

2025 Market Project Candidates

Product and Project Management

August 27, 2024

This document represents potential 2025 Market project candidates. Market projects are associated with market rule(s), including market design and study projects as well as any projects implementing market rule changes. They are identified through (1) the State of the Market (SOM) Report; (2) internal NYISO discussions; and (3) discussions with Market Participants in the stakeholder process. These project candidates and their corresponding descriptions reflect information known about each of the project candidates as of the date of this document.

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Introduction

This document represents potential 2025 Market project candidates. Market projects are associated with market rule(s), including market design and study projects as well as any projects implementing market rule changes. They are identified through (1) the State of the Market (SOM) Report; (2) internal NYISO discussions; and (3) discussions with Market Participants in the stakeholder process. These project candidates and their corresponding descriptions reflect information known about each of the project candidates as of the date of this document. Projects are classified as four project types.

Project Type	Description
Mandatory	Projects that are key to support Strategic Initiatives, comply with FERC Orders, maintain reliable operations, or sustain the operation of the NYISO business. These projects will be included in the budget.
Continuing	Approved in a prior year and have progressed to either Functional Requirements, Software Design, Development Complete, or Deployment. Additional projects may be classified as Continuing based on stakeholder feedback. These projects will be included in the budget. No Enterprise Projects will be Continuing.
Future	Consensus from stakeholder discussions of this project’s priority relative to other projects has resulted in these projects NOT being prioritized and initiated in the coming budget year. Resources, time constraints, stakeholder feedback, and other project dependencies have been taken into consideration
Prioritize	Projects to be prioritized and included in the budget based on a feasibility assessment taking into consideration resources, time constraints, stakeholder feedback, priority score, and other project dependencies. Market projects are included in the stakeholder survey

Prioritize

1. Balancing Intermittency

1.1 Problem / Opportunity

In a time of unprecedented change in the electricity sector, New York’s competitive electricity markets must be positioned to unleash the innovation and flexible energy solutions necessary for a reliable transformation towards a zero-emissions power grid. A rapid transition is underway in New York State from a power grid where energy is largely produced by central-station fossil fuel generation, towards a grid with increased intermittent renewable resources and distributed generation.

The pace of this transition is driven primarily by state policy, notably the Climate Leadership and Community Protection Act (CLCPA). In addition, technological advancements are expanding the capabilities of new resources and lowering their costs, further driving broader industry changes.

The NYISO is actively working on market enhancements to meet these future challenges. A grid characterized by high levels of intermittent renewable resources, ESR, and DER will require new thinking to adequately balance intermittency on the system and the associated system ramps. The NYISO approaches this work with two guiding principles: (1) all aspects of grid reliability must be maintained; and (2) competitive markets should continue to maximize economic efficiency and minimize the cost of maintaining reliability while supporting the achievement of New York’s climate policy codified in the CLCPA.

The 2022 Grid in Transition Study identified the potential level of system flexibility that will be required with increases in intermittent resources and evaluate grid and/or resource attributes necessary to continue to reliably maintain system balance.

1.2 Project Objective(s) & Anticipated Deliverable(s)

Using the work completed to date across various NYISO studies and initiatives, including the Reliability and Market Considerations for a Grid in Transition work, Grid in Transition project work, and any relevant external studies on the ramp and flexibility needs of the future, this project will examine the existing NYISO market structures and market rules and will determine if there are any changes or additions needed to maintain reliability. While the 2024 effort was to complete the market design, the 2025 project will **develop the software changes deploy Phase 1 of the software changes** to support the approved market design.

1.3 Project Justification

The CLCPA includes the following goals:

- 100% of the state’s electricity must be emissions free by 2040
- 9,000MW of offshore wind energy must supply NY by 2035
- 6,000MW of solar energy be installed in NY by 2025

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- Statewide reduction of 185 trillion BTUs through energy efficiency
- 3,000MW of energy storage capacity must be installed to serve NY by 2030

Continuation of this project will help to identify the means to maintain system reliability while addressing the state’s goals and mandates in a cost-effective way through the creation of proper market mechanisms. This project also supports State of the Market (SOM) Recommendations 2021-1 and further evaluating 2017-2.

2. Billing Organization Portfolios for Reporting *-(previously SubAccounts)*

2.1 Problem / Opportunity

Current NYISO accounting and settlement processes do not allow a MP to partition billing components by the source or type of commercial activity. This creates certain difficulties for companies with diverse portfolios of businesses and market transactions. For example, under the current system, a company may have separate MPs for activity in generation, trading, and TCC activities.

The solution will be a modification to the NYISO’s settlement and invoicing systems to allow the utilization of portfolios nested under the existing Billing Organization to group transactions for reporting purposes.

2.2 Project Objective(s) & Anticipated Deliverable(s)

This project will modify invoice reporting in the NYISO settlement and invoicing systems to provide additional flexibility in a consolidated invoice query. The MP will be able to establish portfolios to separate market transactions on the invoice.

Portfolios for reporting will allow more detailed invoicing while keeping the overall settlement under a larger account. This project will implement the Market Design Complete deliverable determined by the 2024 project: ***SubAccounts for Reporting*** and include:

- A new user interface for the existing Invoice Detail Report to allow MPs to create portfolios for reporting purposes
- Reports based on various parameters within the existing NYISO data structure
- External and internal ability to label, save, and reuse report configurations
- External and internal ability to share custom reporting within the organization

This will be a reporting solution only. No changes are anticipated to credit rules, Billing Organization Banking Relationships, or to the existing Weekly and Monthly Invoicing by Billing Organization. The project deliverable for 2025 is Deployment.

