

# NYISO Project Prioritization 2023

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**PROJ Please score the projects that your organization believes are the most important for the NYISO to pursue in 2024. All survey responses and comments will be made public and posted with Budget and Priorities Working Group materials after the survey due date of June 24, 2023.**

- **You have a total of 100 points to allocate to as many projects as you like. Please only use POSITIVE whole numbers and no decimals. Negative numbers are not accepted.**
- **Click on the project title to display a description. To minimize the description, click on the project title again. There is an area under each project to add any comments pertaining to that project.**
- **You may share your link with your colleagues to work collaboratively on scoring prior to submitting your scores.**
- **Any questions, please reach out to Kevin Pytel at [kpytel@nyiso.com](mailto:kpytel@nyiso.com) or 518-356-8892.**

**The organization you are completing this survey for is:  $\{e://Field/Account\%20Name\}$ .**

**1. 5-Minute Transaction Scheduling 1.1 Problem / Opportunity** Currently, interchange with external control areas is achieved on either a 15-minute or an hourly basis using the NYISO's Real-Time Commitment (RTC) software. A significant portion of Internal Generation is scheduled every five minutes. More frequent interchange scheduling with external control areas could notably improve convergence between prices in RTC and Real-Time Dispatch (RTD) and provide additional balancing and/or ramping capabilities. With increased penetration of intermittent renewables, five-minute transactions would provide greater flexibility to RTD and would create more consistency between internal and external resource scheduling.

**1.2 Project Objective(s) & Anticipated Deliverable(s)** The project builds upon the study completed in 2020 that evaluated the feasibility for scheduling every five minutes with external control areas. This project will expand upon the recommendation from the study by developing market rules and a mechanism to schedule interchange every five minutes using the RTD with

Hydro-Québec (HQ). This will include evaluating the benefits of a transaction vs. generator model in greater detail. The 2024 project deliverable will be Market Design Concept Proposed.

**1.3 Project Justification** This market improvement is expected to improve price convergence between RTC and RTD, and improve market efficiency by increasing the amount of resources available to address real-time system changes and/or events. More frequent scheduling that aligns with internal generation scheduling frequencies will also help to alleviate top-of-hour and quarter-hour interchange discrepancies between RTC and RTD. The added flexibility that more frequent interchange scheduling provides is particularly important with the State-mandated requirements for renewable generation and other clean energy resources to replace the use of fossil fuel generation. This effort will focus on incorporating five-minute scheduling with HQ, as this is the only neighboring Balancing Authority that has expressed interest in developing that capability. : \_\_\_\_\_ (1)

## **2. Advanced Storage Modeling and Operation**

**2.1 Problem / Opportunity** Currently, when the NYISO is short on Energy or Capacity in a given hour, operators will commit additional resources or modify Energy Limited Resources (ELR) or Capacity Limited Resource (CLR) unit schedules to provide the remainder of the necessary Energy or Capacity. These resources may include Distributed Energy Resources (DER), Energy Storage Resources (ESR), or any other generator that did not already have a commitment for that hour. However, as DER and ESR penetration increases, the process for operators to redispatch resources becomes more complex. Due to their inherent energy duration limitations, dispatching an ESR in one hour will reduce its state of charge and subsequently impact how it can perform in future hours. Therefore, if NYISO operators redispatch an ESR to account for a shortage of Energy in a given hour, the ESR may not be able to meet its Energy schedule in the coming hours. This issue is especially significant when an ESR that was originally scheduled to inject Energy during hours in the peak load window is re-dispatched to provide Energy earlier in the day. The Advanced Storage Modeling and Operation project will address considerations for the redispatch of an ESR and whether the asset will have the necessary state of charge to continue to meet its Energy schedule.

**2.2 Project Objective(s) & Anticipated Deliverable(s)** The market design concepts will seek to assess methods for enhancing the market modeling and operation of ESRs. The NYISO will coordinate with stakeholders to consider market design concepts governing the redispatch of an ESR throughout the day and the impacts of the redispatch on the resource's availability later in the day. The deliverable for this effort in 2024 will be to develop a concept proposal and deliver a Market Design Concept Proposal to market participants.

**2.3 Project Justification** As more behind-the-meter resources enter the market, net load profiles may deviate from expectations, resulting in Real Time needs differing from projections. As such, the redispatch of resources may become more frequent, and Advanced Storage Modeling and Operation is expected to provide NYISO operators the necessary flexibility and tools to account for increased net load variability while providing market participants additional

capabilities to manage limited energy resources availability throughout the day. This effort is also important in supporting feasible participation of limited duration resources as the NYISO considers expanding its Energy and Ancillary Service product offerings as described in the Balancing Intermittency and Dynamic Reserves efforts. : \_\_\_\_\_ (2)

### **3. Advancing NYISO Transparency - Requested by DC Energy**

**3.1 Problem / Opportunity** Posting more information would aid in the transparency of wholesale market operations and market participation. The additional data requested below can be posted publicly or protected through CEII protocols, depending on the information classification.

**3.2 Project Objective(s) & Anticipated Deliverable(s)** The following additional data should be posted by the NYISO:

1. State estimator modal and data including:
  - a. Topology
  - b. Branch characteristics
  - c. Branch flows
2. Transmission line rating for all transmission lines/facilities monitored, including when they change and why
3. Day-Ahead Market (DAM) and Real-Time Market (RTM) contingencies. The NYISO has a separate list of contingencies for DAM/RTM relative to what the NYISO models in the Transmission Congestion Contracts (TCC) auctions, and the NYISO only publishes the TCC contingencies.

