

Consumer Impact Analysis: 2020 Project List

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Analysis Guidelines

- Anticipated net production cost impact of \$5 million or more per year
- Expected consumer impact from changes in energy or capacity market prices is greater than \$50 million per year
- Incorporates new technology into NYISO markets for first time
- Allows or encourages a new type or category of market product
- Creates a mechanism for out-of-market payments for reliability

Identification of 2020 Projects

- **Projects Identified in this Analysis**
 - Significant market design concepts identified in the 2020 project prioritization process
- **Additional Projects that May Be Analyzed**
 - FERC directives where the NYISO has implementation flexibility
 - Emergent stakeholder issues

2020 Proposed Projects

- 5 Minute Transaction Scheduling
- Relocating the IESO Proxy Bus
- Reserving Capacity for TCC Balance-of-Payment Auctions
- Tailored Availability Metric
- Enhancing Fuel and Energy Security
- Enhanced BSM Mitigation Study Period
- Hybrid Storage Model

5 Minute Transaction Scheduling

- *Description:* Interchange scheduling with Hydro-Quebec (HQ) is currently achieved on either a 15-minute or an hourly basis using the NYISO's Real-Time Commitment (RTC) software. More frequent transaction scheduling with external control areas could improve convergence between prices in RTC and RTD and offer increased flexibility to the market optimization software, as the penetration of intermittent renewables increases. The NYISO has also determined that 5-minute transaction scheduling would be a pre-requisite for external resources to be eligible to provide operating reserves, and perhaps other ancillary services.
- *Expected Benefit:* A market design to accommodate 5-minute interchange scheduling across controllable inerties with HQ would be expected to improve price convergence between RTC and RTD, improve market efficiency by increasing the amount of available resources for dealing with real-time system changes and/or events, and increase the flexibility of the NYISO's market operations to respond to fluctuations in intermittent output. More frequent interchange scheduling that aligns with internal generation scheduling will also alleviate top of hour and quarter-hour interchange discrepancies. This is particularly important with the growing objectives in NY State for renewable generation and for the replacement of fossil fuel generation. HQ's large, flexible and low carbon hydropower generation represents a solution to support grid flexibility in a 70% by 2030 world.
- *Screen:* Emergent stakeholder issue

Relocating the IESO Proxy Bus

- *Description:* Currently, the determining factor in how the commitment software distributes power flow for scheduled energy between IESO and NYISO is the use of Bruce station as the location of the IESO proxy bus. However, analysis of the actual historical delivered energy between IESO and NYISO indicate a potential improvement that can be made. This project would explore the options for a more optimal IESO proxy bus that more closely aligns power flow shift factors for energy schedules between IESO and NYISO with actual, observed power flows.
- *Expected Benefit:* Developing a more accurate power flow result out of the commitment optimization is expected to lead to improved resource scheduling and pricing outcomes.
- *Screen:* Emergent stakeholder issue

Reserving Capacity for TCC Balance-of-Payment Auctions

- **Description:** The ISO currently conducts Centralized TCC Auctions twice each year. In each of those auctions, six-month and one-year TCCs are available for purchase, and two-year TCCs are available in some of these auctions. However, TCCs covering periods shorter than six months are not available in those auctions. Instead, market participants wishing to purchase shorter-term TCCs must do so in the BoP Auctions, which are held each month. Today the TCC Automated Market System and other supporting systems do not support the reservation of transmission Capacity for sale in BoP Auctions. As a result, the opportunity for market participants to acquire shorter-term TCCs in BoP Auctions may be significantly limited. This proposal seeks to modify the ISO's current software and procedures to permit the ISO to reserve a portion of available system transfer capability, which it would then release into the BoP Auctions. This will permit auction participants to purchase additional shorter-term TCCs in the BoP Auctions.
- **Expected Benefit:** Generate more efficient market outcomes; consistent with the MMU's expectation that "selling more of the capability of the transmission system in the [BoP] auctions (by holding back a portion of the capability from the six-month auctions) would likely raise the overall amount of revenue collected from the sale of TCC's (2018 State of the Market Report for the New York ISO Markets at 39)."
- **Screen:** Emergent stakeholder issue

Tailored Availability Metric

- *Description:* One of the issues identified in the Performance Assurance initiative in 2017 was ensuring the availability and performance of capacity suppliers during peak operating hours. Currently, all hours of operation are weighted equally in computing derating factors, based on the assumption that outages occur randomly. The objective of the Tailored Availability Metric project is to evaluate a market design that reflects higher value to resources that are available and can perform during peak operating hours based on the assumption that these stressed conditions occur during peak hours. Weighting these peak hours higher reflects the concept that availability and performance during these hours has greater significance to the reliability of the system. Through a series of analysis, different weighting factors could be applied to peak hours and months, incenting resources to better perform during these critical time periods.
- *Expected Benefit:* The completed market design for the Tailored Availability Metric project is important to maintain reliability of Installed Capacity Suppliers and transparency by enhancing accountability of capacity suppliers.
- *Screen: Emergent Stakeholder Issue*

