

**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

CASE 19-E-0530 - Proceeding on Motion of the Commission to Consider Resource Adequacy
Matters

**INITIAL COMMENTS OF
THE NEW YORK INDEPENDENT SYSTEM OPERATOR, INC.
ON RESOURCE ADEQUACY MATTERS**

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I. EXECUTIVE SUMMARY

The New York Independent System Operator, Inc. (“NYISO”) respectfully submits these initial comments in response to the New York State Public Service Commission’s (“PSC” or “Commission”) *Order Instituting Proceeding and Soliciting Comments* issued on August 8, 2019 (the “PSC Order”). The NYISO is the independent, not-for-profit body responsible for providing open access transmission service; operating the bulk electric system; planning for and maintaining bulk power system reliability; and administering competitive wholesale markets for energy, ancillary services, and capacity in New York State.

The NYISO markets, including the Installed Capacity (“ICAP”)¹ market, have achieved significant benefits for New York consumers over the last twenty years. At this time, the markets are facing new challenges prompted by a changing resource mix driven in large part by New York State environmental policies. As the New York State Reliability Council (“NYSRC”) has stated in this proceeding, “[t]he intermittent nature of renewable resources create challenges with regard to both the planning and operation of the state’s bulk power system.”² Against this backdrop, the NYISO supports review of New York’s current resource adequacy procurement model, including modifications to its existing buyer-side mitigation framework.

Specifically, the NYISO acknowledges the need to better harmonize the wholesale electricity markets with state environmental policies, in particular those embodied in the Climate Leadership and Community Protection Act (the “CLCPA”),³ while maintaining competitive price

¹ Capitalized terms that are not specifically defined herein shall have the meaning set forth in the NYISO’s Open Access Transmission Tariff (“OATT”) or Market Administration and Control Area Services Tariff (“Services Tariff”).

² *Comments submitted by the New York State Reliability Council, Case 19-E-0530* (October 16, 2019) (“NYSRC Comments”) at 4.

³ The CLCPA requires that seventy percent of energy consumed in New York State be produced by renewable resources by 2030. By 2040 energy consumed in the State must be completely emissions free.

signals. The effort should include an evaluation of adjustments to the NYISO's capacity market buyer-side mitigation rules to address conflicts with state policy objectives.

The NYISO's wholesale market framework was designed to achieve a policy objectives established over twenty years ago to provide reliable service at the least cost possible.

Wholesale markets have met and continue to meet these objectives. While the efficiencies resulting from the NYISO's wholesale markets have contributed to reduced environmental impacts from energy production in New York, the current market design is not fully compatible with evolving New York State policies. This does not present an "either-or" proposition.

Wholesale markets can continue to evolve to support state environmental goals. The process will require careful thought and collaboration. It will be important to avoid an approach that appears attractive initially but that might inadvertently compromise reliability or impose excessive costs on consumers. Accordingly, the NYISO recommends that all parties, including NYISO market participants and New York State agencies, work together to develop market improvements that will further New York State's efforts to realize its environmental policy goals as quickly as practicable while also preserving the reliability and consumer benefits of competitive markets. As the NYSRC has said, "it is essential" that the NYISO, the PSC, and others "work cooperatively to ensure that the state can achieve its renewable resource goals as promptly and effectively as possible, while maintaining the reliability of the state's bulk power system"⁴

The NYISO is undertaking a comprehensive review of its buyer-side mitigation measures over the coming year. This project will evaluate, and design revisions to, NYISO rules in light of New York's evolving public policies. This process is the most expeditious route to

⁴ NYSRC Comments at 5.

developing a capacity market structure that supports the state’s environmental goals. The NYISO asks that the PSC participate in this initiative.

These initial comments are meant to help to create a record in this proceeding that will inform the Commission and the wide range of stakeholders affected by any changes to the current resource adequacy procurement model.⁵ It is important to examine the issues presented with a full understanding of the larger context in which they arise.

A. Basic Principles Underlying the NYISO’s Formation

The NYISO markets resulted from the confluence of two rulemakings, federal and state, that culminated in two 1996 orders adopting blueprints for the wholesale electricity markets that the NYISO operates today.

The Federal Energy Regulatory Commission (“FERC”) determined with its Order No. 888 that the nation’s interests would be best served by open access to the transmission system, which had historically been controlled by vertically integrated, investor-owned utilities, and greater competition in wholesale power sales. Order No. 888 required that established “tight power pools,” including the NYISO’s predecessor, the New York Power Pool, be restructured. It provided guidance about the essential functions of Independent System Operators, like the NYISO, as replacements for power pools that would foster a level competitive playing field.

At the same time, the Commission issued its *Competitive Opportunities Order* which served to outline New York’s restructuring of its electric industry to create competition and customer choice at both the wholesale and retail level. The *Competitive Opportunities Order* was based upon important principles that remain valid today:

⁵ The Appendix to these initial comments includes brief answers to the seven questions posed by the Order. The Appendix also includes cross-references to the sections of these initial comments that address each of the PSC’s questions.

- *Fostering competition among suppliers to achieve greater economic efficiency for consumers* than experienced under the traditional cost-of-service model
- *Incentivizing market entry through locational price signals* to guide generation development with appropriate operational characteristics and in the areas where most necessary
- *Shifting investment risk away from customers to private investors* to avoid the stranded costs which had historically plagued New Yorkers

In considering modifications to the present resource adequacy framework it is important to keep these principles in mind. They have not been rendered obsolete by the passage of time, and are just as important today as they were twenty years ago.

