

Balancing Intermittency: Proposed Consumer Impact Analysis Methodology

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Agenda

- **Background**
- **Consumer Impact Analysis Evaluation Areas**
- **Cost Impact and Market Efficiency Analysis Methodology and Assumptions**
- **Reliability, Environment/New Technology, and Transparency Methodology**
- **Next Steps**

Background

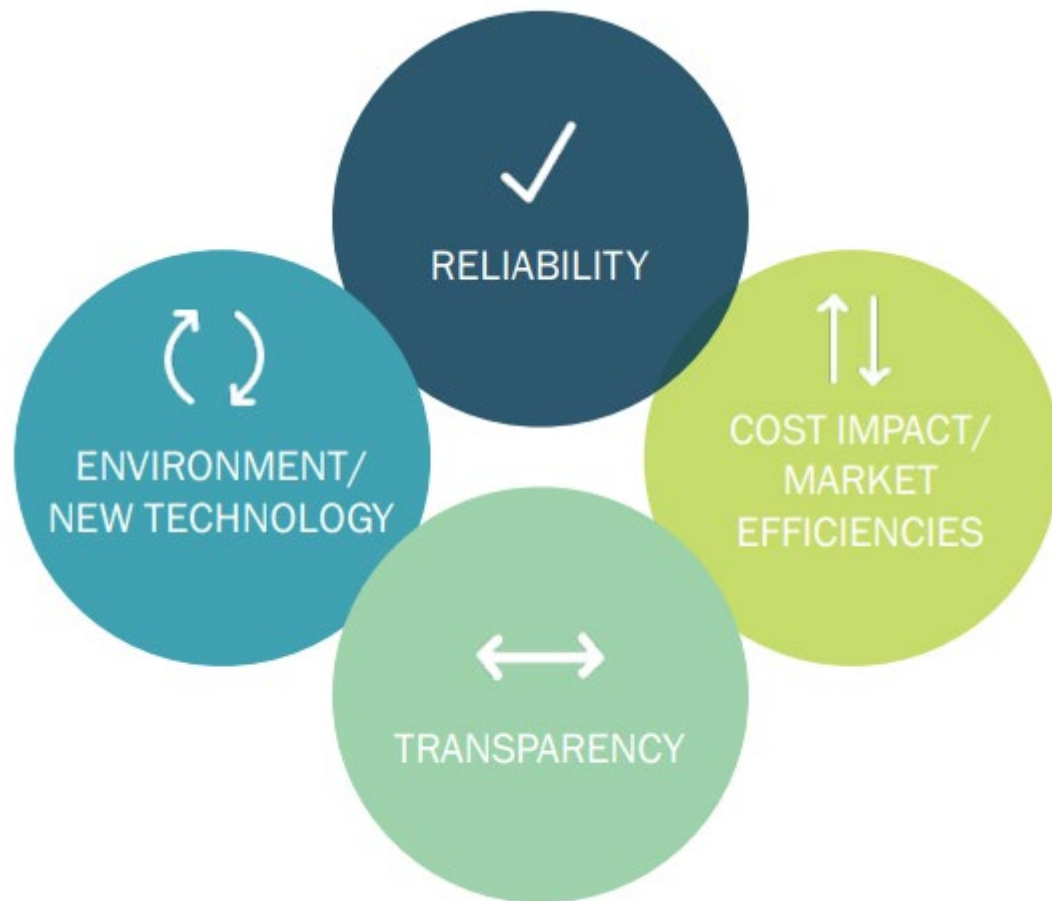
Background

- Leveraging the findings in the 2022 Grid in Transition Study, the Balancing Intermittency effort is evaluating whether new market products are necessary to continue reliably maintaining system balance, given a future grid characterized by large quantities of intermittent renewable resources, ESR, and DER.
- The 2024 project deliverable is a Market Design Complete.
- The Consumer Impact Analysis, initially scheduled for 2023, was extended into early 2024 given the schedule and the 2024 project.

Market Design Concept Proposal Summary

- **Phase 1: Uncertainty Reserve Requirement on existing 10- and 30-minute reserve products**
 - The NYISO proposes to establish locational Uncertainty Reserve requirements using percentages calculated from historical data, which will be individually applied to net load, land-based wind, and offshore wind forecasts.
 - Targeting 2025 implementation
- **Phase 2: New 60-minute, 4-hour reserve product**
 - The features of the proposed new reserve product include a longer Notification Time and a longer Duration Availability Requirement, which aim to address needs driven by uncertainty that arise further in advance.
 - Currently targeting 2026 implementation
- **The Consumer Impact Analysis (CIA) will also be done in two phases. Today's presentation is focused on the Phase 1: Uncertainty Reserve Requirements.**

Consumer Impact Analysis Evaluation Areas



Cost Impact/Market Efficiency Analysis Methodology and Assumptions

Assumptions and Approach

- **The economic impacts to consumers from the Balancing Intermittency project are expected to be driven by:**
 - Increased procurements of Operating Reserves
 - This may result in increased consumer costs
 - Reduction in out-of-market actions to manage uncertainty
 - This will often be expected to reduce consumer costs
 - Possible increases in reserve suppliers
 - This will be expected to reduce consumer costs
 - Changes in capacity procurement costs from the changes in expected Energy and Ancillary Service revenues for the proxy unit and the changes in capacity procurement costs from changes in supply
 - The interaction of the two effects is not known

Assumptions and Approach (cont.)

- **Impacts will offset each other to some extent in the long run but the exact outcome is unknown**
 - In the shorter run, it is also not possible to accurately predict all the interactions, and we will not attempt to do so
- **It is however possible to quantify the order of magnitude of some of the expected changes**
 - The NYISO's analysis will quantify some of the short-term Day-Ahead Market ancillary service procurement costs
- **Additionally, the analysis will include qualitative information about other expected impacts**

Energy Market Analysis Methodology

- **The focus of the quantitative analysis will be the Day-Ahead Market impacts**
 - 95 to 100 percent of load is transacted in the DAM
- **Real-time quantitative analysis is not possible because the real-time dispatch is based on the DAM commitment and we can not reflect changes in DAM commitments on the operation of resources in real-time**
 - The analysis proposed to include some expected qualitative real-time impacts
- **The Day-Ahead quantitative analysis plans to leverage the reserve supply curve to estimate the increase in reserve procurement costs and prices**
 - Uncertainty Reserve procurement amounts will be determined utilizing the historical error percentiles, locational requirements, shortage pricing values, and a methodology consistent with the NYISO's proposed market design
 - We plan to sample different operating conditions and seasons.

Capacity Market Analysis Methodology

- **The Capacity Market quantitative analysis methodology requires 8760 Real Time Integrated price data, which we do not have**
 - The volatility of prices drives the EAS revenues, which in turn drives the reference point value which would then allow the comparison to historical revenues
- **Therefore, the analysis will focus on a qualitative analysis based on the ancillary service price changes from the energy market analysis**
- **We continue to explore if there are other quantitative approaches that could provide useful information**

Reliability, Environment/New Technology, and Transparency Methodology

Reliability, Environment/New Technology and Transparency

- The focus in these three CIA areas of analysis will be on qualitative assessments of the proposed changes

Next Steps

Next Steps

- Review and consider stakeholder feedback on the proposed methodology
- Return to ICAPWG/MIWG in April 2024 to discuss analysis results

Questions?

Our Mission & Vision



Mission

Ensure power system reliability
and competitive markets for New
York in a clean energy future



Vision

Working together with stakeholders
to build the cleanest, most reliable
electric system in the nation