The project will review the information requested to determine its classification (public, CEII, confidential, etc.), develop software to automate extracting the data from the appropriate system, including working with vendors that support NYISO systems for modifications, and developing software to periodically post data in a manner that is designed to protect CEII and other Confidential Information.

The 2024 project deliverable will be Deployment.

**3.3 Project Justification** Open, transparent, and competitive NYISO markets are essential to facilitate efficient solutions and provide benefits to consumers. The Federal Energy Regulatory Commission (FERC) has opined many times on the benefits that transparent and competitive markets deliver, for example:

- Commission’s conclusions in AD14-14 that transparency plays a critical role in improving price formation.
- Without sufficient transparency, market participants may not have the tools necessary to critically analyze and discuss problems and identify potential solutions to market inefficiencies.
- Order No. 704 conclusion: “[Such] policies [i.e., the Commission’s market-oriented policies for the wholesale natural gas industries] require that interested persons have

broad confidence that reported market prices accurately reflect the interplay of legitimate market forces. Without confidence in the basic processes of price formation, market participants cannot have faith in the value of their transactions, the public cannot believe that the prices they see are fair, and it is more difficult for the Commission to ensure that jurisdictional prices are 'just and reasonable.'" : \_\_\_\_\_ (3)

#### **4. Balancing Intermittency**

**4.1 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.

**4.2 Project Objective(s) & Anticipated Deliverable(s)** The 2023 effort reviewed the need for additional market products, appropriateness of existing operating reserve demand curves, re-evaluated system regulation requirements, and proposed market concepts with recommended

next steps as needed. The 2024 project will more fully develop the recommended market concepts to meet a deliverable of Market Design Complete.

**4.3 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
- 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 recommendations 2021-1 and further evaluating 2017-2. : \_\_\_\_\_ (4)

## **5. Clean Hydrogen - Requested by NextEra and Constellation**

### **5.1 Problem / Opportunity**

Currently, NYISO’s tariff does not clearly contemplate the co-location of an emissions-free generator and load arrangement, such as an electrolyzer producing clean hydrogen. This lack of an effective pathway will inhibit the development of clean hydrogen infrastructure, which will impede achievement of New York’s decarbonization goals.

**5.2 Project Objective(s) & Anticipated Deliverable(s)** The Clean Hydrogen Project would investigate use cases proposed by Market Participants for loads co-located with non-emitting generation, including an electrolyzer producing clean hydrogen using energy from a co-located emissions-free generator, and work with the NYISO to develop a market concept towards meeting a Market Design Concept Proposed milestone in 2024. Potential avenues may include a new participation model or modifications to the existing Co-located Resources, Hybrid Co-located Resource, and Behind the Meter Net Generator models.

**5.3 Project Justification** Achieving New York’s decarbonization goals will require a substantial amount of Dispatchable Emission Free Resources (DEFERs) in order to complement and balance intermittent generation sources. Clean hydrogen is widely understood to be a necessary fuel source for DEFERs, and the Clean Hydrogen Project is intended to develop market rules that will enable the development and deployment of clean hydrogen electrolyzers in New York State powered by co-located non-emitting generation.

Per New York State Energy Research and Development Authority (NYSERDA): “As New York transitions to a clean energy economy, we are seeking to understand and explore all resources that may be available as part of the State’s comprehensive decarbonization strategy, including assessing the role of green hydrogen. Supporting innovation and studying all technologies will enable us to remain on the cutting edge of evolving solutions that will complement our existing

decarbonization efforts in achieving the State’s ambitious Climate Act goals.” From the 2021-2040 Outlook: “As more wind, solar, and storage plants are added to the grid, DEFRs must be developed and added to the system at scale to reliably serve demand when intermittent generation is unavailable. The lead time necessary for research, development, permitting, and construction of DEFRs will require action well in advance of 2040 if state policy mandates under the CLCPA are to be achieved. Fossil generation will likely need to be retained past the 2040 mandates to keep the system reliable if DEFR technology is not in operation.”

On April 7, 2023, NYSERDA, on behalf of the seven state Northeast Regional Clean Hydrogen Hub, applied to the U.S. Department of Energy (DOE) for a \$1.25 billion share of \$8 billion in federal hydrogen hub funding available as part of the Infrastructure Investment and Jobs Act. The proposal advances \$3.62 billion of direct hydrogen investments advancing clean electrolytic hydrogen production, consumption, and infrastructure projects for hard to decarbonize sectors. As a result, clean electrolytic hydrogen projects and production will likely increase substantially.  
: \_\_\_\_\_ (5)

## **6. Co-located Steam and Storage – Requested by Elevate Renewable Energy**

**6.1 Problem / Opportunity** The NYISO’s market rules for Co-Located Storage Resources (CSRs) currently limit eligibility to an Energy Storage Resource (ESR) and a wind or solar Intermittent Power Resource (“IPRs”). Adding steam turbines as an eligible resource that can co-locate with an ESR for eligibility as CSRs would continue what the NYISO has described as its “ambitious effort to integrate advanced energy technologies into the wholesale markets it administers.”<sup>1</sup> Expanding the CSR-eligible resource types to include steam turbines would provide an opportunity for the development of additional CSRs, which will complement efforts to meet the Climate Leadership and Community Protection Act (CLCPA) requirements that seventy percent (70%) of New York’s electric load be served by renewable resources by 2030 and 6,000 MWs of ESRs by 2030.