B. The NYISO’s Grid Operation and Market Administration Responsibilities Are Broad, Complex, and Interrelated

The NYISO is responsible for the reliable operation of 11,000 miles of high voltage transmission lines, centralized economic dispatch of over 700 generators, and interregional coordination among four interconnected grid operators in the U.S. and Canada. Participants in the NYISO-administered markets buy and sell over a dozen electricity products, mostly through competitive auctions, in transactions totaling over \$6 billion annually.

The PSC Order frames the resource adequacy issue narrowly – focusing on how the definition of capacity products and the application of buyer-side mitigation might impede public policy goals. Resource adequacy is only one element of the NYISO’s various, interrelated functions that are intended to maintain reliability and address revenue adequacy for new and existing suppliers to keep them operating. The NYISO also administers locational energy and ancillary service markets that work in tandem with the capacity market to ensure that adequate resources are available in the proper locations to maintain system reliability. Moreover, the

NYISO's planning processes examine both resource adequacy and transmission security to identify reliability needs and provide information to allow private investors an opportunity to address them before disruptions occur. While these planning processes are designed to meet the reliability needs of New Yorkers the NYISO may also trigger a series of solutions to reliability needs, such as "regulated backstops," "gap solutions," and "reliability-must-run agreements." But these mechanisms are "safety nets" of last resort for meeting reliability needs only when market investment cannot timely address them.

Therefore, we must examine, in this larger context, how to further the state's public policy goals while maintaining resource adequacy programs that avoid unintended adverse consequences to complex and interrelated systems.

C. The NYISO is Subject to Mandatory Reliability Criteria, Including Resource Adequacy Requirements, Imposed by Regional and Local Reliability Councils and Pursuant to Contractual Arrangements

The NYISO's paramount focus is on maintaining a reliable bulk power system, a function it inherited from the New York Power Pool. The North American Reliability Corporation ("NERC"), Northeast Power Coordinating Council ("NPCC"), and the NYSRC all impose mandatory requirements that carry fines or other penalties for non-compliance. Under the *Energy Policy Act of 2005*, Congress conferred upon New York State the unique authority to impose stricter reliability rules than national and regional requirements. In addition, the NYISO has contractual obligations to maintain reliability in accordance with applicable criteria (*e.g.*, the NYISO-NYSRC Agreement).

New York's standard for ensuring adequate resources to maintain system reliability requires that the probability of an unplanned disconnection of firm electric load must be less than one occurrence in ten years. The requirement that New York have sufficient installed capacity to satisfy this one-day-in-ten-years *loss-of-load-expectation* ("LOLE") flows from both NPCC and

NYSRC rules. At the regional level, NPCC requires that the NYISO satisfy the one-day-in-ten-years requirement. Additionally, NPCC requires that NYISO perform a comprehensive review of resource adequacy every three years, evaluating a five year forward timeframe with annual interim reviews.

The NYSRC establishes the installed reserve margin (“IRM”) annually, with NYISO technical support, to ensure that sufficient generation and other supply resources are in place to meet projected peak loads and to satisfy the mandatory one-day-in-ten-years LOLE criterion. Failure to satisfy the resource adequacy requirement would violate NYSRC requirements and would place New Yorkers at risk for costly and dangerous service disruptions. In recognition of this, the Commission has adopted the NPCC and NYSRC’s resource adequacy rules as enforceable state regulations.

Therefore, any alternative resource adequacy procurement method under consideration must be capable of satisfying New York’s statewide resource adequacy requirement, or IRM, as established annually by the NYSRC. It must also ensure that Locational Minimum Installed Capacity Requirements (“LCRs”), which are derived from the IRM and established by the NYISO, are met. The PSC must consider not just the economics of alternative models, but also whether and how load serving entities (“LSEs”) will be able to procure sufficient capacity to meet New York’s stringent reliability rules. While the existing capacity procurement model will require enhancements to accommodate state policy objectives, it has served New York well by enabling LSEs to efficiently meet their requirements while satisfying mandatory reliability standards.

D. New York’s Wholesale Electricity Market Design Has Provided Significant Consumer Benefits for Twenty Years

While the NYISO is focused on opportunities to better harmonize the wholesale electricity market design with evolving state policy initiatives, the fact remains that the markets have a two decade record of meeting reliability needs in an economically efficient manner. The markets have also benefitted New Yorkers by contributing to New York State’s ability to meet environmental objectives.

Since 1999, New York’s generation fleet has evolved to become markedly more efficient and greener. 11,335 MW of new generation has been developed in optimal locations due to locational energy and capacity price signals. Competitive market pricing has contributed to 7,343 MW of older facilities retiring or suspending operations and being replaced by cleaner fuel types and more efficient technologies. In fact, merchant generation continues to be developed in New York, which will offset approaching retirements of nuclear and coal facilities consistent with state policies.

