



Consumer Impact Analysis: Methodology for Reserves for Resource Flexibility

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Background

- **The Reserves for Resource Flexibility project originally included two components:**
 - Procuring additional 30-minute reserves in the SENY reserve region to enable the NYISO to return transmission elements in SENY to Normal Transfer Criteria following a contingency.
 - This component will continue to be discussed within the Reserves for Resource Flexibility project.
 - Procuring additional reserves as the amount of weather-dependent generation on the grid increases.
 - The NYISO will shift the discussion of procuring additional reserves for system uncertainty to the Ancillary Services Shortage Pricing project.

Proposed Enhancements

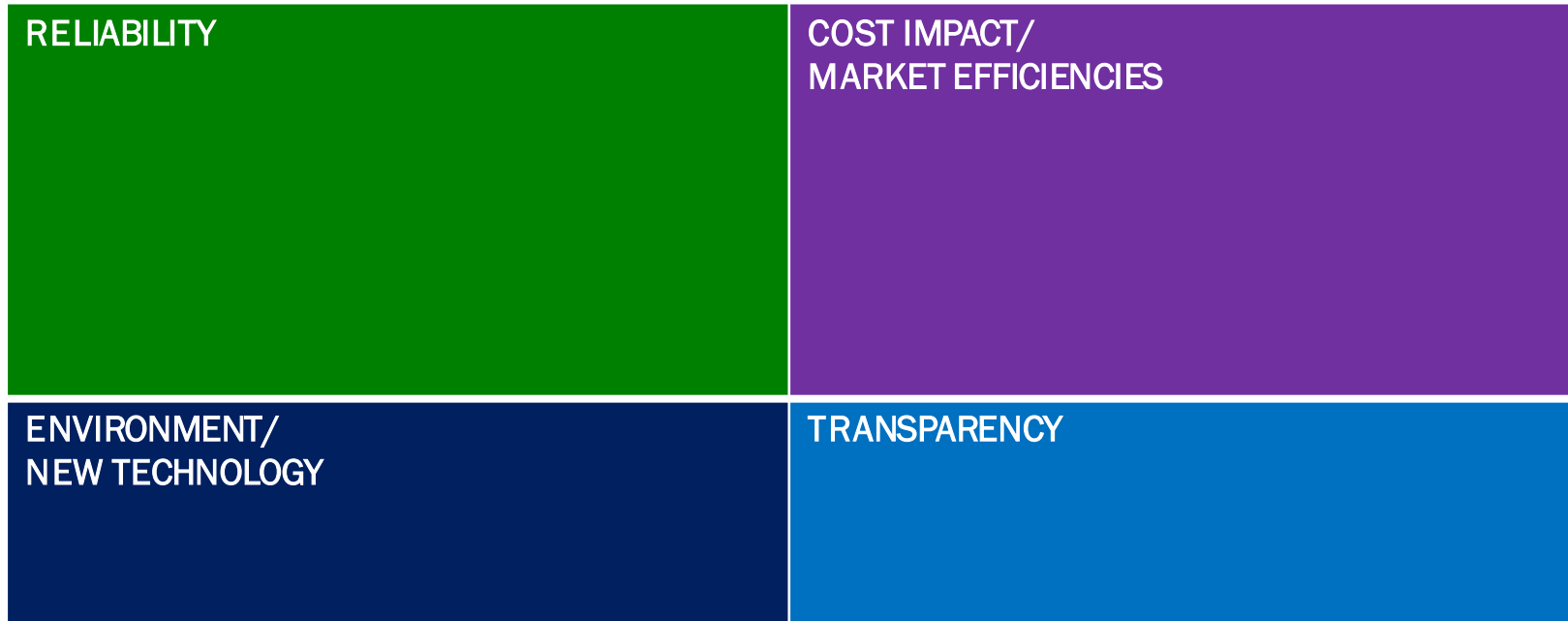
- **The NYISO is proposing to procure an additional 500 MW of 30-minute reserves in the SENY reserve region (zones G-K) at all times in both the Day-Ahead and Real-Time Markets.**
 - This proposal will increase the reserve requirement carried in SENY from 1,300 MW to 1,800 MW.
 - Consistent with current procedures, the NYISO will reduce the SENY 30-minute reserve requirement to zero in real-time during a Thunderstorm Alert (TSA)
- **The proposal contemplates shifting of current locational reserve procurements only and does not propose to increase the 2,620 MW level of 30-minute total reserves procured statewide (NYCA).**
- **The NYISO is proposing a reserve demand curve price of \$25/MWh for the 500 MW increase in the SENY 30-minute reserve requirement.**
 - The \$25/MWh price will continue to apply to the additional 500 MW during SCR/EDRP activations in real-time; any Scarcity Reserve Requirements for SENY would be added to the \$500/MWh “step” of the SENY 30-minute reserve demand curve

Anticipated Benefits

- The current SENY 1,300 MW 30-minute reserve requirement serves to bring transmission assets to Emergency Transfer Criteria after suffering a contingency.
- Procuring additional 30-minute reserves in the SENY reserve region is intended to provide ready access to additional resource flexibility through a market-based mechanism to bring transmission assets to Normal Transfer Criteria following a contingency.
 - Absent such a mechanism, out of market actions may be required to return facilities to Normal Transfer Criteria following a contingency.

