

# Management Response to the Analysis Group’s Report *Capacity Resource Performance in NYISO Markets: An Assessment of Wholesale Market Options*

February 2018

## **Background**

The NYISO management team would like to thank Analysis Group (“AG”) for its efforts in producing the recent paper *Capacity Resource Performance in NYISO Markets: An Assessment of Wholesale Market Options*, and also thank stakeholders for their engagement throughout the development of the report.<sup>1</sup> The report outlines a number of energy and capacity market design alternatives for consideration by the NYISO and its stakeholders to improve performance incentives for resources to meet New York Control Area load at least cost. AG analyzed recent market data, reviewed past analyses and current market rules, spoke with NYISO personnel, and obtained stakeholder input during its evaluation. The report notably includes an overview of recent steps that other Independent System Operators/Regional Transmission Organizations have taken in order to tie resource incentives to performance. AG’s assessment identified a number of market design changes for consideration. Each suggestion has its own merits; however, the NYISO management team believes that select market design efforts identified by AG warrant further near term consideration by the NYISO and its stakeholders.

The NYISO management team recommends three key areas of the Performance Assurance Report as offering the most promise for improvements in the near term. These include reviewing the performance and eligibility of external resources, enhancements to the operating reserve market, and providing a tailored availability mechanism for resources. The NYISO management team views improvements in these areas as an excellent opportunity to provide for (1) resiliency, the ability of the grid to recover from an event, and (2) reliability, keeping the lights on. In 2018, the NYISO will continue its efforts regarding the performance and eligibility of external resources through “Deliverability Requirements for Capacity Imports.” In addition, further detail will be presented regarding operating reserve market improvements and a tailored availability mechanism to prepare stakeholders for the inclusion of these two project candidates within the 2019 project prioritization. The NYISO management team may revisit the other options provided by AG in the future, and may prioritize them for discussions with stakeholders at a later date.

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<sup>1</sup> See Analysis Group, Inc., *Capacity Resource Performance in NYISO Markets: An Assessment of Wholesale Market Options* (Performance Assurance Report) October 2017, available at the following link: [http://www.nyiso.com/public/webdocs/markets\\_operations/committees/bic\\_icapwg/meeting\\_materials/2017-11-06/Analysis%20Group%20Draft%20Capacity%20Resource%20Performance%2010-31-17%20rev.pdf](http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_icapwg/meeting_materials/2017-11-06/Analysis%20Group%20Draft%20Capacity%20Resource%20Performance%2010-31-17%20rev.pdf)

## Operating Reserves

The report suggests that further enhancement to the reserve market could incent resource performance. Such enhancements could include evaluating current reserve locations, or procuring additional reserves beyond reliability requirements. The NYISO and its stakeholders have also considered these and other potential reserve market improvements during “Integrating Public Policy Market Assessment for Accommodating Public Policy” discussions.<sup>2</sup> The NYISO improved upon its operating reserve shortage pricing as part of “Comprehensive Shortage Pricing” in 2015, and further improvements could enhance the financial incentives for the construction and operation of resources with specific capabilities in desirable locations. The Performance Assurance Report identifies value in continuing to discuss this topic: “... rule changes that specifically increase revenues of generating units that perform well during shortage or scarcity conditions are likely the most direct means of incentivizing performance under stressed system conditions.”<sup>3</sup>

### *Resiliency*

Enhancements to the construction of the current operating reserve shortage pricing should be discussed with stakeholders to explore the benefits of procuring additional operating reserves to incent resource performance and promote grid resiliency. Specifically, by using a concept akin to the capacity market approach of procuring excess capacity through the Installed Capacity demand curves. The NYISO could similarly procure additional operating reserves above minimum requirements when cost effective. These reserve schedules would enhance resiliency by recognizing the value of resource availability to be responsive to unanticipated real-time operating needs. The additional financial incentives would encourage procurement of the necessary fuel obligations and incent resource performance and maintenance scheduling.

### *Reliability*

The NYISO should consider securing 10 minute reserve requirements in the market consistent with the New York State Reliability Council (NYSRC) reliability rule, G.B.R3, requiring that “[s]ufficient ten (10) minute operating reserves shall be maintained in the NYC zone”<sup>4</sup> to provide locationally specific market signs consistent with the reliability need. Exploring load pocket reserves would further enhance the locationally specific value of maintaining short notice responsive resources in desirable locations.

