NYISO Response to the 2021 State of the Market Recommendations prepared by Potomac Economics

Background

Each year the NYISO's Market Monitoring Unit (MMU) produces an annual "State of the Market Report" pursuant to Section 30.10.1 of the Market Services Tariff. This report reviews the "the competitive structure of, market trends in, and performance of, other competitive conditions in or affecting, and the economic efficiency of, the New York Electric Markets." Based upon its annual review of the NYISO markets, the MMU makes a series of recommendations. The MMU recommendations are included for stakeholder review in the Project Prioritization process. The NYISO carefully considers the MMU recommendations and the stakeholder feedback on these recommendations as it selects projects and initiatives included in the Annual Budget for Board approval.

In the 2021 State of the Market Report, NYISO's Market Monitoring Unit outlined 19 potential opportunities to improve the efficiency of the NYISO markets. NYISO's assessment of the recommendations can be found in the table below. This memo summarizes the steps NYISO has initiated or is planning in response to each of the MMU's recommendations. The NYISO final assessment and recommendations are also discussed in this memo.

NYISO Assessment

Table 1 provides an overview of all the State of the Market recommendations including details of the initiative to address the recommendation, planned actions, effort priority and assessment. The improvements identified by the Market Monitoring Unit include items related to Capacity Markets, Energy Markets, and Planning Processes and are grouped accordingly. The SOM includes 19 recommendations, four of which are new. The NYISO intends to address 8 out of the 14 Energy Market recommendations and 1 out of the 4 Capacity Market recommendations as part of the current and 2023 Project Plan efforts. These include all the Energy and Capacity Market recommendations characterized as High Priority by the MMU, except recommendation 17 on C-LMP.

Table 1: 2021 State of the Market Recommendations

	Recommendation	Current Effort[1]	New 2023 Effort	SOM High Priority	NYISO Initiative (Status)	Priority (Assessment)
Energy Market Enhancements - Pricing and Performance Incentives						
1	**New:** Evaluate need for longer lead time reserve products to address increasing operational uncertainties. (SOM 2021-1)	✓			**Balancing Intermittency/ Grid in Transition** (Effort is underway)	**High** • Grid in Transition 2022 study may provide useful analysis. • Recommendation is for longer lead time reserve products. This is part of what the Balancing Intermittency project will be considering.
2	**New:** Model full reserve requirements for Long Island (SOM 2021-2)	✓			**Dynamic Reserves** (Effort is underway; Consider in future phase)	**Low** • Today, there are no explicit reliability criteria for securing LI to N-1-1-0. The NYISO has secured to N-1-1-0 on rare occasions such as when both Y49 and Y50 cable were simultaneously out of service. NYISO is considering including the capability to model these criteria as part of future phases of the Dynamic Reserves design.

[1] Includes 2022 efforts and ongoing efforts

	Recommendation	Current Effort[1]	New 2023 Effort	SOM High Priority	NYISO Initiative (Status)	Priority (Assessment)
3	**New:** Consider modeling transient voltage recovery constraints on Long Island in the energy market (SOM 2021-3)				**More Granular Operating Reserves** (Effort is underway; Paused for Dynamic Reserves)	**Low** • These constraints are managed manually today as there are only a few generators that can secure them. The NYISO will consider adding capabilities to model these constraints in the market software as part of its More Granular Operating Reserves effort.
4	Set day-ahead and real-time reserve clearing prices considering reserve constraints for Long Island. (SOM-2019-1)				**Long Island Reserve Pricing** (Planned to begin in 2024)	**Medium** • Will become more important with the implementation of Dynamic Reserves and would improve incentives for Long Island generation to minimize self-scheduling.
5	Model local reserve requirements in New York City load pockets. (SOM-2017-1)	✓		✓	**More Granular Operating Reserves** (Effort is underway; Paused for Dynamic Reserves)	**High** • Implementation of Dynamic Reserves is currently being studied and prototyped. This study will also highlight the More Granular Operating Reserves concepts. • More Granular Operating Reserves implementation is dependent on part of the Dynamic Reserves work as well as consideration of Operating Reserve mitigation.