**6.2 Project Objective(s) & Anticipated Deliverable(s)** As part of the work to develop a Hybrid Aggregated Storage (HSR) model, the NYISO developed with stakeholders amendments to the CSR model to permit use cases where ESRs are paired with Fast-Start Resources, Limited Control Run-of-River Hydro Resources, and Landfill Gas Intermittent Power resources. The amendments were supported by a majority of stakeholders at the December 14, 2022, Business Issues Committee and the December 21, 2022, Management Committee meetings, and tariff changes are anticipated to be filed with FERC in Q3 2023. This project would build upon the pending amendments to the CSR model by adding steam turbine generators to the technologies eligible for pairing with an ESR. The 2024 project deliverable is Market Design Complete. Specifically, the project will identify tariff, software, and/or procedural changes needed to permit CSRs composed of steam-turbines and ESRs to participate in the NYISO Energy, Ancillary, and

Capacity Markets. The proposal would also address matters including metering, interconnection, and mitigation in the Energy and Capacity Markets.

**6.3 Project Justification** In addition to the benefits discussed in section 6.1 above, including steam turbines as an eligible CSR technology is consistent with the motivating factors that supported the NYISO’s proposal for co-locating ESRs and Fast-Start Resources and IPRs, including “reducing development costs by sharing interconnection facilities” as well as reducing barriers to entry for ESRs.” : \_\_\_\_\_ (6)

## **7. Coordinated Grid Planning Process (CGPP) Continuation 7.1 Problem / Opportunity**

The Joint Utilities and LIPA are currently developing a Local Coordinated Grid Planning Process (CGPP) [see February 9, 2022 ESPWG Presentation on CGPP] to comply with a Public Service Commission (PSC) directive to develop an end-to-end planning process to identify and approve local transmission needed to achieve the state’s CLCPA goals. The development of the CGPP needs to consider and address the alignment between the local utilities’ planning process and the regional planning processes completed by the NYISO. This includes, but is not limited to, the utilization of NYISO databases to satisfy current regulatory requirements, the development of scenarios through the NYISO’s System and Resource Outlook, and consideration of NYISO resource availability and additional resources necessary to perform studies to support the CGPP and align it with the NYISO’s bulk system studies.

CGPP support is a 2023 corporate project, but it will be kicked off after the PSC issues an order accepting the CGPP and the CGPP process finalized. The NYISO’s support for this effort is expected to continue in 2024.

**7.2 Project Objective(s) & Anticipated Deliverable(s)** This project should entail a review of current NYISO procedures with a focus on identifying areas where the CGPP and the current set of NYISO processes and deliverables can be better aligned. The CGPP is envisioned to run on a two-year process cycle followed by Department of Public Service (DPS)/PSC review and approval of local project portfolio recommendations with the first CGPP cycle to start in 2023 or 2024. Utilization of and alignment with current NYISO deliverables related to the NYISO’s planning processes would be beneficial to parties and stakeholders involved in both local and bulk transmission planning. Examples of work products that will be used in the CGPP include:

- Zonal capacity expansion modeling results
- New base cases in the FERC 715 database
- Modification of cases for zonal capacity expansion scenarios
- Performance of Bulk Power Transmission Facilities assessments of proposed local transmission solutions

A review of the current processes and deliverables is needed to identify potentially beneficial interactions, evaluate and make relevant changes to existing procedures or introduce new methods and procedures, and assess resourcing needs as compared to what exists today. The

2023 milestone will be Issue Discovery. The milestone for 2024 will be Study Defined. Depending on the requirements in a PSC order, the milestone may be revised.

**7.3 Project Justification** The PSC has directed the Joint Utilities and LIPA to work with DPS Staff, the New York State Energy Research & Development Authority, and the NYISO to develop the CGPP – an effort to create a repeatable end-to-end planning process for local transmission needed to achieve the State’s CLCPA goals. The NYISO has and continues to implement processes to plan for the for bulk transmission system needed to achieve the same (e.g., the Public Policy Transmission Process). Since the CGPP is meant to complement the NYISO’s bulk planning processes, it is imperative that the two planning processes are coordinated with regards to initiating assumptions used to develop scenarios guiding recommendations for approval of local transmission projects. If the two processes or the assumptions underlying those processes are misaligned, there will be a risk that the identification and approval of projects on the bulk and local level could result in incompatible or inefficient transmission investment. Such misalignment will reduce or negate the anticipated benefits of such investments and ultimately impact the achievement of the CLCPA goals and potentially harm customers, developers, and other Market Participants. : \_\_\_\_\_ (7)

## **8. Dynamic Reserves Phase 1**

**8.1 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.

**8.2 Project Objective(s) & Anticipated Deliverable(s)** The anticipated deliverable for 2024 will be Functional Requirements Specifications (FRS), based on the Market Design Complete from the 2023 Dynamic Reserves project.

**8.3 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 State of the Market recommendations 2015-16, 2021-2. : \_\_\_\_\_ (8)

## **9. Eliminate Offline GT Pricing**

**9.1 Problem / Opportunity** The NYISO’s RTM is based on a dispatch model that updates prices and generator schedules every five minutes. Currently, the dispatch model treats 10-minute gas turbines (i.e., units capable of starting up in ten minutes) as if they can follow a 5-minute signal. Offline GT pricing was developed to produce real-time prices that reflect the costs of actual resources that could be committed to address a constraint. The MMU has observed that this structure leads to inefficiencies, because 10-minute gas turbines are unable to respond in five minutes. This may lead to periods of under-generation, inconsistencies between scheduled transmission flows and actual flows, and inefficient prices that do not properly reflect

the balance of supply and demand. The logic, however, provides useful information to grid operators regarding system needs and allows them to commit additional units based on evaluation by the Real time dispatch model.

**9.2 Project Objective(s) & Anticipated Deliverable(s)** The scope of this project would involve eliminating the offline GT pricing logic and the development of tariff changes to support this change. The 2024 deliverable for this project would be to eliminate this feature through a software Deployment.