2.3 Project Justification

This NYISO portfolio reporting project can reduce costs to MPs by reducing the need to maintain multiple MPs and will allow additional flexibility for MPs to compartmentalize larger accounts for

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better tracking of various market transactions. Other ISOs and RTOs have successfully implemented the utilization of portfolio reporting to the benefit of their MPs (e.g., PJM and ISO-NE).

3. Capacity Market Structure Review

3.1 Problem / Opportunity

The objective of the capacity markets is to provide appropriate price signals to attract new resources and retain existing resources to meet resource adequacy criteria. Public policies also provide incentives and requirements for resource entry and exit to meet state and national requirements and objectives. Given these other drivers of resource entry and exit, it may be necessary to review the structure of the NYISO capacity markets to ensure the markets continue to provide for resource adequacy while incentivizing economically efficient resource entry and exit.

3.2 Project Objective(s) & Anticipated Deliverable(s)

This project will investigate whether changes are needed to the structure of the capacity markets to ensure the markets continue to send accurate, transparent price signals that promote reliability and economic efficiency. The 2025 deliverable for this project would be an Issue Discovery.

3.3 Project Justification

The NYISO-administered capacity markets aim to maintain resource adequacy while incentivizing economically efficient resource entry and exit. However, the drivers for resource entry and exit have evolved in response to public policy, environmental, and other factors. Continued efficiency and efficacy may require changes to the structure and/or operation of the capacity markets in response to the ongoing evolution of the resource fleet.

4. Engaging the Demand Side

4.1 Problem / Opportunity

Engaging consumers to assume greater control of their energy use will help to balance increasing penetration of intermittent and variable generation supporting New York State’s zero emission and climate action policies. The NYISO’s demand response (DR) programs and DER and Aggregation participation model offer electric consumers the opportunity to “supply” energy to the wholesale markets.

The NYISO’s current DER model requires DER to be fully dispatchable in real time with no commitment parameters such as start-up time. NYISO’s current Special Case Resource (SCR) model has a 21-hour advance notice and 2-hour in-day notice. SCRs are required to be a 4-hour capacity provider with no other time duration options. NYISO MPs have provided feedback that design revisions may provide new and existing Resources the ability to participate more fully using the current NYISO DER, or SCR

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models. The NYISO remains interested in exploring opportunities to enhance the DER and/or SCR models.

4.2 Project Objective(s) & Anticipated Deliverable(s)

The NYISO will advance the effort based on the 2024 MDCP. The 2025 project deliverable for this project will be Deploy.

4.3 Project Justification

Enhancements to the NYISO’s DER and/or SCR models that further support robust participation of flexible demand in both DAM and RTM may provide another tool to balance the NYCA system, address resource intermittency, and support ancillary service providers. The team will further evaluate recommendations identified in the 2023 Issue Discovery effort to determine their merit.

5. Market Purchase Hub Transactions - Requested by LIPA

5.1 Problem / Opportunity

The ability for marketers to source energy from the wholesale market, (i.e., buy at Locational Based Marginal Pricing (LBMP) for sale to load or other parties) is important for municipalities to take advantage of Treasury Department regulations allowing for tax-advantaged prepaid energy market purchases that serve retail load, and may be valuable to a broad range of MPs for other commercial purposes. The Netting of Bilaterals (Trading Hubs) initiative was first proposed in 2008, but was limited to balanced transactions. The proposed project would expand the rules to allow market purchase hub transactions. To permit these unbalanced hub transactions, the project will need to address market design, collateral requirements, and energy imbalances. The project will consider mechanisms to allow the transfer of responsibility for these requirements to the ultimate load recipient.

5.2 Project Objective(s) & Anticipated Deliverable(s)

This project will modify zonal trading hubs in the NYISO energy market systems to provide additional flexibility in scheduling of hub transactions. Using the NYISO and scheduling system, a Market Participant will be able to establish unbalanced transactions to purchase power from the NYISO market for ultimate delivery to a load. The Market Participant will be able to establish separate transactions to sell the power it purchases from the trading hub to a portfolio of load service entities that may be at different electrical locations in the same Load Zone as the Trading Hub. The purpose is to allow service to load, not virtual transactions. This project will identify tariff, software, and procedural changes needed to bring about these changes. The 2025 deliverable will be a ~~FRS Complete-Market Design Complete~~.

5.3 Project Justification

The market design will propose modifying zonal trading hubs by allowing unbalanced transactions to provide additional flexibility in scheduling of hub transactions.

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6. Operating Reserves Performance

6.1 Problem / Opportunity

Assessing an operating reserves provider’s stated capabilities or performance is becoming a growing concern as the grid becomes more dependent on intermittent renewable generators and limited duration or limited energy resources. It is important that the NYISO can count on resources’ stated capabilities when they are instructed to convert reserves to energy in response to grid reliability needs, such as load balancing or contingency response. Additionally, under current market rules, operating reserves receive the same compensation regardless of their actual performance. This compensation structure may not provide adequate incentive to perform, creates an inefficiency in the market, and has potential negative impacts to system reliability.

Based on NERC and Northeast Power Coordinating Council rules, if the NYISO fails to procure sufficient reserves to recover from a Disturbance Control Standard event, the NYISO may be required to procure additional reserves and may be subject to financial penalties. Additionally, if a supplier cannot fully convert operating reserves to energy at the NYISO’s direction, the NYISO must dispatch other, often more costly, resources to provide the needed energy, or be forced to take out-of-market actions that cause uplift and reduce efficiency. The Operating Reserves Performance project seeks to improve market efficiency and help maintain system reliability.