Market signals from both the NYISO-administered energy and capacity markets have also increased the output, availability, and efficiency of existing generating facilities by incentivizing the necessary maintenance and improvements to allow them to remain in service to meet reliability needs. This has resulted in increased capacity available to the system from existing resources. At the same time, consumers have enjoyed a 23 percent nominal reduction in wholesale electric energy prices between 2000 and 2018 reflecting lower fuel costs as well as increased operating efficiency.⁶ The transmission system has benefitted from the development of several major new interconnections with neighboring regions, enabling greater supply and

⁶ The NYISO calculated this figure using data from *The New York ISO Annual Grid & Markets Report: Reliability and a Greener Grid: Power Trends 2019* at 31 (2019) (“*Power Trends 2019*”), available at <https://www.nyiso.com/power-trends>.

resilience for New York. And the NYISO's public policy transmission planning process, under FERC's Order No. 1000, has culminated in viable plans to construct the first significant AC transmission projects in New York State in over thirty years.

E. NYISO Has a Proven Record of Enhancing Its Market Design to Reliably Integrate New Technologies and Successfully Support New York State Policy Initiatives

The NYISO has a proven record of enabling the entry of new technologies into the state's competitive wholesale electricity markets consistent with state public policy objectives.

Accommodating New York's ambitious environmental goals, which is at the heart of this proceeding, is similar to past challenges that the NYISO, state policymakers, and stakeholders have successfully resolved.

For example, in 2005 and 2010 the NYISO performed studies with GE to determine how much new wind capacity could be integrated into New York's bulk power system while maintaining reliability. The NYISO and its stakeholders developed innovative market rules to enable wind resources to successfully enter into and compete in the wholesale markets. In 2009, the NYISO became the first grid operator to fully integrate wind generation resources into its economic dispatch system.⁷ Today, 1,985 MW of wind has entered the market with over 5,265 MW of land-based wind and 13,700 MW of offshore wind in the interconnection queue. And, like other more conventional resources, wind generation can be dispatched in economic merit order using an innovative wind forecasting technology successfully implemented by the NYISO. In 2018, the NYISO proposed rules to improve the integration of large-scale solar generators within the wholesale energy market. The NYISO anticipates implementation of solar-on-dispatch in time for the many proposed projects contained within the NYISO interconnection

⁷ See Section II.D.1 below.

queue. There are currently over one hundred solar projects in the interconnection queue representing 8,685 MW of capacity. There are also currently more than fifty energy storage projects in the queue representing more than 5,140 MW of capacity.⁸

After working for several years in collaboration with stakeholders including DPS staff, on June 27, 2019, the NYISO filed a comprehensive set of tariff revisions addressing virtually all issues related to wholesale market participation by distributed energy resources (“DER”). This effort is consistent with FERC’s ongoing efforts to enable DER market participation and furthers New York State’s ambitious DER initiatives. A noteworthy element of the filing was a capacity valuation methodology for limited energy duration resources based upon their contribution to reliability. The resolution of this difficult issue, which establishes a level playing field for existing resources and new DERs, was resolved only after an intensive collaboration among NYISO stakeholders, including several state agencies.

Similarly, the NYISO filed tariff amendments at FERC addressing a wide spectrum of issues to enable wholesale market participation by energy storage resources (“ESRs”) with a planned implementation in 2020.

These examples underscore the NYISO’s commitment to integrating new and environmentally beneficial technologies into the wholesale markets, and demonstrates the ability of the NYISO stakeholder process to further evolve state energy and environmental policies. It is noteworthy, that since the NYISO’s inception NO_x, SO_x, and CO₂ emissions from the electric sector in New York State have decreased by 89%, 98%, and 51%, respectively, due to the shift to cleaner, more efficient resources.

⁸ See NYISO Interconnection Queue, available at <https://www.nyiso.com/documents/20142/1407078/NYISO-Interconnection-Queue.xlsx/c0fe9a9b-7011-ab05-0f51-fd4ad0ef33f0?t=1568231204961>.

F. NYISO's Resource Adequacy Procurement Model

As noted above, the IRM is set by the NYSRC annually and is subject to review and approval by both the FERC and the PSC. The NYISO, in turn, establishes LCRs derived from the IRM for the lower Hudson Valley,⁹ New York City, and Long Island areas. LCRs reflect transmission constraints into those areas thus requiring LSEs to procure a certain amount of capacity located within those areas to meet the LOLE at the least cost.

The NYISO also administers several ICAP market auctions that enable LSEs to procure their capacity requirements on a seasonal, six-month capability period or a monthly basis. The objective of the capacity markets is to provide adequate revenues to attract new and retain existing resources to meet resource adequacy criteria. Suppliers rely on energy and ancillary service revenues *and* capacity revenues to fund their operations. For supply resources to remain economically viable, operating costs that are not recovered through energy and ancillary services markets may be provided by the capacity market. For potential new entrants, the capacity markets send price signals that indicate whether a proposed project may be economically viable. This is especially true in today's environment where historically low natural gas prices are significantly reducing revenues from the energy market. Together, energy, ancillary service, and capacity revenues, provide economic signals for new investment, retirement decisions, and participation by demand response providers. The current resource procurement model values capacity resources commensurate with their contribution to reliability. For example, resources that are frequently unavailable do not receive the same capacity credit as facilities with higher availability rates. As noted above, the NYISO has filed with FERC, after obtaining stakeholder

⁹ The Services Tariff refers to the lower Hudson Valley region where the BSM Rules are applicable as the G-J Locality. References in these initial comments to the "lower Hudson Valley" should be understood to be referring to the G-J Locality.

approval, a proposal under which limited energy duration resources and resources that can run continuously will each receive compensation commensurate with their contribution to reliability.