Consumer Impact Analysis (IA) Evaluation Areas

- Present the potential impact on all four evaluation areas



Cost Impact Methodology – Energy Impact

- **Using the NYISO’s Day-Ahead Market (DAM) software, re-run select market days from the past six months. The following revisions will be included in the market software re-runs:**
 - Increasing the SENY 30-minute reserve requirement to 1,800 MW
 - Assigning a \$25/MWh shortage pricing value to the additional 500 MW of SENY 30-minute reserves; current 1,300 MW requirement will retain a shortage price value of \$500/MWh.
- **Other considerations for the market software re-runs:**
 - Proposing to use data from the prior six months to capture impacts as incremental to the implementation of the NYC reserve region in June 2019
 - Days selected for re-runs will be intended to be representative of typical conditions throughout the year
 - The NYISO acknowledges prior requests to provide information regarding the combined impact of various ongoing reserve enhancement projects (More Granular Operating Reserves, Reserves for Resource Flexibility, and Ancillary Services Shortage Pricing)
 - The NYISO is continuing to assess how best to assess and provide information regarding the combined impact of these various project initiatives

Cost Impact Methodology – Energy Impact

- **Compare prices from re-run cases to the original prices to determine representative price delta value(s).**
- **The price delta value(s) will be used to estimate the consumer impact due to changes in DAM energy prices.**
 - Actual DAM energy prices for a one year period will be used to calculate the consumer impact due to changes in energy prices.
 - The price delta value(s) determined from the analysis will be applied to the actual, historic DAM prices to calculate adjusted DAM energy prices
 - The adjusted DAM energy prices will then be multiplied by the actual corresponding hourly demand during the historic one-year period.
 - The result of this calculation will be summed to determine an estimated annual consumer impact due to changes in energy prices.

Cost Impact Analysis – Offset to DA BPCG

- **Procuring an additional 500 MW of 30-minute reserves in SENY may also help reduce Bid Production Cost guarantee (BPCG) payments to resources.**
 - Acquiring an additional 500 MW of 30-minute reserves in the SENY reserve region could reduce the need for out of market actions that may otherwise be required to return facilities to Normal Transfer Criteria following a contingency.
- **The Consumer Impact Analysis will seek to estimate the potential reduction in DAM BPCG payments resulting from the proposed additional SENY 30-minute reserve procurements.**

Capacity Market Impact Methodology

- Using the 2020-2021 ICAP Demand Curve inputs and parameters, calculate revised net EAS revenue offset values and resulting reference price values to estimate the potential impact of the proposal on the ICAP Demand Curves
 - Adjusted DAM and RTM LBMPs will be developed for each hour of year 3 of the historic three-year period used for the most recent annual update (9/1/2018 – 8/31/2019), using the results of the energy market impact analysis
 - Data for years 1 & 2 (9/1/2016 - 8/31/2018) will be retained and unadjusted
 - All other inputs and parameters of the annual update for the 2020-2021 Capability Year will be held constant
 - These new prices will be fed through the net EAS model to estimate revised net EAS revenue offset values; these revised values will be used to calculate revised reference price values for the 2020-2021 Capability Year ICAP Demand Curves
 - Note: the current peaking plant technology underlying each ICAP Demand Curve is a simple cycle F-Class frame unit

Capacity Market Cost Impact

- **The NYISO will estimate both the short-term and long-term capacity market impacts of the proposal using the revised reference prices calculated for the 2020-2021 Capability Year ICAP Demand Curves**
 - Use the 2019 as-found system with the reference point values for the 2020-2021 ICAP Demand Curves as a “base case”
- **The short-term impact will use the revised reference prices calculated in the earlier analysis with no additional changes to generation or demand**
 - The impacts shown in the short-term may not be sustainable, as retirements and other changes could result from the reference price change. Potential impacts of market response to the changes in the reference prices will be estimated in the long-term analysis, that assumes a supply level based on the historical level of excess

Capacity Market Cost Impact

- **The long-term impact will use the same “base case” as the short-term analysis**
 - However, the supply stack in the base case will be adjusted to assume a historical level of excess
 - This is defined as a percentage of excess above the requirement observed within the last three Capability Years in each of the different Localities
 - The long-term change case will use the revised reference prices calculated in the earlier analysis together with the adjusted supply levels

Other Impacts

- **Evaluate other Impacts:**
 - Reliability Impacts
 - Environmental Impacts
 - Impact on Transparency

Feedback?

- Email additional feedback to: deckels@nyiso.com

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- 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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