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**TO:** Brad Jones

**FROM:** David B. Patton, Pallas LeeVanSchaick, and Jie Chen

**DATE:** September 19, 2018

**RE:** MMU Comments re the 2018 Reliability Needs Assessment

### A. Introduction and Summary

The Reliability Needs Assessment (“RNA”) is the first step in the NYISO’s Comprehensive System Planning Process (“CSPP”). The RNA identifies the reliability needs for the Bulk Power Transmission Facilities over a 10-year study period based on a set of assumed (i.e., Base Case) conditions. After the RNA identifies Reliability Needs over the study period and solicits proposals for market-based and regulated solutions, the Comprehensive Reliability Plan (“CRP”) identifies the set of solutions that could be used to satisfy the Reliability Needs of the system over the study period. Furthermore, the CRP indicates whether any regulated solution must move forward to satisfy the Reliability Needs of the system in any year of the study period.

As the Market Monitoring Unit for the NYISO, we are required to provide comments on the RNA regarding whether market design changes are needed to provide better incentives for the markets to help satisfy the reliability needs of the system.<sup>1</sup> This memo discusses the 2018 RNA and whether it highlights areas of the NYISO’s market design that fail to provide appropriate incentives.

The 2018 RNA finds that the NYISO’s Reliability Criteria are met throughout the 10-year study period. This result is driven by significant capacity surpluses and by the fact that load is forecasted to remain flat over the period. The NYISO markets are generally well-designed and the 2018 RNA does not highlight any fundamental shortcomings in the market design. However, Section B identifies an inconsistency between the value of certain resources that is assumed for reliability transmission planning purposes and how those resources are compensated in the NYISO’s capacity market. Section C discusses our conclusions and recommendations.

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<sup>1</sup> See NYISO MST Section 30.4.6.8.2. “Following the Management Committee vote,” the MMU evaluates “whether market rules changes are necessary to address an identified failure, if any, in one of the ISO’s competitive markets.”

## **B. Comments Regarding the Treatment of Demand Response and Wind Generators in Transmission Security Analysis in the 2018 RNA**

In its transmission security analyses, the NYISO generally assumes that individual capacity resources can be adjusted up to their upper operating limits as necessary to resolve various N-1 and N-1-1 transmission constraints. However, demand response resources that sell capacity (“SCRs”) and land-based wind generators are assumed to provide 0 MW for transmission security needs even though such resources are paid for installed capacity.<sup>2</sup> The NYISO has explained that it uses these assumptions to prudently plan the reliability of the transmission grid.<sup>3,4</sup>

The installed capacity market is designed to provide incentives for efficient investment and retirement by compensating resources in accordance with their value for satisfying the reliability needs of the NYISO. While SCRs and wind resources are included as capacity resources in resource adequacy analyses, those resources are not considered in the transmission security analyses for the Reliability Needs Assessment. This treatment may not be appropriately reflected in their compensation for installed capacity.

While the planning studies look out ten years, the NYISO would not initiate an out-of-market procurement if a reliability violation is identified in the medium to long-term (i.e., generally more than three years in the future). However, inconsistent treatment of certain resource types between the planning process and the capacity market design could become important if reliability violations are identified one to three years in the future. For example, if the NYISO identifies a transmission security violation three years in the future for an import-constrained zone, the monthly capacity market could fail to provide adequate investment signals because of the price impact of sales by SCRs. This could compel the NYISO to contract for supply out-of-market.<sup>5</sup>

Ultimately, the importance of this issue depends on whether inconsistencies between compensation and value are significant enough to cause inefficient investment (or lack thereof) and/or require out-of-market procurement for reliability.

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<sup>2</sup> Although SCRs and wind generators are not assumed to provide relief in transmission security analyses, they are included as supply in the resource adequacy analyses, which are the primary basis for capacity market requirements.

<sup>3</sup> The NYISO does not consider SCRs when identifying transmission security related reliability needs, but SCRs are eligible as market-based solutions as part of the Comprehensive Reliability Plan. The NYISO has stated that it is appropriate that such resources be assumed to not be available for two reasons: (1) there is no long-term commitment for such SCR resources to be available; and (2) such resources are not subject to the NYISO’s generation deactivation process that provides for generation to remain on-line if needed for reliability until a permanent transmission solution can be built.

<sup>4</sup> The NYISO believes that land-based wind resources should be assumed to not be available to meet long term ten year circuit-by-circuit transmission security needs because such resources may not be available coincident with forecasted peak load conditions.

<sup>5</sup> Although SCRs are theoretically eligible to satisfy a reliability need as a Market Based Solution, it is unclear that the SCRs would have an incentive to do so.

Although the treatment of SCRs and land-based wind generators has not likely led to significant inefficiencies to date, it raises two potential concerns as the quantity of intermittent resources increases over the coming decade:

- As land-based and offshore wind generation sell more capacity in import-constrained areas, leading older conventional generation to retire, RMR contracts are more likely to be needed to satisfy inter-zonal transmission security needs.
- The newly-filed LCR-determination method will rely on transmission security criteria as one input to set locational capacity requirements. While SCRs and wind generators will be able to sell capacity to meet these locational requirements, there may be circumstances when the treatment of SCRs and wind generators in the transmission security analyses may lead to increases in certain locational capacity requirements.

Since the quantities of land-based wind and offshore wind are expected to grow rapidly in the coming decade, particularly in downstate areas whose locational capacity requirements may be affected, it will likely become more important to reduce this inconsistency.

### **C. Conclusions and Recommendation**

Overall, we find that the NYISO markets are well-designed and generally provide efficient investment signals. However, we continue to recommend market enhancements in our annual State of the Market Reports to ensure the market performs efficiently as the resource mix and market conditions change over time.

In our review of the 2018 RNA, we identify a difference between the transmission security planning criteria and the capacity market assumptions that is discussed in Section B. To address this concern, we recommend the NYISO: (a) periodically reassess the assumed relief from land-based wind generators and SCRs in the transmission security planning assessments to ensure levels are commensurate with their expected performance and availability, (b) consider using different assumptions for offshore wind generators than for land-based wind units, and (c) consider further discounting the capacity ascribed to wind generators and SCRs. Failing to maintain consistency between planning reliability criteria and capacity market requirements may increase the need for regulated transmission solutions and RMR contracts to satisfy reliability needs. This will be particularly important as the entry of wind generators occurs in import-constrained areas over the coming decade.