6.2 Project Objective(s) & Anticipated Deliverable(s)

Continuing the work from 2024, the deliverable for this project for 2025 is ~~Software Design~~ **Functional Requirements** .

6.3 Project Justification

As the markets and grid are expected to rapidly evolve in the coming years and reliance on grid reliability services such as reserves increases, enhancements to the methods for both assessing the performance of operating reserves providers and ensuring that compensation appropriately reflects performance will be of growing importance. The MMU has previously recommended that the NYISO “[c]onsider means to allow reserve market compensation to reflect actual and/or expected performance [SOM Recommendation 2016-2].” The Operating Reserves Performance project seeks to improve incentives for a resource to accurately reflect the operating reserves that it is capable of providing. Ensuring that operating reserves capabilities are accurately stated will aid NYISO in procuring the necessary levels of operating reserves for reliable operation and reduce the need for potentially less efficient and/or costly actions to ensure access to adequate production capability.

7. Review of Control Area System Resources

7.1 Problem / Opportunity

A Control Area System Resource is a set of Resources owned or controlled by an entity within a Control Area that also is the operator of such Control Area. Entities supplying UCAP using Control Area System

Resources do not designate specific Resources, and therefore cannot be evaluated like External Resources and ICAP Suppliers located within the NYCA.

7.2 Project Objective(s) & Anticipated Deliverable(s)

The NYISO will evaluate the ability of Control Area System Resources to provide Unforced Capacity to determine whether they are functionally equivalent to other External Resources, and whether Control Area System Resources are being properly valued for their contribution to resource adequacy. The project deliverable for 2025 is MDCP.

7.3 Project Justification

As part of its efforts to improve modeling for capacity accreditation, the NYISO is in the process of evaluating ICAP Supplier availability and performance. This project will evaluate whether Control Area System Resources are properly accredited and propose changes if necessary.

8. Storage as Transmission

8.1 Problem / Opportunity

The unique characteristics of energy storage allow these assets to provide many potential services to grid operators. During normal operation, storage can have positive impacts on transmission systems by shifting demand, supporting ancillary services, and managing transmission congestion. Currently, the NYISO tariffs treat storage as a resource that is capable of injecting and withdrawing to shift demand and/or manage transmission congestion and provide ancillary services. In some instances, storage used exclusively as a regulated transmission asset, instead of as a market resource, could provide an alternative option for providing the same services as traditional transmission solutions. Because storage requires scheduling of power to consume or supply, the current market rules do not contemplate evaluating storage as a regulated transmission asset in the planning process. Additionally, the market rules consider storage to be a market-based resource that competes and is scheduled in parallel with other suppliers; the current rules do not contemplate allowing assets that are suppliers such as generators, pumped hydro, or energy storage to be considered with traditional transmission resources to be eligible for cost-of-service rate recovery.

8.2 Project Objective(s) & Anticipated Deliverable(s)

This project will continue the work recommended in the Issue Discovery and MDCP phases of this effort and may consider two components. The first component would allow a storage project to be considered and evaluated as a regulated solution (including options for cost recovery) in the planning process and assessed in the applicable interconnection process, as necessary. The second component would consider methods for operating the storage as a transmission asset, taking market impacts into consideration. These components are related and may depend on one another.

The 2025 project deliverable will be MDC, where the NYISO will build on the 2024 MDCP to develop a market design and accompanying tariff modifications to be presented for approval by MPs.

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8.3 Project Justification

Transmission upgrades may be necessary to deliver more clean energy across New York’s electric grid. However, transmission development is often difficult, expensive, and on very extended development time frames. Utilizing storage as regulated transmission assets may provide an alternative for providing or enhancing these services on a shorter timescale and potentially at lower cost, while preserving valuable optionality in the process. However, storage does not create transfer capability on the grid and thus it may not be the appropriate solution in many cases. Without fully vetting the opportunities and risks for considering whether storage can offer viable and reliable alternatives to traditional transmission, the marketplace will not have certainty on whether there is value to these potential projects, and market rules changes would not be pursued that could unlock these benefits.

9. Winter Reliability Capacity Enhancements

9.1 Problem / Opportunity

The NYISO’s planning analyses indicate that the New York State electric system is evolving from a summer peaking/summer risk system to a winter peaking/winter risk system. Ahead of this change, the NYISO’s ICAP Market structure will need to be reviewed to assess whether price signals, obligations, and incentives provided by the ICAP Market will continue to be effective in a winter peaking system.

9.2 Project Objective(s) & Anticipated Deliverable(s)

The Winter Reliability Capacity Enhancements project will address issues identified in the 2024 Winter Reliability Capacity Enhancements report. In 2025, NYISO will explore specific market enhancements and propose design changes to support a winter peaking/winter risk system. The project deliverable for 2025 will be MDC.

9.3 Project Justification

The existing structure of the ICAP Market is based on New York being a summer peaking electric system. As New York moves from a summer peaking system to a winter peaking system, changes to the Installed Capacity Market may be needed to ensure the market continues to efficiently provide for New York’s resource adequacy needs. This project also supports SOM Recommendation 2022-2.

10. Winter Fuel Constraint Study

10.0 Problem / Opportunity

The NYISO’s Resource Adequacy studies model constraints on natural gas and secondary fuel during the winter season. Natural gas and secondary fuel constraints are correlated with various weather conditions, including extreme conditions. The current natural gas and secondary fuel constraint modeling assumptions are based on available data that only covers normal weather conditions and

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does not contain sufficient detail to analyze conditions that are beyond normal conditions that contribute to the fuel constraints.