**9.3 Project Justification** This project would enhance market efficiency by better aligning price signals and schedules with operational needs and resource capabilities. This project is also supported by the Market Monitoring Unit based on their State of the Market recommendation 2020-2. : \_\_\_\_\_ (9)

## **10. Engaging the Demand Side**

**10.1 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 programs and DER participation model offer Load consumers the opportunity to "supply" energy to the wholesale markets.

NYISO's current DER model requires DER to be fully dispatchable in real time with no advanced notification or startup commitment. NYISO's current SCR model have 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 Market Participants have raised concerns that these requirements are potentially leaving both current and new resources, unable to fully participate using the current NYISO DER, or SCR models. The NYISO remains interested in exploring opportunities to enhance the DER and/or SCR models.

**10.2 Project Objective(s) & Anticipated Deliverable(s)** The NYISO will advance the discussion with stakeholders on the recommendations identified in the 2023 Engaging the Demand Side Report. The 2024 project deliverable for this project will be a Market Design Concept Proposed (MDCP) milestone that is reviewed in a presentation at MIWG.

**10.3 Project Justification & Anticipated Deliverable(s)** Enhancements to NYISO's DER and/or SCR models that further support robust participation of more resources in both DAM and RTM may provide another tool to balance the New York Control Area (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. : \_\_\_\_\_ (10)

## **11. Evolving Resource Adequacy Models**

**11.1 Problem / Opportunity** Improving the resource adequacy tools and models is critical to efficiently meeting the reliability needs of the evolving grid. The Evolving Resource Adequacy Models project will evaluate enhancement of these tools and models, continuing work from the Improving Capacity Accreditation and Modeling Improvements for Capacity Accreditation projects.

**11.2 Project Objective(s) & Anticipated Deliverable(s)** The Evolving Resource Adequacy Models project will research the need for potential changes to the assumptions, inputs, and modeling of winter months in the NYISO's current resource adequacy analysis software and investigate how unit size should be considered for calculating Capacity Accreditation Factors. Following the 2023 Modeling Improvements for Capacity Accreditation project, this project will also research the need for remaining enhancements, if any, related to accounting for correlated outages. The project deliverable for 2024 will be Study Complete. The completed study will be presented to the Installed Capacity Working Group and New York State Reliability Council's Installed Capacity Subcommittee for consideration of any recommendations.

**11.3 Project Justification** This project is a continuation of the work started with the Improving Capacity Accreditation and Modeling Improvements for Capacity Accreditation projects. This project will facilitate future work to establish Installed Capacity Market Reserve Margins reflecting reliability risks not currently modeled in the resource adequacy software and improved Capacity Accreditation Factors. : \_\_\_\_\_ (11)

## **12. Expanding Peak Hour Definition – Requested by DPS**

**12.1 Problem / Opportunity** The NYCA peak load hour is currently defined as the single hour within a Capability Year with the highest measured system load limited to weekdays during the months of July and August. The peak load is weather normalized, and a peak load forecast for the following year is generated by the NYISO in conjunction with the Transmission Owners (TOs). This peak load forecast is used for the Installed Reserve Margin study and the Installed Capacity (ICAP) market forecast, and determines the total load obligation for each Transmission District.

Current practice dictates that the TOs share out their capacity obligation to their Load Serving Entities (LSEs) based on the measured share of load consumed by each LSE during the NYCA peak load hour. Using multiple peak and near-peak load hours (e.g. the top five or top ten load hours) to share out obligations within a Transmission District may improve this process and create more robustly defined and consistent LSE shares. Likewise, in the distribution network, as LSEs use measures of peak period(s) usage to assign capacity cost to their customers, it becomes imperative that those measurements are representative of the customers' capacity

needs. Basing a customer's capacity needs on demand during a single hour or day can leave too much to chance and not accurately measure the capacity need. Using the peaks from multiple high load days would be more stable and more reflective of long run cost causation.

Currently, the NYCA peak hour is determined using net hourly load as measured on the system. However, it is worth considering whether peak load should be based entirely or in part on gross load, which may become more important as demand response and distributed energy resource penetration increases.

**12.2 Project Objective(s) & Anticipated Deliverable(s)** In 2020 this project was adopted by Market Participants. Over the course of 2021, NYISO Staff presented at the ICAPWG/MIWG (February 25, 2021, March 25, 2021, May 4, 2021, June 3, 2021, June 30, 2021, and July 27, 2021). This resulted in a Market Design Concept Proposed, but the issue was not adopted for 2022. This project will continue from the Market Design Concept Proposed and determine what changes are needed in order to implement altering the way that capacity obligations are allocated to LSEs. Findings and resulting suggestions will be reported and discussed with stakeholders. The project deliverable will be Market Design Complete and proposal for deployment.

**12.3 Project Justification** Many other jurisdictions consider more than a single hour when determining peak obligations for demand and resources. Given the upcoming changes planned for New York's grid, ensuring the determination of peak load hours used for capacity allocations is robust will be important for maintaining reliability and fair and equitable allocation of costs.

As retail electric metering evolves across New York state, LSEs will be better able to track customer usage on an hourly basis. The Public Service Commission first required hourly pricing for large C&I customers in April 2006 in Case 03-E-0641 Order Adopting Mandatory Hourly Pricing (MHP), those MHP customers are billed for capacity on the basis of their usage during the peak hour. Over the years, the threshold for MHP has decreased. In the last seven years Utilities have proposed, approved, and installed AMI meters that provide hourly load data for all customers. This allows LSEs to allocate capacity cost more specifically to customers causing the need for capacity. As customers become responsible for the capacity cost they cause, they will seek to manage that cost. This helps to engage the demand side to manage peak hour demand. : \_\_\_\_\_ (12)

## **13. Improve Duct-Firing Modeling**

**13.1 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. 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 considered, such as: (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.