In sum, any alternative capacity model must assure that resources needed for reliability are incentivized to enter or remain in service by providing adequate revenues when combined with energy and ancillary services payments. Failure to adequately compensate generation needed for reliability may cause premature retirements that could threaten reliability, requiring the NYISO to resort to out-of-market mechanisms. Virtually all of the new resources envisioned by the CLCPA would be intermittent suppliers. Therefore, adequate market revenues must continue to be available to support resources that balance and complement intermittent resources and that support reliable grid operations.

G. The Buyer-Side Mitigation Rules

The NYISO's capacity market "buyer-side" market power mitigation measures (the "BSM Rules") are central to the Commission's inquiry in this proceeding. As discussed above, a well-functioning capacity market must ensure that adequate revenues are available to attract and retain resources needed for reliability. Maintaining the appropriate balance between supply and demand is essential to achieving this requirement.

The BSM rules were intended as a deterrent to uneconomic entry that would suppress capacity market clearing prices and distort efficient market signals to new or existing generation needed to maintain reliability. A supplier that would not be economically viable based upon projected energy and capacity revenues should not, in theory, be motivated to enter the market. The BSM Rules were designed to address concerns that uneconomic units receiving subsidies not available to other resources could nevertheless enter or remain in the markets, creating an artificial imbalance between supply and demand and depressing capacity prices. If capacity

prices are suppressed, the critical objective of providing revenue adequacy may be compromised, and may affect the economic viability of certain suppliers necessary for reliability.¹⁰

To address the potential for artificial price suppression, the NYISO tariffs contain measures to test proposed new entrants for economic viability. In general, a project that fails a BSM test because its cost of entry is higher than its projected revenues (which *exclude* certain subsidies) will be subject to an Offer Floor, or minimum offer price. As a result, it will likely not, for at least some period of time, clear the market and suppress prices. Offer Floors do not permanently preclude such units from clearing, however. With retirements and other market changes, they may clear over time and ultimately become relieved of the Offer Floor.

It is also important to note that the NYISO's BSM framework does not act as an absolute bar to uneconomic entry and contains (or has pending) several exemptions to the BSM Rules. Such exemptions recognize that certain projects do not raise the concerns that mitigation was designed to address because they lack the incentive or ability to suppress prices, for example, the Competitive Entry and Renewable Exemptions. However, FERC's most recent precedents indicate that "intent to suppress" is not a factor in approving such exemptions. The issue the parties to this proceeding must navigate, which is not unique to New York, is that certain resources needed to satisfy the state's goals may be subject to mitigation testing under the current BSM Rules. Thus, for example, consumers who fund RECs to pay for renewable resources that do not receive capacity credit will have to secure other capacity at an additional cost. This circumstance has been characterized as consumers "paying twice" for capacity.

¹⁰ See, e.g., *New York Independent System Operator, Inc.*, 122 FERC ¶ 61,211 at P 103 (2008) ("While a strategy of investing in uneconomic entry and offering it into the capacity market at a low or zero price may seem to be good for customers in the short-run, it can inhibit new entry, and thereby raise price and harm reliability, in the long-run.")

The challenge is to identify an approach that facilitates the state's goals, appropriately recognizes the reliability contribution of intermittent resources, and avoids unnecessary costs to consumers, while also maintaining competitive prices for resources that are needed for reliability.

H. The NYISO Recognizes the Need to Make Market-Based Changes that Will Make the BSM Rules More Compatible with New York State Environmental Policies

As noted above, the market design embraced by New York State over twenty years ago was not originally intended to value environmental attributes. It was designed to provide adequate, reliable service at least cost. But there are a number of potential enhancements to the wholesale electricity markets that could take account of desirable environmental attributes. The NYISO recognizes the need to work expeditiously in collaboration with the Commission and stakeholders to identify and implement enhancements that will support timely achievement of New York's environmental goals.

As with the on-going exploration of carbon pricing modifications to the energy market, the NYISO intends to better harmonize its capacity market rules with state environmental policies. The future development of the electricity sector in light of the state's environmental goals should be driven by market signals and include private investment. This will result in greater efficiency and innovation while helping to meet the CLCPA's mandates.

1. Preliminary Observations on Possible Changes to Capacity Market Structures

The NYISO is currently in the early stages of considering a variety of potential market design changes ranging from modest adjustments to its resource adequacy framework to more fundamental alterations to its market and mitigation rules. The NYISO has not yet identified a preferred reform proposal but intends to work with stakeholders and policymakers to do so

expeditiously. Therefore, the NYISO's focus in these initial comments is on providing preliminary thoughts and observations on the two proposals specifically referenced in the PSC Order. Namely, the "California Model" and the "Fixed Resource Requirement Alternative" ("FRRA") approach that is currently under review in a PJM proceeding. The NYISO also discusses the Capacity Auctions with Sponsored Resources ("CASPR") regime that has been implemented in ISO-NE and which some have suggested should be adapted for use in New York. These alternatives are discussed more fully in Section II.H of these initial comments. The NYISO has not pre-judged any of these alternatives and looks forward to better understanding the views of the PSC, the DPS, and other parties. As noted above, the NYISO's comprehensive mitigation review project will assess options to evolve the BSM Rules to better reconcile them with state environmental policy.