10.1 Project Objective(s) & Anticipated Deliverable(s)

The NYISO will perform the fuel constraint study for the entire NYCA system. The study is expected to answer the following questions:

- What is the amount of natural gas available to electricity generators during winter under various weather conditions, considering gas pipeline limitations, Local Distribution Company limitations, economic limitations due to natural gas price, as well as impact from Liquefied Natural Gas?
- What is the dependable storage level of secondary fuel of electricity generators during winter under various weather conditions, considering on-site storage size, replenishment of on-site storage, and lead time for on-site fuel switching if needed?
- How are these fuel constraints expected to change in the next 10 years?

The 2025 milestone will be Study Complete.

10.2 Project Justification

The winter fuel constraint study will help refine the assumptions made in the Resource Adequacy study, leading to more accurate representation of the Resource Adequacy risk during the winter season. The refined assumptions will benefit both the annual Installed Reserve Margin study and the bi-annual Reliability Needs Assessment study.

Mandatory

11. Ambient Adjusted Transmission Lines Ratings

11.1 Problem / Opportunity

FERC issued Order 881 to improve the accuracy and transparency of the transmission line ratings. This order requires both TOs and regional transmission organizations (RTOs) to implement a methodology to determine transmission line ratings that are ambiently adjusted on an hourly basis for all near term evaluations such as the DAM, RTM and Real-Time Security. This effort will require coordinated work by the TOs and NYISO because the TOs, who are the rating authorities, will need to calculate the hourly ratings for their own use and then transmit them to the NYISO for use in the Energy Management System and Business Management System software and posting to the NYISO’s public website.

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11.2 Project Objective(s) & Anticipated Deliverable(s)

This project is a continuation of the 2022 FERC Ruling assessment effort and compliance filing. The goal of this project will be work with Transmission Owners to determine requirements, specifically the mechanics of a data exchange and communication, with a 2025 deliverable of Study Complete.

11.3 Project Justification

This project is a FERC mandate. Completion by 2028 is required to comply with Order 881.

12. Coordinated Grid Planning Process (CGPP)

12.1 Problem / Opportunity

In its August 2023 order, the New York State Public Service Commission (NYPSC) approved the Utilities' proposal for a Coordinated Grid Planning Process with certain modifications. One of the modifications was to coordinate with the NYISO to leverage the NYISO's planning work as inputs into the CGPP. Additionally, the NYPSC directed the utilities to collaborate with DPS, NYSEDA, and the NYISO to reduce each cycle of the CGPP from three years to two years to achieve efficiency and to better align with the NYISO's two-year planning cycle. The NYISO's coordination with the utilities is a multi-year project that began in 2023. If the NYPSC takes additional action to modify the currently approved CGPP, this project will account for any modifications to the current timeline for study work in 2025.

12.2 Objective(s) & Anticipated Deliverable(s)

In addition to the NYPSC's decision on the two-year study cycle, the NYISO recognizes the need for a greater alignment between the System and Resource Outlook findings and the Reliability Planning Process. Particularly, with increased variable energy resources (wind, solar, batteries) there is a need to align the output of production cost simulations more closely with transmission security analysis evaluated for reliability studies.

This project objective would be to complete a study that reviews software capabilities for producing transmission security power flow case representations from hourly production cost simulations. This work would also add value to the CGPP in stages 2-4 for the development and identification of system conditions that should be evaluated. Modifications of these deliverables may be required after any NYPSC decision on the current three-year study cycle. The deliverable for this project will be a Study Complete.

12.3 Project Justification

This project is needed to ensure alignment between the System and Resource Outlook findings and the Reliability Planning process. Additionally, it may be necessary for regulatory compliance based on the potential for rulings from the NYPSC that impact the NYISO's current two-year planning cycle.

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13. Demand Curve Reset

13.1 Problem / Opportunity

Every four years, the NYISO, along with its stakeholder community, conducts the DCR study. As required by the tariff, the study includes an examination of potential peaking unit technologies and the capital and financial costs assumed in the construction and operation of that unit, along with an estimate of the projected profit earned in the Energy and Ancillary Service markets, to determine which unit has the “lowest fixed costs and highest variable costs among all other units’ technology that are economically viable.” The unit that satisfies this requirement is then used to determine the underlying parameters for each ICAP Demand Curve over the next four Capability Years.

13.2 Project Objective(s) & Anticipated Deliverable(s)

This periodic review of the ICAP Demand Curves seeks to ensure that the capacity market continues to efficiently support reliability and send accurate, transparent price signals. The review is performed by engaging an independent consultant to lead the DCR process. In addition to providing recommendations for the parameters and assumptions used in establishing the ICAP Demand Curves, the consultant’s efforts include evaluating the shape, slope, and zero crossing point for each ICAP Demand Curve.

On or before November 30, 2024, the NYISO will file the proposed curves for the first year of the reset period (*i.e.*, the 2025/2026 Capability Year), along with the assumptions and methodology to be used to set demand curves for the subsequent three Capability Years of the reset period (*i.e.*, the 2026/2027, 2027/2028 and 2028/2029 Capability Years).

For 2025, the project would complete the DCR study by supporting any required regulatory activities related to the NYISO’s filing to address the results of the DCR, as well as preparation for the 2025/2026 Capability Year and Locational Minimum Installed Capacity Requirement (LCR) study, ICAP auctions and subsequent annual updates that will utilize the new parameters determined by the DCR.

13.3 Project Justification

The quadrennial DCR is mandated by the tariff. The DCR is a resource intensive process for both the NYISO and stakeholders that has a significant impact on the market as a whole.