**13.2 Project Objective(s) & Anticipated Deliverable(s)** The 2024 project deliverable will be to complete the FRS. The project would build upon the 2022 MDCP to enable market enhancements of using static registration ramp rates, that are currently used for energy dispatch, for reserve scheduling and limiting participation before the duct-firing range for reserves and regulation that would be required for a combined-cycle generator to reflect its operating characteristics in the duct-burning range as well as the benefits of this functionality.

**13.3 Project Justification** There are currently many combined cycle generators in the New York Control Area and the majority of these combined cycle generators have duct-firing capacity. These resources currently represent a large source of dispatchable resources. 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 the enhancements to the scheduling of a generator's capacity that would provide more flexibility to participate in the reserves and regulation markets. This project also supports State of the Market recommendation 2020-1. : \_\_\_\_\_ (13)

## **14. Internal Controllable Lines**

**14.1 Problem / Opportunity** There are no internal controllable lines in operation within the NYCA. Prior to the 2023 Market Design Complete, 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.

**14.2 Project Objective(s) & Anticipated Deliverable(s)** This project would build upon the 2023 Market Design Complete and develop the functional requirements that will be necessary to incorporate point-to-point internal controllable lines into NYISO markets. The 2024 milestone for this project will be FRS complete.

**14.3 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. : \_\_\_\_\_ (14)

## **15. LCR Optimizer Enhancements**

**15.1 Problem / Opportunity** In 2017 and 2018, the NYISO worked with stakeholders to design and implement a proposal to set Locational 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 (Net CONE) curves developed based upon the proxy technology underpinning the ICAP Demand Curve Reference Points. 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, called the Tan 45 methodology.

Since the new methodology has been implemented, concerns have been raised about the methodology and the resulting LCRs, about 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.

**15.2 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 LCR Optimizer Enhancements project. The milestone for 2024 is Deployment.

**15.3 Project Justification** This project will seek to further enhance the LCR methodology to improve stability and transparency of the LCRs. : \_\_\_\_\_ (15)

## **16. Long Island Reserve Constraint Pricing**

**16.1 Problem / Opportunity** The DAM and RTM schedule resources to satisfy reserve requirements, including specific requirements for 10-minute spinning reserves, 10-minute total reserves, and 30-minute total reserves on Long Island. However, reserve providers on Long

Island are currently paid based on the clearing prices for the larger Southeastern New York (SENY) reserve region (Load Zones G-K).

**16.2 Project Objective(s) & Anticipated Deliverable(s)** The project scope would include conducting a study to further evaluate the current compensation rules for Long Island reserve providers and whether revisions thereto may be reasonable and provide for improved efficiency in pricing outcomes and performance incentives for Long Island reserve providers. The 2024 project deliverable will be a Market Design Concept Proposed.

**16.3 Project Justification** The project would seek to evaluate whether revisions to the current compensation rules for Long Island reserve providers may better reflect the value of reserve capability on Long Island. This project also supports State of the Market recommendation 2019-1. : \_\_\_\_\_ (16)

## **17. Market Purchase Hub Transactions - Requested by LIPA**

**17.1 Problem / Opportunity** The ability for marketers to source energy from the wholesale market, i.e. buy at 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 Market Participants for other commercial purposes. The Netting of Bilaterals (Trading Hubs) initiative was first proposed in 2008, but was limited to balanced transactions. This initiative 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.

**17.2 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. 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 project deliverable will be a Market Design Concept Proposed.

**17.3 Project Justification** This market enhancement project can reduce costs to load by allowing financed prepayments of energy purchases, and will allow additional transactional flexibility for Market Participants. : \_\_\_\_\_ (17)

## **18. MDIWG Support**

**18.1 Problem / Opportunity** The NYISO will contribute to ongoing discussions with NY Department of Public Service (DPS) staff in the Market Design and Integration Working Group (MDIWG). DPS states that the MDIWG's purpose is: (1) to establish market coordination between utilities, DER operators, and the NYISO; (2) to determine technical and economic requirements for efficient planning, dispatch, measurement, and compensation of DER; and (3) to identify necessary industry roles, responsibilities, and interactions to achieve the State's energy deployment goals.

**18.2 Project Objective(s) & Anticipated Deliverable(s)** NYISO staff will engage with DPS staff and other stakeholders to further the work undertaken by the Design Team for the MDIWG. This effort will be tracked as an issue discovery.

**18.3 Project Justification** Throughout the multi- year DER effort, the NYISO has worked closely with the New York DPS Staff to discuss and identify challenges that will facilitate DER participation in New York State. The NYISO recognizes the New York state goals for the future of bulk and distribution system frameworks will need to be informed by the NYISO's expertise in the operation of the Bulk Electric System and wholesale markets. It is necessary for the NYISO to continue to work with the New York DPS and other stakeholders as part of the MDIWG effort to support the development of coordination and transaction frameworks for DER. : \_\_\_\_\_ (18)

**19. Mitigation Threshold Review 19.1 Problem / Opportunity** This project will perform a comprehensive review of and solicit stakeholder feedback on all mitigation behavioral thresholds. This project will review all thresholds used for conduct and impact for mitigation, including the current Load Pocket Threshold (LPT) process.

**19.2 Project Objective(s) & Anticipated Deliverable(s)** The objective of this project would be to evaluate all current mitigation thresholds and to improve upon the LPT methodology based on observations from the last several years and to determine if there is a need to modify any of the other current existing mitigation thresholds.