a. California's Resource Adequacy Model

Unlike New York's central procurement auctions, California relies principally upon bilateral contracts between LSEs and suppliers to procure capacity. These power purchase agreements ("PPAs"), many of which are long-term contracts, are executed under various California Public Utility Commission programs. CAISO performs essentially a residual procurement function that is subject to FERC oversight. The California model may at first glance hold some appeal because it avoids the buyer-side mitigation conflict central to this proceeding. However, before concluding that it could simply be transplanted to New York the parties need to carefully assess its efficiency, cost, and ability to spur the innovation required to meet New York's climate goals.¹¹

¹¹ To be clear, the NYISO is not raising any concerns with respect to the suitability of the California Resource Adequacy Model for the state of California or the California Independent System Operator. The NYISO's concerns relate only to the suggestion that California's model, or something similar, be adopted in New York.

As discussed below in Section II.H.1, California’s contract approach differentiates between existing and new capacity as well as different kinds of capacity resources (*e.g.*, energy efficiency vs. conventional units). Different types of resources are paid different prices for providing the same product – capacity. Existing resources often earn much less than new resources. The PSC would need to examine the economic implications and customer impacts of adopting such a model. For example, could such an approach result in overpayments for new generation while foregoing lower-cost opportunities to retain existing resources that provide needed capacity services? Will the amount of supply procured be optimal? Or is there the possibility that inherently imperfect projections by LSEs and other entities may over-estimate the quantity of new resources needed for resource adequacy, and cause premature development of new resources at contract prices that far exceed the cost of alternative supplies? On the other hand, if the quantity of new resources needed for resource adequacy are underestimated, will reliability issues arise? Are opportunities for repowering existing capacity or increasing capacity imports from neighboring control areas fully utilized? Does California’s approach provide for efficient retention of units while also enabling efficient exit and entry of others? Is California’s approach to procuring attributes like “flexibility” preferable to the performance based mechanisms that the NYISO, PJM and ISO-NE have built into their capacity *and* energy markets to procure those attributes without discriminating between resource or technology types?

In part because of these issues, and because experience in California has led to unintended and negative outcomes for electricity consumers, California itself is currently re-thinking multiple aspects of its resource adequacy model. The PSC should recognize that New York cannot adopt the California model in its entirety but must instead carefully consider whether (and if so, how) it might be adapted to suit New York. Further, the Commission and all

affected parties must examine whether adopting a contract-based approach instead of a market-based one would provide sufficient incentives for efficient performance and innovation.

The NYISO's view is that a centralized, non-discriminatory procurement approach, where all resources compete to supply a single capacity attribute, is more likely to produce economically optimal results. For example, competition between new and existing resources would create opportunities to identify relatively low-cost uprate, retrofit, and repowering opportunities for existing generators, enable the efficient retirement of units that are no longer economic, retain well-performing assets, and postpone the need to invest in costlier new generation resources.

Finally, the NYISO is concerned that the California model, which relies principally on regulated long-term PPAs, appears to shift the risks of capacity procurement from private investors to consumers. If adopted in New York, this would reverse a basic tenet of the NYISO's wholesale electricity market design. In considering any contract-based alternative to capacity procurement, the Commission must seek to avoid a recurrence of New York's experience with grossly above-market PURPA PPAs in the 1980s and 1990s. Concerns with the costs and risks to ratepayers associated with that model is what led to the competitive market-based approach to procurement that remains in place today.

b. The Fixed Resource Requirement Alternative

The FRRA referenced in the PSC Order was proposed as a potential framework by FERC in a PJM proceeding. FERC described this option as allowing an individual resource to elect to be removed from the capacity market along with an associated appropriate amount of load. Presumably, this approach would allow the capacity necessary for the removed load to be provided by the resources supported by the state and avoid buyer-side mitigation.

FERC's FRRA proposal was a conceptual starting point and its potential economic consequences were not entirely apparent when it was introduced. For example, this approach avoids BSM but also deprives state-supported resources of capacity payments through the wholesale market. It also appears that the construct described by FERC would not insulate the wholesale capacity market from the price-suppressing impacts of new entry by state-sponsored projects. This raises questions about whether revenue adequacy can be achieved for new and existing units needed for reliability.

Further, removing subsidized resources from the Capacity Market may remove some incentives for state-sponsored resources to be responsive to operational needs. The operational responsiveness of these resources would be solely based on energy market incentives, which may not be sufficient if the level of subsidies mutes them.

For these and other reasons, PJM (and other parties in the relevant FERC docket) have raised concerns with the original version of the FRRA concept and recommended that FERC instead consider variations on it. It seems likely that FERC will provide further guidance on what constitutes an acceptable FRRA in the near future which could help guide further thinking by the NYISO and others.

c. "CASPR"

ISO-NE has implemented a Competitive Auctions with Sponsored Resources ("CASPR") mechanism that is intended to accommodate public policy resources into its Forward Capacity Market ("FCM") over time, while minimizing the impact that such resources have on competitively based capacity prices that encourage the development of resources in the region when needed. CASPR introduces a Substitution Auction ("SA") that runs immediately after the Forward Capacity Auction ("FCA") to coordinate the entry of new publicly sponsored resources in the capacity market with the exit of existing capacity resources willing to permanently leave.