	Recommendation	Current Effort[1]	New 2023 Effort	SOM High Priority	NYISO Initiative (Status)	Priority (Assessment)
6	Modify operating reserve demand curves to improve shortage pricing and ensure NYISO reliability. (SOM-2017-2)	✓		✓	**Balancing Intermittency/ Grid in Transition** (Effort is underway)	**Medium** • FERC approved the shortage pricing changes, which were implemented on July 13, 2021. These changes largely addressed the initial MMU recommendation. However, the NYISO has not recommended using a higher maximum shortage price based on Value of Lost Load and retains a maximum shortage price of $775/MWh for a single locational operating reserve product. As part of developing additional operating reserve products, NYISO will consider different approaches to determining shortage pricing levels, including Value of Lost Load approaches, for reserve products.

	Recommendation	Current Effort[1]	New 2023 Effort	SOM High Priority	NYISO Initiative (Status)	Priority (Assessment)
7	Consider rules for efficient pricing and settlement when operating reserve providers provide congestion relief. (SOM-2016-1)	✓		✓	**Dynamic Reserves** (Effort is underway)	**Medium** • To fully effectuate the design that this recommendation envisions the NYISO's markets would need to transition to nodal operating reserve pricing. Today, the NYISO clears and prices reserves in 4 regions and the NYCA. NYISO does not recommend moving to a nodal reserve pricing design at this time. This issue is being considered as part of the Dynamic Reserves effort.
8	Eliminate transaction fees for CTS transactions at the PJM-NYISO border. (SOM-2015-9)				**Eliminate Fees for CTS Transactions with PJM** (Awaiting Stakeholder Prioritization)	**Low** • There has been an unwillingness by PJM to reciprocally eliminate fees assessed to interchange transactions between NY and PJM. • Similar to its position on the NE border where fees have been eliminated, NYISO believes reciprocally eliminating fees at the PJM border would increase trading and market efficiency.

	Recommendation	Current Effort[1]	New 2023 Effort	SOM High Priority	NYISO Initiative (Status)	Priority (Assessment)
9	Dynamically adjust operating reserve requirements to account for factors that increase or decrease the amount of reserves that must be held on internal resources. (SOM-2015-16)	✓		✓	**Dynamic Reserves** (Effort is underway)	**High** • This will greatly improve the ISO's ability to reliably and efficiently manage the increased penetration of large offshore wind generators and high imports from its neighbors. • This effort will also position the NYISO to consider probabilistic loss of multiple sources such as the loss of wind across many wind plants within the energy market.
10	Utilize constraint-specific graduated transmission demand curves to set constraint shadow prices during transmission shortages. (SOM-2015-17)	✓			**Constraint Specific Transmission Shortage Pricing** (Effort is underway with implementation planned in 2023)	**High** • The existing transmission shortage pricing rules do not distinguish between large transmission interfaces, such as Central East, and smaller 69kV transmission facilities on Long Island. The proposed improvement would improve congestion pricing across the NYISO system and improve pricing of reductant constraints that can lead to unnecessarily high LBMPs.

	Recommendation	Current Effort[2]	New 2023 Effort	SOM High Priority	NYISO Initiative (Status)	Priority (Assessment)
Energy Market Enhancements - Real-Time Market Operations						
11	Consider enhancements to the scheduling of duct-firing capacity in the real-time market that more appropriately reflects its operational characteristics. (SOM-2020-1)	✓			**Improve Duct Firing Modeling** (Effort is underway)	**High** • The existing market software does not allow a combined-cycle generator to reflect the operational characteristics of duct firing within its reserve offers. This has become a larger issue with new combine-cycle designs that have steam generator operation and permits that provide a much larger operating range while in duct firing mode.
12	Eliminate offline fast-start pricing (also known as "offline GT pricing") from the real-time dispatch model. (SOM-2020-2)				**Eliminate Offline GT Pricing** (Planned for 2024)	**Medium** • The existing offline GT pricing provides price transparency, especially in the NYC load pockets, which would disappear if this approach was eliminated before the implementation of constraint specific transmission shortage pricing.