14. FERC Order 2222 Compliance

14.1 Problem / Opportunity

FERC’s issuance of Order No. 2222 presents additional scope to the NYISO’s previously approved DER and Aggregation market design. In 2021 and 2022, the NYISO developed and filed market rules in compliance with Order No. 2222. In 2024, NYISO completed the FRS for all functionality remaining to support the filed tariff language for compliance with the Order. In 2025, the NYISO will complete the

Software Design for Order No. 2222 Compliance requirements based on the 2024 FRS. The project scope requires the NYISO to complete software development in alignment with accepted tariff language to support deployment of Order No. 2222 compliant software by the end of 2026.

14.2 Project Objective(s) & Anticipated Deliverable(s)

Using the 2024 FRS as a basis, the NYISO will complete the Software Design in 2025. The NYISO will then begin development of software based on the use cases and specifications identified to reflect requirements of Order No. 2222 compliance that were not in scope for previous DER project deployments and releases, including the new market rules from the 2024 FRS.

14.3 Project Justification

This project will enable the NYISO to incorporate software specifications to support market design features required by Order No. 2222 that were not included in the initial deployment of DER.

The 2025 effort will enable NYISO’s DER Participation Model and software to be fully compliant with the requirements of FERC Order No. 2222 by the end of 2026, while building on the 2020 FERC-accepted market design deployed in 2024.

15. FERC Transmission Planning Order Implementation

15.1 Problem / Opportunity

FERC issued a final rule on Long-Term Regional Transmission Planning and Cost Allocation on May 13, 2024. The final rule requires the NYISO to reform its current regional transmission planning process (*i.e.*, the Comprehensive System Planning Process [CSPP]) to, among other things, establish a process to identify and address long-term transmission needs over a 20-year time horizon, improve coordination of its CSPP and generator interconnection procedures, require consideration of alternative transmission technologies, improve transparency and coordination of local transmission planning processes, and require the establishment of a right of first refusal for right-sized replacement transmission facilities selected to meet an identified long-term transmission need. NYISO staff has immediately started working to comply with the final rule. This project will continue work started in 2024, which is expected to result in a compliance filing by the final rule’s deadline in mid-2025. The 2025 deliverable for this project is Issue Discovery. This deliverable is–contingent upon the NYISO receiving timely FERC acceptance of its anticipated compliance filing.

15.2 Project Objective(s) & Anticipated Deliverable(s)

For 2025, the objectives are to complete a compliance filing, including necessary tariff revisions, and an Issue Discovery, outlining the necessary business process changes required to meet the final rule.

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15.3 Project Justification

The project is required to comply with a FERC final rule.

16. Interconnection Cluster Study Process Implementation

16.1 Problem / Opportunity

On July 28, 2023, FERC issued Order No. 2023 addressing Improvements to Generator Interconnection Procedures and Agreements. Among the order’s goals are addressing long interconnection queue backlogs across the country due to increasingly large numbers of new resources seeking to interconnection to the transmission system. On March 21, 2024, FERC issued an order on rehearing – Order No. 2023-A – broadly upholding its initial rulings and offering additional clarifications.

The NYISO presented a comprehensive compliance proposal to the Operating Committee in December 2023, and has held numerous stakeholder meetings to review components of the compliance plan and related tariff revisions. On May 1, 2024, the NYISO submitted its compliance filing with a requested effective date of May 2, 2024 and immediately began implementation of the new procedures.

Most significant among the reforms NYISO included in its May 1, 2024 compliance filing were tariff revisions that propose to:

- Shorten the timeframe for the NYISO’s interconnection process in line with the timeframe established in Order No. 2023 by establishing a two-phase Cluster Study Process.
- Establish a framework to improve transparency and accountability in the performance of the interconnection process.
- Establish a pre-application process and provide a heatmap to provide developers with the opportunity to obtain additional information prior to the submission of their Interconnection Requests.
- Provide physical infeasibility screening early in the Cluster Study Process to identify physically infeasible interconnections and permit penalty free withdrawals due to physical infeasibility.
- Retain or otherwise incorporate into the Cluster Study Process technological advancement requirements identified in Order No. 2023.
- Align the treatment of incorporate generating facilities 20 MW or smaller with the Cluster Study Process, incorporating all generation facilities into a single, standardized process.
- Address requirements for affected systems located in the NYCA and neighboring systems.

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- Establish a Transition Cluster Study Process available to all developers that satisfy the process entry requirements to enable developers to immediately make use of the new study process without prerequisite studies.
- These compliance reforms will collectively drive substantial efficiencies and improvements in the NYISO’s interconnection process and are directly targeted at enabling the increasing number of projects seeking to interconnect in New York to do so in a reliable, efficient, transparent, and timely manner. The proposed reforms will assist New York State in satisfying its ambitious climate goals.
- This project is a multi-year project focused on the implementation of the new cluster study process, new and revised process changes, and tools needed to support the FERC Interconnection study process. These enhancements will allow collaboration and communication with the Interconnection customers, connecting Transmission Owners (CTOs), and NYISO

16.2 Project Objective(s) & Anticipated Deliverable(s)

- This is a continuing project to focus on the implementation of the new Cluster Study process changes and tools to support the interconnection study process. These enhancements allow collaboration and communication with the Interconnection Customers, CTOs, and NYISO. The NYISO’s goal is to develop an Interconnection Portal to serve as the source of information for the NYISO and Interconnection Customers regarding interconnection projects and to replace the manual processes that the NYISO currently uses. As the volume of new resources seeking to interconnect to the system rapidly grows, it is paramount that the NYISO continues to enhance the interconnection process to balance the large influx of new resources and maintain the reliability of the electric grid.
- The project will involve software changes within Salesforce to implement an Interconnection Portal and other changes that would increase the transparency and efficiency of the interconnection process. Additionally, to meet the FERC Order requirement for a HeatMap, the project will include the selection and implementation of a vendor solution. The chosen vendor solution will look to include providing a Queue map to replace the existing queue list process. The project goal for 2025 is to reach the Deployment milestone.