This project will consider the following improvements:

1. Modifying the measure that predicts potential market power for each load pocket in the coming month, based on the number of transmission-constrained hours in the previous



12 months. The existing measure may not accurately forecast upcoming tightness of load pockets by neglecting the systematic tendency for strong summer peaks in constrained hours, but fewer such constraints over the rest of the year.

2. Revising the measure of “lowest allowable LPT.” This measure uses a 12-month averaging of load-weighted and fuel-price-adjusted LBMPs to calculate the expected load-pocket LBMP in the coming month and takes 2% of that figure to generate a “lowest allowable LPT.” The formula that calculates a weighted average of past load-pocket LBMPs could be revised to better predict load-pocket LBMP in the upcoming month, and hence create a more appropriate measure of lowest allowable LPT.
3. Changing the frequency of fuel-adjusting LPTs. The Tariff requires the NYISO to fuel-price-adjust LPTs, allowing the NYISO to specify the method of fuel adjustment. Currently, the Market Mitigation and Analysis Department (MMA) implements this requirement by fuel-adjusting the LBMP term on a monthly basis. MMA proposes to change the frequency of fuel-adjusting LPTs from monthly to daily, so that each day LPTs maintain consistency with the daily-evolving fuel-price component of energy reference levels.
4. Automating the process of calculating LPTs. This process currently consists of several manual steps, some of which are time consuming and labor intensive. MMA proposes to work with IT to create a fully automated process with measures in place to validate results from each execution.

The project deliverable for 2024 will be Market Design Concept Proposed.

**19.3 Project Justification** This project would allow for a comprehensive review of all mitigation thresholds, as well as the LPT methodology and process, to identify ways to improve the accuracy of and verification process for LPT calculations. : \_\_\_\_\_ (19)

## **20. Operating Reserves Performance**

**20.1 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, create an inefficiency in the market, and has potential negative impacts to system reliability.

Based on North American Electric Reliability Corporation 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 NYISO’s direction, 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.

**20.2 Project Objective(s) & Anticipated Deliverable(s)** This project will seek to assess methods for evaluating the performance of an operating reserves provider and confirming its actual capabilities match its stated reserves capabilities. Additionally, the NYISO will work with stakeholders to develop a proposal for improving the market rules to create financial consequences for resources that misstate operating reserve capability and/or perform poorly when called upon to convert operating reserves to energy. The deliverable for this effort in 2024 will be Market Design Complete, where NYISO will develop a market design, including a presentation and accompanying tariff modifications, to be presented for approval by Market Participants.

**20.3 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. : \_\_\_\_\_ (20)

## **21. Participation Opportunities for Small DER**

**21.1 Problem / Opportunity** NYISO’s current DER and Aggregation model has a minimum capability threshold of 10kW per DER. NYISO Market Participants have raised concerns that this requirement is potentially leaving small and residential resources, unable to participate using the NYISO DER model. The NYISO is concerned with its ability to support large quantities of small DER (<10kW) using the current DER model rules due to anticipated administrative and procedural challenges. The NYISO remains interested in exploring use cases that market participants believe small DER can be leveraged in the wholesale markets and believes robust participation of flexible, small DER may provide another tool to balance the NYCA system.

**21.2 Project Objective(s) & Anticipated Deliverable(s)** The NYISO intends to use the recommendation(s) identified in the 2023 Engaging the Demand Side Report (which will be based on discussions with stakeholders and engagement with end use customers) to develop a

concept proposal. The 2024 project deliverable for this project will be to develop a concept proposal and deliver a Market Design Concept Proposal to Market Participants.

**21.3 Project Justification** Technological advancements and public policy support are encouraging greater adoption of new technologies, including small DERs to meet consumer energy needs and possibly supporting larger system needs. Small DERs offer the potential to make load more dynamic and responsive to market signals, potentially improving overall system efficiencies. If small DER are incorporated into wholesale market operation efficiently, they could benefit the NYISO's operations while improving alignment with New York State policy goals such as those described in the Reforming the Energy Vision. : \_\_\_\_\_ (21)

## **22. Pivotal Supplier Calculation Change**

**22.1 Problem / Opportunity** As part of the NYISO's Supply-side Mitigation rules, each month the NYISO identifies Pivotal Suppliers that are subject to a must-offer requirement and an offer cap in the monthly Capacity spot auction. Currently, the thresholds to identify Pivotal Suppliers are based on whether a Market Party controls an amount of Unforced Capacity (UCAP) of which some portion is necessary to meet the Locality requirement of the Mitigated Capacity Zone. Specifically, the Market Party is a "Pivotal Supplier" because without some portion of its UCAP, the minimum requirements would not be met. However, this designation does not always correlate with the Market Party having a minimum portfolio size for which withholding capacity to increase prices would result in greater revenue for the portfolio. Therefore, the current thresholds do not always align with the incentive of a Market Party to withhold capacity to influence prices.

**22.2 Project Objective(s) & Anticipated Deliverable(s)** This project would propose changes to UCAP thresholds that subject Market Parties to mitigation within each mitigated capacity

zone. Exceeding such thresholds would create a rebuttable presumption that the Market Party has a financial incentive to withhold UCAP.

This project will consider the following improvements:

1. Revise the supply-side mitigation thresholds for each Mitigated Capacity Zone to more closely align exemptions from the must-offer requirement and offer cap with whether a supplier has a financial incentive to withhold UCAP.
  - a. This threshold can be calculated using the demand curve parameters and the amount of UCAP available.
2. Identify a lower bound in which the price impact due to withholding can be considered de minimis.
3. Review whether enhancements are needed to the threshold calculation to account for the effects of nested localities.