[2] Includes 2022 efforts and ongoing efforts

	Recommendation	Current Effort[2]	New 2023 Effort	SOM High Priority	NYISO Initiative (Status)	Priority (Assessment)
13	Operate PAR-controlled lines between New York City and Long Island to minimize production costs and create financial rights that compensate affected transmission owners. (SOM-2012-8)				**Long Island PAR Optimization and Financial Rights** (Not Planned – Lack of interest from impacted Transmission Owners)	**Low** • More efficiently modeling these 901/903 PARs is becoming more important, however, additional discussions with the impacted TOs is required before the NYISO could take on this effort due to a pre-existing contract that describes the operation of these devices.
14	Adjust look ahead evaluations of RTD and RTC to be more consistent with the timing of external transaction ramp and gas turbine commitment. (SOM-2012-13)				**Review of RT Market Structure** (Planned to begin 2025)	**Medium** • This is only one part of a larger effort that will completely review the real-time market structure to ensure that the market will continue to support efficient and reliable grid operations as the resource mix evolves. The project to address this effort will be very resource intensive and costly as it has the potential of completely reworking the real-time market and potentially adding a third, or more, settlement in the energy market.

	Recommendation	Current Effort[3]	New 2023 Effort	SOM High Priority	NYISO Initiative (Status)	Priority (Assessment)
Capacity Market – Design Enhancements						
15	**New**: Improve capacity modeling and accreditation for specific types of resources (SOM 2021-4)		✓	✓	**Modeling Improvements for Capacity Accreditation** (Planned for 2023)	**High** • NYISO believes there is a need for continual improvements to resource adequacy and capacity accreditation models to manage reliability and efficient market outcomes throughout the clean energy resource transition.
16	Modify translation of the annual revenue requirement for the demand curve unit into monthly demand curves that consider reliability value. (SOM-2019-4)				**Monthly Demand Curves** (Not Planned)	**Low** • This would be a significant effort and could result in large changes in how capacity revenues are distributed across a year • As winter reliability risk increases, there may be a need to develop seasonal demand curves, however, it is premature to suggest monthly demand curves are necessary.
17	Implement locational marginal pricing of capacity ("C-LMP") that minimizes the cost of satisfying planning requirements. (SOM-2013-1c)			✓	**Locational Marginal Pricing of Capacity** (Not Planned)	**Low** • The NYISO is interested in several components of the C-LMP concept. • Much of the benefit may be achieved through creating additional Localities and implementing Capacity Accreditation. Historically, creating additional Localities has been a sensitive issue.

[3] Includes 2022 efforts and ongoing efforts

	Recommendation	Current Effort[3]	New 2023 Effort	SOM High Priority	NYISO Initiative (Status)	Priority (Assessment)
						• This recommendation does not appear compatible with existing NYS Reliability Council (NYSRC) processes. • Full implementation may contribute to market uncertainty due to reduced transparency on the IRM/LCRs prior to market participation. • Full implementation will be extremely difficult due to the software development and market administration effort.
18	Grant financial capacity transfer rights between zones when investors upgrade the transmission system and help satisfy planning reliability needs. (SOM-2012-1c)				**Capacity Transfer Rights for Internal Transmission** (Not Planned)	**Low** • To develop capacity rents for transmission, the capacity market settlements and cost allocation methodologies would need to change so that there would be a transfer rights fund to pay for the internal transmission upgrade. Although this would be an improvement to the market design, it is a very resource intensive change with little interest expressed to date.

	Recommendation	Current Effort[3]	New 2023 Effort	SOM High Priority	NYISO Initiative (Status)	Priority (Assessment)
Planning Process Enhancements						
19	Reform the transmission planning process to better identify and fund economically efficient transmission investments. (SOM-2015-7)				**Economic Planning Process Improvements** (Improvements implemented)	• The NYISO recently conducted a comprehensive review of the Economic Planning Process and developed significant revisions to the process that were unanimously approved by stakeholders and accepted by FERC. • No further modifications planned at this time, pending the outcome of FERC's Notice of Proposed Rulemaking regarding transmission planning.

NYISO Assessment

The NYISO team appreciates the work of Potomac Economics to consider market improvements based on their experience and knowledge of the NYISO-administered markets. The NYISO also appreciates the valuable feedback provided by stakeholders during the review of the 2021 State of the Market and throughout the project prioritization process. The NYISO team carefully considered this feedback as it developed its 2023 project plans and 2022 Master Plan. NYISO looks forward to continuing to work with Potomac Economics and stakeholders in 2023 for the 2024 Project Prioritization process to improve the NYISO-administered wholesale markets.