16.3 Project Justification

This project is required to meet compliance obligations related to Order Nos. 2023 and 2023-A

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17. Dover PAR Operating Protocol with ISO-NE

17.1 Problem / Opportunity

There is a planned Phase Angle Regulator (PAR) installation on the Long Mountain-Cricket Valley 345kV (#398) intertie between the NYISO and ISO-NE by Q4 2025, which is an upgrade from the AC Public Policy Segment B project. The NYISO does not currently have an operating agreement with ISO-NE for this PAR. Tariff revisions will be required to incorporate the new device.

17.2 Project Objective(s) & Anticipated Deliverable(s)

The objective of this project is to develop an operating protocol with ISO-NE for the new Dover PAR. The project deliverable for 2025 will be Market Design Complete.

17.3 Project Justification

With the addition of a PAR on the NYISO/ISO-NE seam, an operating agreement is necessary to guide PAR control actions that reduce the overall cost of congestion and maintain reliability.

18. New York City Public Policy Transmission Need

18.1 Problem / Opportunity

In the NYPSC order designating a New York City Public Policy Transmission Need (NYC PPTN) issued in June 2023, the NYPSC directed the NYISO to proceed with a solicitation for a transmission project to connect at least 4,770 MW of offshore wind to New York City. The NYISO began work on this project in 2023 with the identification of the Determination of Transmission Need. In 2024, the NYISO continued this effort, working through the solicitation of solutions and performing the Viability & Sufficiency Assessment. The NYISO anticipates that the evaluation and selection of the more efficient or cost-effective solution, if any, will occur in 2025 (full project completion). NYISO staff will produce a detailed report on the analyses and evaluation of the proposed projects and will recommend the more efficient or cost-effective solution to the Board to address the NYC PPTN, if any.

18.2 Project Objective(s) & Anticipated Deliverable(s)

For 2025, this project's deliverable will be a Study Complete, with a recommendation to the Board of Directors based on the outcome of NYISO's evaluation of the proposed solutions.

18.3 Project Justification

With the NYPSC's order identifying a PPTN, the project is required to comply with the requirements of the Public Policy Transmission Planning Process set forth in the NYISO's tariff.

Continuing

19. CRIS Expiration Evaluation

19.1 Problem/Opportunity

As part of the 2022 and 2023 CRIS Expiration Evaluation project, stakeholders approved market rule changes to (1) allow deactivated facilities with unexpired CRIS to voluntarily relinquish their CRIS, (2) limit the extent to which facilities using only part of their CRIS can retain unused CRIS (i.e., partial CRIS expiration), and (3) provide additional CRIS transfer options. These changes aim to increase capacity deliverability headroom and potentially lower the cost of market entry to future facilities seeking to participate in the ICAP market. To effectuate the partial CRIS expiration rules, the NYISO must work towards developing the necessary software.

19.2 Project Objective(s) & Anticipated Deliverable(s)

Continuing the work from 2024, the objective of this project is to test and deploy the software that was developed as part of the 2024 project.

The project deliverable for 2025 will be Deployment.

19.3 Project Justification

This project seeks to automate the tracking of utilization of CRIS to maintain compliance with the Tariff.

20. Dynamic Reserves Phase 1

20.1 Problem / Opportunity

Today, the NYISO procures fixed quantities of operating reserves in specified regions across the state. Under this structure, the static modeling of reserve regions and their associated requirements may not optimally reflect the varying needs of the grid to respond to changes in system conditions. These system conditions are expected to become more variable as new resources enter into the market in the coming years.

Based on New York State Reliability Council, L.L.C. (NYSRC) rules, the NYISO is required to procure sufficient reserves to account for the single largest source contingency at all times. However, the current static modeling approach does not account for the potential for the largest source contingency to change based on system conditions and system topology every market run. Dynamically determining the operating reserve requirements could enhance system reliability and market efficiency based on the system needs at any time.

The NYSRC rules also require the NYISO to ensure that transmission facilities are not loaded above their Long-Term Emergency (LTE) rating, post-contingency. In some cases, within New York City, the

NYISO is permitted to operate transmission facilities above LTE, using generating capacity not otherwise scheduled to provide energy and Phase Angle Regulator (PAR) actions to quickly secure the transmission facilities post-contingency. This operation offers opportunities to reduce production costs by relaxing the transmission limits of facilities that feed load pockets in New York City. Currently, operating reserve providers in these load pockets are not compensated for the avoided transmission congestion they enable by allowing certain facilities to be secured to a rating that is higher than LTE.

Therefore, Dynamic Reserves would enhance the current modeling by: (i) allowing the adjustment of the minimum operating reserve requirements based upon the single largest source contingency or risk for simultaneous loss of energy from similarly situated generation (e.g., offshore wind or natural gas), and (ii) accounting for transmission capability when determining reserve needs within a constrained area. These enhancements could allow the scheduling of energy above the minimum operating reserve requirements from individual suppliers when sufficient reserves are available and also the shifting of reserves to lower-cost regions when transmission capability exists. A dynamic reserve procurement methodology could improve market efficiency through enhancing competition among suppliers, and better aligning market outcomes with how the power system is operated.