By pairing entry and exit in the SA, potential over-supply and price suppression concerns are reduced while maintaining resource adequacy in New England.

Recognizing that New York State actions can result in both the retirement of existing resources, as well as the entry of new capacity resources receiving subsidies for their environmental attributes, the NYISO has previously indicated that it will explore a CASPR-like mechanism. Such an arrangement would accommodate market entry by new public policy resources when paired with the retirement of an existing resource in New York. Such a mechanism could potentially facilitate an orderly retirement of less competitive conventional resources and contribute to maintaining competitive market price levels for all resources. However, there is considerable uncertainty about the conditions under which the exit of surplus capacity could be paired with the entry of public policy units. There is also a propensity for existing units to defer exiting by relying on the “option value” of their asset (*i.e.*, waiting to retire to maximize their own benefit) that must be addressed.

A CASPR mechanism for New York could potentially be developed by building on existing rules governing transfers of Capacity Resource Interconnection Service rights. The NYISO has not, however, determined whether to move forward with a CASPR proposal and is still in the process of evaluating it and other concepts.

I. Legal and Regulatory Path to Effect Changes to the NYISO’s Resource Adequacy Model

As noted above, the NYISO intends to work with its stakeholders and policymakers to better align its wholesale market design with New York’s climate change goals. We look forward to the comments and recommendations submitted by the parties to this proceeding. The PSC Order does not, however, address all of the legal and regulatory complexities on the path to affecting change in this area.

The PSC Order spells out the Commission’s statutory authority to address resource adequacy under the Public Service Law. It does not, however, discuss in meaningful detail the fact that New York’s installed capacity procurement framework is an integral part of FERC-approved tariffs that codify the NYISO’s market design. While the Commission has considerable jurisdictional powers over resource adequacy and the regulation of generation, those powers are not exclusive. FERC has the statutory obligation under the Federal Power Act (“FPA”) to ensure that NYISO wholesale market outcomes, including capacity prices, are just and reasonable. The NYISO believes that changes to the current market design would require FERC approval.

Further, the PSC Order is silent on the NYISO’s FERC-approved governance process to amend its tariffs. Under this model, a broad cross-section of market participants among the five sectors represented in the NYISO’s Management Committee must approve tariff changes by at least a 58% vote. The supermajority threshold is designed to ensure broad stakeholder support before tariff revisions may proceed. The NYISO’s independent Board of Directors must then concur with the recommended changes to empower NYISO management to file the proposed tariff modifications with FERC under Section 205 of the FPA.

Tariff amendments may alternatively be pursued in the form of a complaint proceeding under Section 206 of the FPA. However this route, which is an adversarial administrative proceeding, carries a high burden of first proving that the existing tariffs are unjust and unreasonable before the FERC will entertain proposed amendments. Moreover, unlike a Section 205 filing, which generally must be acted upon within 60 days of filing, there is no statutory time limit for FERC action under Section 206. Indeed, several New York buyer-side mitigation matters have been pending for years without Commission action.

In her dissent in the PJM MOPR proceeding, former Commissioner LaFleur warned of the dangers of rushing to make major changes to resource adequacy mechanisms without allowing time for stakeholder review. The NYISO agrees with Commissioner LaFleur's view. NYISO stakeholders, which include private and public investors in transmission and supply, consumer advocates, and environmental interests, should be afforded an opportunity to collaboratively work through complex changes before any attempt is made to impose them. The PSC and NYSRC should both be actively involved in the effort. Even given the CLCPA's ambitious clean energy deadlines, there is still time for a focused collaborative process to identify the best solutions for New York.

J. Recommended Next Steps

The issues raised by this proceeding are complex and will affect a broad range of stakeholders who either participate directly in the NYISO's markets or who will be impacted by changes to them. The NYISO acknowledges the need for change but alternative models must be carefully evaluated to ensure that they will actually help New York achieve its goals without unintended adverse consequences for New Yorkers. Moreover, the legal and regulatory path ahead is complex and involves a series of approvals at the NYISO, state, and federal levels. The NYISO urges, therefore, that change be examined in a collaborative process that strives for broad-based consensus.

The task of reconciling wholesale electricity market design with evolving state environmental policies will have the highest likelihood of success through the NYISO's shared governance process. The NYISO will shortly commence, through its stakeholder process, a comprehensive review of its BSM Rules that will, among other things, examine the issues raised by this proceeding. The NYISO's goal is to complete the development of proposed market design improvements that address New York State's policy objectives by the end of 2020 and

then to file related tariff amendments at FERC pursuant to Section 205 of the FPA. Doing so will maximize the chances that these changes will be approved and implemented in a timely manner. By contrast, unilateral attempts to change the NYISO's resource adequacy structures, including by seeking to impose a bilateral contracting regime, are likely to result in extended delays and litigation with stakeholders that would impede New York's ability to achieve its objectives.