The project deliverable for 2024 will be Market Design Concept Proposed.

**22.3 Project Justification** This project is proposed in response to stakeholder feedback to make enhancements that would create mitigation thresholds that more closely align with the ability and incentive of the Market Party to influence capacity prices. : \_\_\_\_\_ (22)

## **23. Reference Level Software Cleanup**

**23.1 Problem / Opportunity** The Reference Level Software (RLS) was originally released in 2010. Since that time, many NYISO projects and initiatives have impacted the development of reference levels and the software. Following the release and subsequent enhancements, numerous RLS improvements have been identified. This project intends to implement the list of identified improvements and prepare the RLS for future enhancements.

**23.2 Project Objective(s) & Anticipated Deliverable(s)** The first step of this project would be to review the current set of identified RLS improvements, properly document the list, and determine the priority order of improvements. The ultimate objective for this project would be the development and release of improvements in the RLS.

**23.3 Project Justification** The current state of the RLS could introduce a risk that reference level development and mitigation consultations might not remain compliant with the NYISO's Market Services Tariff in the near future. MMA is required by the Market Service Tariff to develop reference levels using specific methodologies and the most current available data and conduct mitigation consultations in a specific manner. Without improvements, the RLS could

increase the risk of both a potential process error or human error when reviewing reports and data that could lead to a tariff violation.

The RLS remains a critical piece of software to support the Energy Markets. Making the identified improvements would position the software well for enhancements that will be needed to support future projects. : \_\_\_\_\_ (23)

## **24. Reserving Capacity for TCC Balance-of-Period (BoP) Auctions**

**24.1 Problem / Opportunity** The NYISO currently conducts Centralized TCC Auctions twice each year. In each of those auctions, longer-duration TCCs (six-month, one-year, and/or two-year) are available for purchase. However, TCCs covering periods shorter than six months are not available in those auctions. Instead, MPs wishing to purchase shorter-term TCCs must do so in the Reconfiguration Auctions, which are held each month. Reconfiguration Auctions may be conducted as either single month auctions or Balance-of-Period (BoP) Auctions. BoP Auctions encompass all remaining months of the applicable Capability Period.

Currently, the NYISO's tariffs require that all transmission capacity not associated with Existing Transmission Agreements or outstanding TCCs and not reserved through conversion of Existing Transmission Capacity for Native Load (ETCNL) to ETCNL TCCs or Residual Capacity Reservation Rights (RCRR) to RCRR TCCs be made available for sale in the Centralized TCC Auctions. As a result, the opportunity for MPs to acquire shorter-term TCCs in BoP Auctions may be significantly limited. Other ISO/RTOs reserve some transmission capacity for sale in their monthly Financial Transmission Right auctions.

Consequently, this proposal seeks to build upon the 2020 and 2021 project efforts related to the development of software and rule/procedure revisions to permit the NYISO to reserve a portion of available system transfer capability, which it would then release into the BoP Auctions. Such functionality would permit auction participants to purchase additional shorter-term TCCs in the BoP Auctions.

**24.2 Project Objective(s) & Anticipated Deliverable(s)** This project is intended to build on the efforts undertaken previously to develop market rule changes to accommodate the potential for

reserving a portion of otherwise available transmission capacity for release in the BoP Auctions. The project deliverable for 2024 will be Software Design.

**24.3 Project Justification** Today the TCC Automated Market System and other supporting systems do not support the reservation of transmission Capacity for sale in BoP Auctions. The proposed solution is intended to:

- Address stakeholder requests for such enhancements to the current TCC auction design, as auction participants have consistently indicated interest in reserving transfer capability for release in BoP Auctions; and
- Provide additional opportunities for interested parties to obtain shorter-duration TCCs because it would remove a constraint that limits the availability of shorter-term TCCs in the BoP Auctions. : \_\_\_\_\_ (24)

## **25. Storage as Transmission**

**25.1 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 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 eligible for cost of service rate recovery.

**25.2 Project Objective(s) & Anticipated Deliverable(s)** This project will continue the work recommended in the Issue Discovery phase of this effort, which considered 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 multi-use and double payment issues into consideration. These components are related and may depend on one another.

The NYISO intends to leverage the recommendation(s) identified in the 2023 Storage as Transmission Report, which were based on discussions with stakeholders to more fully understand the issues and opportunities. The 2024 project deliverable for this project will be to

develop a concept proposal and deliver a Market Design Concept Proposal to Market Participants.

**25.3 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. : \_\_\_\_\_ (25)

## **26. SubAccounts for Reporting - Requested by NRG**

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

The solution will be a modification of the NYISO's settlement and invoicing systems to allow the utilization of sub-accounts nested under a larger account to sub-divide or group all transactions for reporting purposes as best seen fit by the Market Participant. Sub-accounts may separate under a single Market Participant generation, virtual transaction, or load, and/or may separate by ptid (eg. generator or load).

**26.2 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 Market Participant will be able to establish sub-accounts to separate market transactions on the invoice. Sub-accounts will allow more detailed invoicing while keeping the overall settlement under a larger account. This project will identify tariff, software, and procedural modifications needed to bring about these changes.