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<sup>2</sup> See, e.g., NYISO, Inc. *Integrating Public Policy: A Wholesale Market Assessment of the Impact of 50% Renewable Generation* (Integrating Public Policy Assessment), December 2017, “Energy Market Design Concepts” discussion starting at page 30, available at the following link:

[http://www.nyiso.com/public/webdocs/markets\\_operations/committees/bic\\_miwg/meeting\\_materials/2017-12-20/2017%20Market%20Assessment%20with%2050%20percent%20Renewables,%20Report.pdf](http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg/meeting_materials/2017-12-20/2017%20Market%20Assessment%20with%2050%20percent%20Renewables,%20Report.pdf)

<sup>3</sup> See Performance Assurance Report at p. 5, 36.

<sup>4</sup> See New York State Reliability Council, *Reliability Rules and Compliance Manual*, September 8, 2017, version 41, rules G.1 B.R3, available at the following link:

<http://www.nysrc.org/pdf/Reliability%20Rules%20Manuals/RRC%20Manual%20V41.pdf>

## External Resources Performance & Eligibility

AG advises in its report that “[s]everal factors suggest a review of the rules by which external resources participate in the NYISO capacity market, including eligibility requirements and offer obligations and terms would be prudent.”<sup>5</sup> External capacity resources should be expected to perform and deliver energy at a level comparable with internal resource expectations. The report notes that external Installed Capacity (ICAP) suppliers typically offer in the energy market at or near the energy offer cap and, as a result, are infrequently scheduled to provide energy. As a result, the deliverability of external capacity during real time critical operating periods has not been tested, as these would be the last resources dispatched. The authority for the NYISO to call on external resources that have sold into the NYISO markets exists today; however, software improvements are needed to better manage this process. Deliverability to the New York Control Area (NYCA) border should be considered more completely when deciding which resources are able to sell capacity into the NYISO. Requirements for external capacity resource should be improved to ensure these resources are providing value to grid operations that is comparable to internal resources. This effort would require the NYISO to coordinate even more closely with neighboring Control Areas than it does today.

The NYISO is currently working with stakeholders on the “Deliverability Requirements for Capacity Imports” effort.<sup>6</sup> This effort has enhanced the notice regarding the minimum requirements for external capacity from PJM into the NYISO ICAP market to demonstrate deliverability. The process change memorializes in the *Installed Capacity Manual* the documentation requirements for external resources with capacity awards across the PJM AC ties to demonstrate they have firm transmission service for the month. The next steps for this effort would be to continue to evaluate what, if any, additional performance requirements and obligations are needed, including an evaluation of requirements to demonstrate deliverability to the NYCA border at other interfaces.

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<sup>5</sup> Performance Assurance Report at p. 35

<sup>6</sup> See, e.g., NYISO presentations on “Deliverability Requirements for Capacity Imports from PJM,” presented by Zachary T. Smith available at the following links:

September 18, 2017 ICAP Working Group meeting

[http://www.nyiso.com/public/webdocs/markets\\_operations/committees/bic\\_icapwg/meeting\\_materials/2017-09-18/UDR%20Deliverability%20Requirements.pdf](http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_icapwg/meeting_materials/2017-09-18/UDR%20Deliverability%20Requirements.pdf)

October 11, 2017 ICAP Working Group meeting

[http://www.nyiso.com/public/webdocs/markets\\_operations/committees/bic\\_icapwg/meeting\\_materials/2017-10-11/Import%20Right%20Deliverability%20Requirements.pdf](http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_icapwg/meeting_materials/2017-10-11/Import%20Right%20Deliverability%20Requirements.pdf)

January 17, 2017 Business Issues Committee,

[http://www.nyiso.com/public/webdocs/markets\\_operations/committees/bic/meeting\\_materials/2018-01-17/5%20Import%20Right%20Deliverability%20Requirements%20final.pdf](http://www.nyiso.com/public/webdocs/markets_operations/committees/bic/meeting_materials/2018-01-17/5%20Import%20Right%20Deliverability%20Requirements%20final.pdf),