II. INITIAL COMMENTS

A. The Creation of the NYISO and the NYISO-Administered Markets

1. The Establishment of NYISO-Administered Competitive Markets in the 1990s as a Remedy for High Costs

The PSC established the "Competitive Opportunities" proceedings in the early 1990s to address rapidly evolving conditions in New York's electric industry.¹² At the time, New York's electric industry consisted primarily of vertically integrated electric utility companies that owned and operated power plants, transmission facilities, and distribution systems. They provided "bundled" electric service to retail electricity customers in franchise areas. The PSC regulated retail rates based on costs. FERC oversaw wholesale rates but did not yet require utilities to provide open access transmission service.

Electric rates had increased sharply in the preceding decades for many reasons. Significant cost overruns resulted from construction of large new nuclear power plants in the 1980s. The federal and state governments required utilities to enter into long-term power contracts with certain non-utility generators (*i.e.*, "Qualifying Facilities" ("QFs")) at "avoided cost" rates established under the federal Public Utility Regulatory Policies Act of 1978 ("PURPA"). New York's implementation of PUPRA under the 1981 "Six Cent Law" resulted in

¹² PSC Case 93-M-0229, *Order Instituting Proceeding* (March 19, 1993).

an especially large number of expensive contracts. In an era when energy prices were increasing and seemed likely to keep increasing indefinitely, it was widely believed that avoided costs would be very high in the future. In fact, prices subsequently declined and the contracts prescribed by state law proved to be far more expensive than market-based rates would have been. High inflation and other costs also drove up utility electric rates, including taxes, land, and labor costs. Some of the largest industrial customers in the state, in particular, began to press for rate relief and other changes in the industry. The utilities were concerned that allowing those customers to leave their utility or “bypass” high rates would “strand” costs they could not recover in rates, potentially leading to a utility “death spiral” and insolvency.

The PSC’s landmark competitive opportunities order in 1996 was a response to these problems. It established the vision and goals for a new regulatory regime for electricity.¹³ These included, “effective competition in the generation and electric services sectors,” “reduced prices resulting in improved economic development for the State as a whole,” “a system operator that treats all participants fairly and ensures reliable service,” and “the availability of information that permits adequate oversight of the market to ensure its fair operation.”¹⁴

A key consideration for establishing markets was that “[c]ompetitive providers (generators and energy service companies) would bear more of the risk of investment decisions, and consumers less, than under regulation.”¹⁵

Also in 1996, FERC issued its seminal “open access” rule (“Order No. 888”) requiring all transmission providers in the U.S. – which included New York’s investor-owned utilities – to

¹³ See *Opinion and Order Regarding Competitive Opportunities for Electric Service*, Opinion No. 96-12, Cases 94-E-0952, *et al.*, (May 20, 1996).

¹⁴ *Id.* at 25-27.

¹⁵ *Id.* at 30-31.

offer open access to their transmission systems. Open access required utilities to provide transmission service to third parties on comparable terms and conditions to the service they make available to their own customers.¹⁶ The regulations also required the reformation of existing “power pool” arrangements, including the New York Power Pool (“NYPP”). The establishment of “Independent System Operators” (“ISOs”) was encouraged as a principal means to accomplish transmission open-access and power pool reform.¹⁷

2. Approval of the NYISO’s Formation

In the late 1990s, New York’s Transmission Owners requested the FERC approvals necessary to replace the NYPP with the NYISO. FERC approved these proposals in a series of orders in 1998 and 1999.¹⁸ FERC also approved the establishment of a new organization, the NYSRC, to develop reliability standards for the New York System and to establish the annual IRM that determines the amount of resources, in the form of installed capacity (“ICAP”), which utilities and other LSEs must procure to reliably serve their customers’ electric loads.¹⁹

The NYISO formally commenced operations on December 1, 1999. The NYISO is a tax-exempt not-for-profit corporation that is unaffiliated with any state or federal agency or energy company. The NYISO is led by a 10-member independent Board of Directors. The

¹⁶ *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, 61 Fed. Reg. 21,540, FERC Stats. & Regs. ¶ 31,036 (1996); *order on reh’g*, Order No. 888-A, 78 Fed. Reg. 61,220 (1997), FERC Stats. & Regs. ¶31,048 (1997); *order on reh’g*, Order No. 888-B, 81 FERC 61,248 (1997); *order on reh’g*, Order No. 888-C, 82 FERC 61,046 (1998); *aff’d in relevant part sub nom. Transmission Access Policy Study Group v. FERC*, 225 F.3d 667 (D.C. Cir. 2000), *aff’d sub nom. New York v. FERC*, 535 U.S. 1 (2002).

¹⁷ Order No. 888 at 279-286 (establishing eleven principles for determining whether a proposal to form an ISO would conform to federal requirements for open access and competitive wholesale electricity markets).

¹⁸ *See, e.g., Central Hudson Gas & Electric Corporation, et al.*, 83 FERC ¶ 61,352 (1998) (conditionally authorizing establishment of the NYISO); 86 FERC ¶ 61,062 (1999) (conditionally accepting NYISO’s tariffs and market rules). In addition, New York’s transmission owning utilities obtained PSC permission to transfer operational control of various transmission facilities and to transfer assets to the NYISO under Section 70 of the New York Public Service Law in 1999.

¹⁹ *Central Hudson Gas & Elec. Corp., et al.*, 83 FERC ¶ 61,352 (1998).