20.2 Objective(s) & Anticipated Deliverable(s)

The anticipated deliverable for 2025 will be Software Design Specification based on the Functional Requirements Specifications from the 2024 Dynamic Reserves project.

20.3 Project Justification

As the markets and grid are expected to rapidly evolve in the coming years, the modeling of reserves will also need to evolve and become more flexible. The Market Monitoring Unit (MMU) has recommended that the NYISO “[d]ynamically adjust operating reserve requirements to account for factors that increase or decrease the amount of reserves that must be held on internal resources [SOM Recommendation 2015-16].” Dynamic Reserves would seek to ensure the reserve requirements and the procurement of reserves adequately reflect the conditions of the system. Specifically, the reserve modeling should dynamically account for the single largest source contingency and the loss of transmission capability into a region. This would improve market efficiency by allowing more energy to be produced from a single source if adequate reserves are available, and also allow reserves to be scheduled in less expensive regions when there is available transmission capability to import power into a constrained region post-contingency. Dynamic reserve requirements and procurements present opportunities to enhance grid resilience, encourage resource flexibility, lower total production costs, and increase efficiency in meeting applicable reserve requirements. This project also supports SOM Recommendations 2015-16, 2021-2.

21. Improve Duct-Firing Modeling

21.1 Problem/Opportunity

Providers of reserves and regulation are currently required to achieve their emergency response rate over the entire range of operation. This is problematic for combined-cycle gas turbines (CCGTs) with duct firing because the response rate of the duct-firing portion is typically slower than the baseload portion of the plant. It is also expected to be a problem for resources with a mix of technologies, such as Aggregations. These resources cannot achieve the emergency response rate in the duct-firing portion of their range (typically the upper 10-20% of capability), which limits their availability to provide reserves and regulation.

This project would seek to develop a design that better utilizes the capability of each plant segment. The following solutions are being considered in 2024, but the list is not exclusive: (1) testing the static registration response rates for each MW block and not the emergency rate for the entire output of the plant and (2) allowing reserves and regulation to be provided for just the baseload output of the plant.

21.2 Project Objective(s) & Anticipated Deliverable(s)

The 2025 project deliverable will be to ~~deploy~~ develop software changes to support the approved 2024 market design. The project would enable market enhancements that would be required for a combined-cycle generator to reflect its operating characteristics in the duct-burning range as well as the capturing the benefits of this functionality.

21.3 Project Justification

There are currently many combined cycle generators in the NYCA, and the majority of these combined cycle generators have duct-firing capacity. These resources currently represent a large source of dispatchable energy, reserves, and regulation. Having access to these resources' full dispatchable capability will become increasingly important as generation from intermittent resources grows over the coming years. Enabling their participation will provide consumer benefits, as increased competition could result in lower market prices and greater availability of resource capability to provide various ancillary services. Thus, the project would seek to evaluate enhancements to the scheduling of a generator's capacity that would provide more flexibility in the reserves and regulation markets. This project also supports SOM Recommendation 2020-1.

22. Integrating Champlain Hudson Power Express (CHPE)

22.1 Problem / Opportunity

The Champlain Hudson Power Express (CHPE) is a new high-voltage direct current (HVDC) line between HQ and NYISO that is expected to come in-service by summer 2026. The NYISO does not currently have an operating agreement for CHPE with HQ or the U.S. owner/operator of this HVDC line. Additionally, Tariff revisions may be required to incorporate the new device.

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22.2 Project Objective(s) & Anticipated Deliverable(s)

The objectives of this project are to develop an operating protocol with HQ and the U.S. owner/operator for the CHPE HVDC line, identify needed tariff revisions and software enhancements, and to map out the timeline of changes needed to effectively integrate this facility into the market systems and reliability tools (EMS). The project deliverable for 2025 will be ~~Q4 Development Complete~~ **Software Design**.

22.3 Project Justification

With the addition of the new HVDC line between HQ and the NYISO that will be operated in the U.S. by a new, non-incumbent TO, operating agreements are necessary to guide the HDVC line control actions that reduce the overall cost of congestion and maintain reliability. New software and tariff changes are also necessary to manage advanced reservations.

23. Internal Controllable Lines

23.1 Problem / Opportunity

There are no internal controllable lines in operation within the NYCA. Prior to the 2023 project MDC, market rules for the scheduling and pricing of internal controllable lines within the Energy Market did not exist. The NYISO had high-level rules to allow Internal Unforced Capacity Deliverability Rights (UDRs) to participate within the ICAP Market. The internal rules had significant gaps that were addressed in 2023, including, but not limited to, the determination of requirements for providing capacity on the Internal UDR and the determination of obligations for the Internal UDR that sells capacity.

The development of market rules for internal controllable lines to support outcomes in the best interests of all stakeholders is needed. This project began with developing market rules for the scheduling and pricing of internal controllable lines within the Energy Market. The NYISO also evaluated and revised the existing ICAP market rules for Internal UDRs to ensure compatibility with the expected operation of internal controllable lines in the Energy Market. These newly developed rules account for how internal controllable lines may be used to support state and local programs.

23.2 Project Objective(s) & Anticipated Deliverable(s)

This is a continuing project to incorporate point-to-point internal controllable lines into NYISO markets. Continuing the work from 2024, the deliverable for the project for 2025 is Software Design .

23.3 Project Justification

State initiatives such as Tier 4 Renewable Energy Credit (REC) procurements provide incentives for developers to deliver renewable generation into congested areas using HVDC lines or similarly controllable transmission resources. New York State has awarded one Tier 4 contract for an internal controllable line and additional projects have been proposed.