[http://www.nyiso.com/public/webdocs/markets\\_operations/committees/bic/meeting\\_materials/2018-01-17/M-04\\_ICAP%20Manual\\_v6%2038.docx.pdf](http://www.nyiso.com/public/webdocs/markets_operations/committees/bic/meeting_materials/2018-01-17/M-04_ICAP%20Manual_v6%2038.docx.pdf)

## Tailored Availability Mechanism

Better accounting for resource performance through a tailored availability mechanism is another promising avenue to pursue. The Equivalent Demand Forced Outage Rate (EFORd) of a resource measures its availability. The EFORd is used in two manners: by the NYSRC to establish the Installed Reserve Margin (IRM) and by the NYISO in the capacity market. The EFORd used to establish the IRM is the rate for a 5 year time period, whereas the EFORd used in the capacity market is a rolling 17 month time period and does not include the impacts of generator outages caused on the Transmission Owner's side of the transformer, such as taking the resource's interconnection bus out of service for maintenance.

As noted in the Performance Assurance Report, monthly EFORd calculations today do not necessarily accurately account for unit availability during times of greatest need. Specifically, the current ICAP to Unforced Capacity translation uses a rolling average measure of availability, and this may under or overestimate preparedness during critical operating periods. The report further notes that targeting periods of the greatest need could improve cost-effectiveness. Doing so will better reflect the amount of capacity being provided by the resource, providing a more realistic view of the MW available. Though availability is not the same as performance, knowing the actual amount of MW that can be expected from resources during critical operating periods is important to the reliability of the grid. More accountability for resource performance during critical instances also has the potential to increase competition and lower consumer cost in the energy market. The NYISO and its stakeholders should pursue improvements to the calculation of EFORd to place more emphasis on performance during critical operating periods. Supporting this recommendation is the NYISO's discussions with its stakeholders on improving availability measurements as part of its Integrating Public Policy effort.<sup>7</sup> Additionally, resource performance in the capacity market is being considered as part of the "Distributed Energy Resource (DER) Participation Model" effort, during which the NYISO intends to assess the value of resources with energy limitations in 2018.<sup>8</sup> It is important that the DER Participation Model efforts occur before the development of tailored availability metrics so that the rules for new resource types do not inadvertently create undesirable incentives favoring some resource types over another.

## Conclusion

The NYISO management team appreciates the efforts of Analysis Group to consider the spectrum of opportunities to improve resource performance, particularly during critical operating conditions. We also appreciate the valuable feedback provided by stakeholders and by the Market Monitoring Unit on its perspectives and priorities. The NYISO management team has carefully considered this feedback in light of the existing and emerging needs of the power system. While the NYISO management team recognizes that many of the concepts identified in and discussed during the development of the Analysis Group's report could improve resource performance, the NYISO management team expects that the concepts discussed in this memo capture the efforts that represent the greatest potential to improve performance incentives at the lowest cost.

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<sup>7</sup> See *Integrating Public Policy Assessment*, Capacity Performance Measurement discussion starting at page 38.

<sup>8</sup> See *Distributed Energy Resources Market Design Concept Proposal*, December 2017, at page 17, available at the following link: [http://www.nyiso.com/public/webdocs/markets\\_operations/committees/bic\\_miwg/meeting\\_materials/2017-12-19/Distributed%20Energy%20Resources%202017%20Market%20Design%20Concept%20Proposal.pdf](http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg/meeting_materials/2017-12-19/Distributed%20Energy%20Resources%202017%20Market%20Design%20Concept%20Proposal.pdf)

The NYISO management team looks forward to collaborating with stakeholders on the recommendations outlined in this memorandum, and informed by the Performance Assurance Report. AG suggested a number of additional recommendations that may prove promising to the NYISO and its stakeholders in the future. The NYISO management team anticipates discussing recommendations from AG relevant to fuel security in the future, given the Federal Energy Regulatory Commission's recent order on grid resilience.<sup>9</sup> In the near term, pursuing market enhancements to the performance and eligibility of external resources, operating reserve improvements, and a tailored availability mechanism hold the most promise. Resource performance is an important factor in reliability, resiliency, and cost, which will only become more important as industry trends continue to develop.

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<sup>9</sup> See *Grid Resilience in Regional Transmission Organizations and Independent System Operators*, 162 FERC ¶ 61,012 (2018).