additional bidding features to evaluate interest in further developing the concept. Incorporating the fuel limitations directly in the scheduling software will allow for more efficient use of the resources to meet reliability needs.

#### 5) Reliability Must Run (RMR) Service Agreements

The FERC directed the NYISO to develop and file a set of rules to designate resources for RMR service to ensure the continued reliable and efficient operation of the power system and the NYISO Markets. The structure and administration of the program will require specifying the retirement notification obligations, process for evaluation of alternative solutions, definition of compensation and cost allocation provisions, and expectations for participation in the capacity and energy markets.

The NYISO is additionally exploring enhancements to its long-term planning process to support identification of, and development of solutions for, potential generator retirements.

**Implications to Reliability:** Enhanced system reliability and resiliency through resource availability and improved planning processes, and improved market certainty and transparency.

**Update:** FERC has ruled given NYISO further compliance obligations in its ruling on the RMR proposal. The NYISO is developing these further compliance requirements with inputs from stakeholders.

## 6) Locational Capacity Requirements (LCR): Review of Alternate Methodologies

The NYISO has initiated stakeholder discussion on evaluating alternate methodologies for setting LCRs. There are multiple possible approaches to determine the LCR requirement for a Capacity Zone after the IRM has been set under NYSRC's Policy 5. NYISO recognizes that some methodologies may require modifications to Policy 5, which must be approved by the NYSRC.

**Implications to Reliability:** Enhanced system reliability and resiliency through resource availability and improved planning processes, and improved market efficiency and transparency.

**Update:** NYISO continued discussions with stakeholders on alternative methods for determining Locational Minimum Installed Capacity Requirements (LCRs). This effort will look for ways to optimize LCRs based on minimizing capacity costs statewide while maintaining minimum Loss of Load Expectation criteria, and address any cost allocation rules to ensure that loads are paying their fair share of capacity costs. NYISO has engaged GE to assist in developing a mechanism that will evaluate the opportunities to refine LCR based upon the costs of maintaining the capacity. The NYISO expects preliminary results from GE in June and will discuss these with stakeholders and NYSRC's ICS committee.

## 7) Demand Curve Reset

The NYISO is reviewing vendor proposals to complete the upcoming Demand Curve Reset cycle. The selected consultant will conduct a study of the parameters used as the basis to set the NYISO's Installed Capacity Demand Curves beginning with the Summer 2017 Capability Period; will assess whether these parameters should apply to Demand Curves for a three, four, five or six year period, and; will propose and evaluate alternative methodologies to enhance the projection of Energy and Ancillary Services revenues used to determine the Unit Net CONE of the Demand Curve proxy plant, including approaches to reflect impacts from expected market rule changes.

**Implications to Reliability:** Enhanced system reliability and resiliency through improved market transparency and financial stability.

**Update:** The Analysis Group has issued their draft report with preliminary recommendations on the demand curve parameters. Comments on the report are requested by July 8<sup>th</sup>.

## 8) Clean Energy Standard (“CES”)

On January 25<sup>th</sup>, DPS Staff issued a whitepaper outlining its recommendations to the Public Service Commission for implementing the state’s Clean Energy Standard (CES). The CES is intended to increase the amount of renewable energy generation in New York State to 50% of total generation by 2030 while retaining upstate nuclear power plants in support of the state’s carbon dioxide emissions reduction goals.

To achieve the objectives, DPS Staff recommends the formation of three tiers of resources eligible for support under the CES. Tier 1 is targeted at New Renewable Resources. Tier 2 targets Existing Renewable Resources and is subdivided into merchant resources that are not under contract with the state or whose contracts with the state expire (Tier 2A), as well as resources that are not eligible for RPS obligations in states with control areas adjacent to New York (Tier 2B). Eligible resources in Tiers 1 and 2 may be located in New York State or adjacent control areas provided they are able to deliver power into the NYISO Control Area. Tier 3 is designated for nuclear facilities in service prior to January 1, 2015 that are “facing financial difficulty as determined by a Staff examination of the books and records of the facility.” DPS Staff recommends that compliance with the Clean Energy Standard would be best achieved by requiring that all Load Serving Entities (LSEs), including direct customers of the NYISO, execute Power Purchase Agreements (PPAs) with eligible renewable resources.

**Implications to Reliability:** To achieve the renewable energy targets, the NYISO estimates that the CES could require the development of: (i) at least 25,000 megawatts of solar capacity to meet the targets solely with solar resources; or (ii) at least 15,000 megawatts of wind capacity to meet the targets solely with wind resources; or (iii) approximately 4,000 megawatts of hydro capacity to meet the targets solely with high availability hydro resources or (iv) a combination of the above three renewable energy sources. Integrating 50% renewable energy sources which is comprised largely of intermittent resources will require studies to determine appropriate levels of regulation and reserves and may result in increases to the installed reserve margin (IRM).

**Update:** The NYISO is participating in the DPS stakeholder discussions and filed comments on the whitepaper.

## 9) Energy Storage Resource Integration

Since the announcement of the NYS PSC REV initiative, there has been a growing interest in wholesale market participation of storage resources. Currently the NYISO has several resource classifications that can accommodate participation of storage in the wholesale markets that include: (1) Energy Limited Resource (ELR); (2) Limited Energy Storage Resource (LESR); and, (3) Demand Side Ancillary Services Program (DSASP). New storage resource characteristics may facilitate additional opportunities to participate in the markets.

**Implications to Reliability:** Energy storage resources represent a new class of equipment looking to participate in the markets and reliability services. Understanding the characteristics of the equipment and their capabilities, relative to the expectations of the reliability services, is necessary to ensure compliance with reliability standards.

**Update:** The NYISO is initiating discussions in the market working groups to engage stakeholders in a review of resource characteristics, existing market rules that define the opportunities for storage resources to participate in the markets and an evaluation of revisions that may be necessary to accommodate new storage resources.