**26.3 Project Justification** This NYISO settlement and invoicing systems enhancement project can reduce costs to Market Participants by reducing the need to maintain multiple Market Participants and will allow additional flexibility for Market Participants to compartmentalize larger accounts for better tracking of various market transactions. Other ISOs and RTOs have

successfully implemented the utilization of sub-accounts to the benefit of their Market Participants (e.g., PJM and ISO-NE). : \_\_\_\_\_ (26)

## **27. Supply-Side Mitigation for Internal Controlled Lines**

**27.1 Problem / Opportunity** There are currently no internal controllable lines in operation within NYCA. However, NYSERDA's Tier 4 REC initiative has driven the prioritization to develop market participation rules for internal controllable lines. The NYISO's existing supply-side mitigation rules, which primarily address generators, might be insufficient for internal controllable lines. As the design of the market rules for internal controllable lines progresses, the NYISO and stakeholders will need to assess what Tariff and procedure changes will be necessary to incorporate internal controllable lines into the capacity market supply-side mitigation measures.

**27.2 Project Objective(s) & Anticipated Deliverable(s)** The objective of this project would be to evaluate the current Tariff-prescribed supply-side mitigation measures and determine the required enhancements to the supply-side mitigation measures in consideration of the entry of internal controllable lines into the capacity market. The Q4 2024 deliverable will be Market Design Complete.

**27.3 Project Justification** The purpose of supplier-side mitigation is to prevent physical or economic withholding by ICAP Suppliers that may have an economic incentive to raise prices. The current rules were written prior to the consideration of internal controllable lines. Therefore, enhancements to the supply-side mitigation rules will be needed to ensure mitigation is applied to internal controllable lines in the manner that is consistent to all other suppliers located in Mitigated Capacity Zones. : \_\_\_\_\_ (27)

## **28. Time Differentiated TCCs**

**28.1 Problem / Opportunity** The project seeks to disaggregate the TCC product from its current 24-hour time span to include additional, more granular products covering shorter timeframes. This enhancement, which is a feature requested by certain MPs, is intended to improve the commercial function and forward congestion price transparency. Currently, the availability of only a 24-hour product may limit the effectiveness in serving as an efficient forward hedging mechanism against congestion for certain MPs' interests because it does not provide forward congestion price signals from TCC auctions that distinguish between the congestion patterns than can occur during different periods of the day or week. MPs could utilize more granular TCC products to tailor portfolios to better hedge congestion costs during different periods of the day or week. This additional flexibility could benefit MPs under current grid conditions, as well as future grid topologies with increased levels of intermittent resources, which have notable variations in output in daytime hours versus nighttime hours. Additionally, defining more granular TCCs may make other market design improvements possible.

**28.2 Project Objective(s) & Anticipated Deliverable(s)** The 2024 project deliverable will be Market Design Complete, building upon previous project efforts to develop a Market Design



Concept Proposed and would include working with stakeholders to finalize market rule changes needed to facilitate the creation of TCC products that apply to different periods of time.

Due to the potential increased complexity of multi-period granular TCC auctions, the implementation of more granular TCC products may depend on the automation of the Existing Transmission Capacity for Native Load (ETCNL) feasibility analysis process and the automation of an inventory system to calculate the remaining feasible ETCNL and Original Residual TCCs.

**28.3 Project Justification** Breaking out the TCC product into time differentiated products may: (1) improve the commercial functionality of TCCs to provide tailored congestion hedges for all MPs, including intermittent generation; (2) reduce the cost of congestion hedging for MPs; (3) improve forward congestion price signals from TCC auctions to distinguish between time periods where congestion patterns can vary; and (4) permit other market design improvements. : \_\_\_\_\_ (28)

## **29. Valuing Transmission Security**

**29.1 Problem / Opportunity** The ICAP Market incorporates transmission security limits (TSLs) in its process to establish LCRs. When a TSL binds during the process to establish LCRs, the market is indicating that the transmission limitations are driving the need for ICAP in that Locality rather than strictly resource adequacy needs. A resource can have different contributions to resource adequacy transmission security. Due to the potential differing reliability values, the ICAP Market may not provide efficient compensation when requirements are set by transmission limitations rather than strictly resource adequacy needs.

**29.2 Project Objective(s) & Anticipated Deliverable(s)** This project will investigate the potential for inefficient compensation when ICAP Market requirements are set by transmission limitations. The project deliverable for 2024 will be Issue Discovery.

**29.3 Project Justification** Transmission security margins are declining in southeast New York as noted by the 2022 Reliability Needs Assessment. The declining transmission security margins will make it more likely for TSLs to set the LCRs in southeast New York, as was the case in the New York City and G-J Localities for the 2023/2024 Capability Year. This project also supports State of the Market recommendation 2022-1. : \_\_\_\_\_ (29)

## **30. Winter Reliability Capacity Enhancements**

**30.1 Problem / Opportunity** As identified in the NYISO's planning analyses, the New York State electric system is evolving from a summer peaking system to a winter peaking 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 Installed Capacity Market will continue to be effective in a winter peaking system.

**30.2 Project Objective(s) & Anticipated Deliverable(s)** The Winter Reliability Capacity Enhancements project will review the need for potential changes to the ICAP Market structure

ahead of moving to a winter peaking system. This review will include evaluating the ICAP Load Forecasts, the requirement setting process, the establishment of ICAP Demand Curves, and participation rules for ICAP Suppliers. The project deliverable for 2024 will be Issue Discovery.

**30.3 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 State of the Market recommendation 2022-2. : \_\_\_\_\_ (30)  
Total : \_\_\_\_\_

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VERB Please enter any additional comments below:

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**VERB2 Please provide any recommendations you may have for future enhancements to the Project Prioritization Process:**

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**SUBMIT** After clicking submit, you will be able to see a summary of your responses. After reviewing, if you wish to make any changes, you can click the left arrow and return to this page to make any changes.

SUBMIT2 Your project priorities will not be submitted until you click submit on this page. If you want to continue working, DO NOT CLICK SUBMIT UNTIL YOU ARE COMPLETELY DONE - you can click the left arrow below to edit your responses.

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