Enhancing Fuel and Energy Security

- **Description:** New York's power grid is anticipated to face increased challenges associated with the generating fleet transitioning in response to economic, environmental, and public policy considerations. Increased dependency on natural gas and intermittent technologies creates an elevated risk to system reliability if those fuel supplies were to be interrupted. The NYISO has engaged the Analysis Group to conduct a study in 2019 to help identify the types and magnitude of potential near-term concerns that could arise by examining various scenarios that place strains on fuel and energy security in New York. The objective of this project is to explore and develop any market design enhancements that may be prudent in response to conclusions from the 2019 Fuel and Energy Security assessment. These efforts would examine potential adjustments to market structures and/or operational practices that could enhance fuel and energy security in New York, as informed by any potential risks identified by the 2019 study.
- **Expected Benefit:** This work would be necessary to complete a market design that encompasses any recommendations from the 2019 study in order to maintain grid reliability in the future. Efforts during this project would seek to bolster New York's preparedness for an altered resource portfolio by elevating the markets to embrace future challenges that could arise with respect to fuel supply security.
- **Screen:** *Emergent Stakeholder Issue*

Enhanced BSM Mitigation Study Period

- *Description:* The Services Tariff currently states that all Examined Facilities in a Class Year will be assumed to enter the market beginning with the Summer Capability Period three years after the start of the Class Year; the three-year period beginning three years after the start of the Class Year is referred to as the Mitigation Study Period. This assumption is an oversimplification that was made in an effort to prevent gaming the mitigation tests (Mitigation Exemption Test). However, it is generally an inaccurate assumption that overestimates the timeline of some units, such as Additional CRIS projects, and can underestimate the timeline of larger projects. An inaccurate Mitigation Study Period will result in an inaccurate ICAP Forecast for the unit, and thus an inaccurate BSM determination. Aligning the Mitigation Study Period for each unit with what is realistically expected for that unit will provide more accurate Mitigation Exemption Test determinations.
- *Expected Benefit:* Developing a more accurate Mitigation Study Period that aligns more closely with what is expected will improve the accuracy of mitigation determinations.
- *Screen:* Emergent Stakeholder Issue

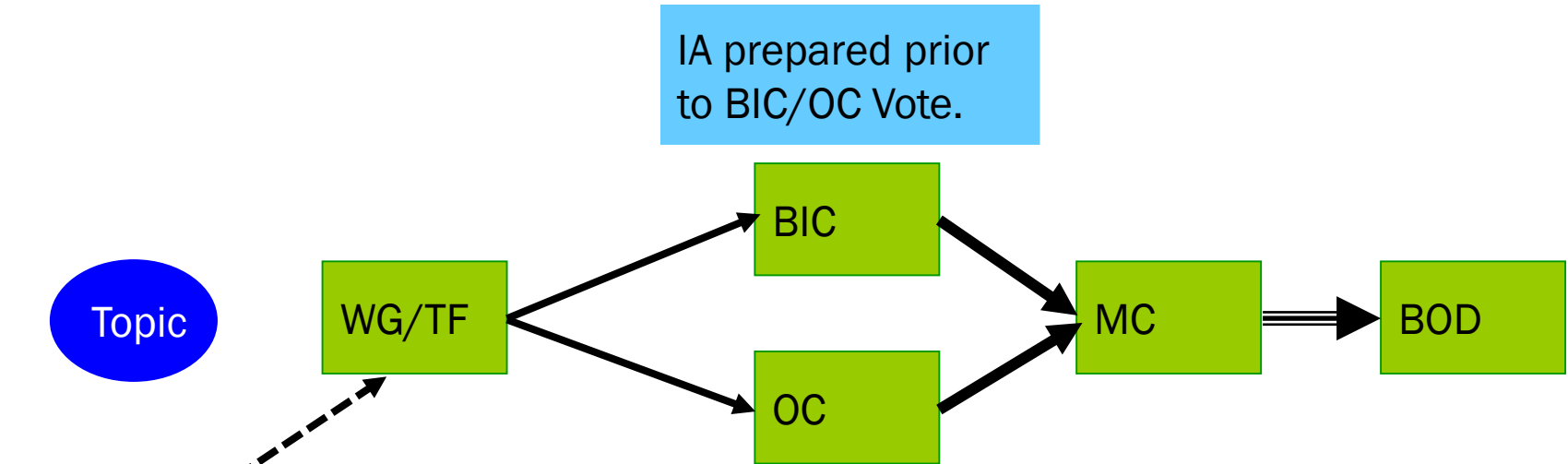
Hybrid Storage Model

- **Description:** The NYISO's market rules do not currently allow two Generators of different types to be co-located at a single point of interconnection and share the same point identifier (PTID) and meter. This project seeks to develop market participation rules for front-of-the-meter renewable generators collocated with Energy Storage Resources building on work completed as part of the Energy Storage Resource and DER Integration initiatives, by developing market rules that better integrate large-scale weather dependent and energy storage resources co-located behind a single interconnection point. The deliverable for this project includes a consumer impact analysis and a 2020 milestone for Market Design Complete.
- **Expected Benefit:** State and Federal initiatives such as REC procurements provide incentives for developers to couple storage and intermittent renewable assets. Such programs are aimed at reducing the output volatility and improving the availability of intermittent resources. Developing a market participation model for front-of-the-meter generators plus storage will better align the NYISO's market procurement with State and Federal efforts to integrate more clean energy into the grid. The new market participation model is also expected to improve grid flexibility and resilience by enabling new resource types to provide their full capabilities.
- **Screen:** *Emergent Stakeholder Issue*

Impact Analysis - Process Map

NYISO SHARED GOVERNANCE PROCESS

IA prepared prior to BIC/OC Vote.



Present Impact Analysis while the topic is in the Working Group or Task Force.

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Feedback?

- Email additional feedback to:
- deckels@nyiso.com

Questions?

We are here to help. Let us know if we can add anything.

The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefits to consumers by:

- 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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