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24. LCR Optimizer Enhancements

24.0 Problem/Opportunity

In 2017 and 2018, the NYISO worked with stakeholders to design and implement a proposal to set Locational Minimum Installed Capacity Requirements (LCRs) based on both the resource adequacy criterion of maintaining a loss of load expectation of no greater than one event-day in 10 years, as well as an economic cost minimization of those requirements based upon a set of net cost of new entry (CONE) curves developed based upon the peaking plant used in establishing each ICAP Demand Curve. This effort, called the “Alternative Methods for Determining LCRs,” was intended to produce a robust, transparent, and intuitive process for maintaining reliability, while producing a lower cost solution in comparison to the previous method for developing LCRs, commonly referred to as the “Tan 45” methodology.

Since implementation of the revised methodology, concerns have been raised about the methodology and the resulting LCRs, including the stability of the LCRs and the transparency of the optimization function. Re-examining this process and the methodology could lead to improvements in the stability and transparency of the LCRs.

24.1 Project Objective(s) & Anticipated Deliverable(s)

The objective of this project is to deploy any modifications and enhancements to the LCR process that were approved as part of the 2023 and 2024 “LCR Optimizer Enhancements” project efforts. The milestone for 2025 is a Deployment.

24.2 Project Justification

This project will seek to further enhance the LCR methodology to improve stability and transparency of the LCRs.

25. Dynamic Reserves - Review Operating Reserve Supplier Cost Recovery

25.1 Problem / Opportunity:

Currently, the NYISO charges Load Serving Entities (LSEs) for the cost of providing all Operating Reserves based on load-ratio share, distributing costs throughout the NYCA. However, with the impending implementation of Dynamic Reserves, which tailor reserve requirements to specific grid conditions, including localized constraints, this project will explore alternatives to the current procedures for recovering the cost of reserves that the NYISO procures in order to manage these locational constraints. In particular, this project will explore if adjustments are necessary to: (1) the funding source for the locational component of locational Operating Reserve compensation; (2) the allocation of Forecast Reserve Charge revenues, (3) the procedure for determining transmission facility ratings used in the TCC auction, which affects the number of TCCs available, as well as any changes to the procedures for allocating TCC auction revenues and day-ahead congestion rent residuals among

the TOs that may become necessary if the procedure for determining these ratings is changed; and (4) settlements for generators that are the first and second largest contingencies.

The implementation of the Dynamic Reserves project will decrease congestion rent collections whenever flows on constrained facilities are reduced below the limits that apply to those facilities in lieu of maintaining locational reserves to manage those constraints. In the absence of any other changes, this will lead to congestion rent shortfalls in the DAM. Using congestion rents to fund the locational component of those reserves would also increase DAM congestion rent shortfalls. By reducing the number of TCCs available, changes to the TCC auction assumptions could reduce these shortfalls. Similarly, the allocation of the Forecast Reserve Charge that will result from the implementation of Dynamic Reserves can also affect the shortfall. Finally, when Dynamic Reserves is implemented, the ISO's decision to schedule generators that are one of the two largest contingencies to produce additional energy will consider the impact that such a decision has on operating reserve requirements.

As demonstrated in the Dynamic Reserves project, the static modeling of reserve regions and their associated requirements may not optimally reflect the varying needs of the grid to respond to changes in system conditions. Upon the completion of Dynamic Reserves, the NYISO will implement a nodal reserve market, which provides locational signals to value and identify the need for reserves in specific locations.

25.2 Objective(s) & Anticipated Deliverable(s):

The primary objective of this project is to develop market rules and mechanisms to allocate the cost of procuring Operating Reserves on a locational basis, consistent with and necessary to implement the Dynamic Reserves project. Additionally, the project will investigate the allocation of Forecast Reserve Charge revenues and settlements for generators that are the first and second largest contingencies. Also, the project will assess changes in procedures used to determine transmission facility ratings used in the TCC auction, and any changes to the procedures for allocating TCC auction revenues and day-ahead congestion rent residuals among the TOs that may become necessary if the procedure for determining these ratings is changed. The anticipated deliverable for 2025 is MDCP.

25.3 Project Justification

Stakeholders have expressed interest in exploring alternative operating reserve cost recovery structures, particularly emphasizing alignment between locational reserve procurement and cost recovery, as discussed during the Dynamic Reserves market design.

This project would also address two components of Dynamic Reserves: (1) The application of the Forecast Reserve Charge revenues and (2) settlements for generators that are the first and second largest contingencies. The Forecast Reserve Charge will charge the Forecast Reserve price to real-time Loads that do not schedule in the Day-Ahead Market to provide the appropriate incentive to schedule load Day-Ahead and recover the cost of scheduling reserves up to Forecast Load. As proposed under

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Dynamic Reserves, the revenues from this charge would offset the total reserve charges to LSEs (i.e., offset Rate Schedule 5). This project will investigate if it is warranted to allow Day-Ahead Loads to collect a credit when their RTM schedule is less than their DAM schedule, and where Forecast Reserve Charge revenues are offset.

Additionally, since the implementation of Dynamic Reserves will increase day-ahead congestion rent shortfalls if there are no modifications to the procedures currently used to determine the total quantity of TCCs that can be outstanding at any point in time, the project will assess whether the procedures used to determine transmission facility ratings used in the TCC auction should change. It will also consider changes to the procedures for allocating TCC auction revenues and day-ahead congestion rent residuals among the TOs that may become necessary if the procedure for determining these ratings is changed.

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