NYISO's Code of Conduct²⁰ requires that Board members and all employees are independent from any business, financial or operating ties to any stakeholders. The NYISO operates transparently in its role as an impartial system operator, planner, and administrator of New York's wholesale electricity markets. The NYISO's mission, in collaboration with stakeholders, is to serve the public interest and provide benefit to consumers by:

- *Maintaining and enhancing regional reliability;*
- *Operating open, fair and competitive wholesale electricity markets;*
- *Planning the power system of the future; and*
- *Providing factual information to policymakers, stakeholders and investors in the power system.*

3. The PSC's Continuing Review of Capacity Procurement

From time to time, the PSC has re-examined the capacity market constructs and planning processes established in the NYISO's tariffs. The PSC has inquired whether these mechanisms are procuring the amount of capacity needed to maintain resource adequacy at prices that are just and reasonable. It has also considered whether NYISO processes are providing the resources that are needed to fulfill New York State's evolving environmental and energy policy objectives. The PSC has held proceedings examining utility resource portfolio management, generator retirements, and the procurement of large scale renewable resources.²¹ To date, the PSC has always concluded that competitive markets provide valuable benefits to consumers and that market forces should be harnessed to achieve State policy goals.

²⁰ NYISO OATT Attachment F.

²¹ See, e.g., Case 07-E-1507, Case 12-E-0503, Case 05-E-0889, Case 15-E-0302.

In particular, the PSC's 2007 long-range resource portfolio planning proceeding²² recognized the potential disadvantages of moving away from the NYISO's current market-based procurement model. The PSC concluded that voluntary, forward contracts were beneficial and should be part of the NYISO market framework. Mandatory long-term contracts were more problematic because they would tend to shift risks from developers and investors to consumers. The PSC suggested that "to achieve State energy policies and goals, it may be necessary to shift some of the capacity investment risk back to consumers, a result that is achieved in part using long-term contracts."²³ Nevertheless, the PSC recognized that going too far in this direction would be ill-advised because it would eliminate most of the benefits that have been achieved through utility restructuring and competition.²⁴

B. The NYISO-Administered Markets Produce Competitive Price Signals, Support Reliability, Are Integrated with Transmission Planning Processes that Support State Policies, and Ensure that Revenues Are Adequate to Meet Reliability Needs and Policy Objectives

1. The Energy, Ancillary Services, and Capacity Markets Work in Tandem to Benefit Consumers by Shifting Risks to Investors

One of the main drivers behind introducing wholesale markets was to shift the risk and cost consequences of investment decisions from consumers to the owners of generation and other resources. Wholesale markets harness competitive forces to improve the economic efficiency of operations and investment and encourage innovation while shifting risk to those parties that are best able to bear it. Asset owners who are most efficient will thrive in the market and lower

²² See, e.g., Case 07-E-1507, Proceeding on Motion of the Commission to Establish a Long-Range Electric Resource Plan and Infrastructure Planning Process, *Order Initiating Electricity Reliability and Infrastructure Planning* (December 24, 2007).

²³ *Id.*, at 23.

²⁴ *Id.*

costs of providing resources to consumers, those asset owners who make poor decisions bear the consequences and exit the market without placing any additional cost burden on consumers.

The NYISO supports reliability primarily through three complementary markets for energy, ancillary Services, and capacity. Each addresses distinct reliability needs, and each provides prices high enough to meet those needs, but no higher. When there is not enough supply available, prices can rise to shortage levels, which incepts performance and helps support investment.

Competitive wholesale energy and ancillary services markets provide least-cost dispatch and ensure short-term operational reliability. Competitive capacity markets work in tandem with the energy and ancillary services markets to help meet long-term resource adequacy objectives in the most cost-effective manner. The markets have been designed to send price signals for sufficient investment to meet reliability criteria with the most economic set of resources.²⁵

a. Energy Markets

The NYISO calculates energy prices at locations across the New York State Transmission System based on the cost to supply the next MW at that specific location. “Locational Based Marginal Prices” (“LBMPs”)²⁶ are calculated as part of the Day-Ahead and Real-Time Energy Market scheduling processes. Generators are paid the LBMP determined at their location. LSEs pay the load-weighted LBMP for the Zone where their load is located.

²⁵ See Section II.B.4 below, regarding Revenue Adequacy. These wholesale markets also support retail competition, whereby energy service companies (“ESCOs”) compete to buy sufficient supplies from the wholesale market on behalf of their customers, obviating the need for old-fashioned regulated integrated resource planning to satisfy retail customer demand. Risk is shifted from consumers to competitive retailers in much the same way risk is shifted from consumers to generation owners in the wholesale market.

²⁶ LBMPs reflect the cost of congestion by pricing Energy based on whether Load can be served by less costly generation outside of a local area or, due to physical line constraints, must be served by more expensive local generation. The difference between the more expensive local generation and the less expensive generation that cannot be reached is known as the system congestion cost. Market-clearing prices for ancillary services also incorporate the lost opportunity cost of marginal suppliers and their availability offers.

The NYISO operates markets for Energy in two timeframes: a real-time market (“RTM”), and a day-ahead market (“DAM”). Energy markets establish uniform clearing prices in that they are set by the marginal resources, and infra-marginal resources will earn more than their incremental offers. This provides for some recovery of fixed costs. However, competitive energy prices based on short-run marginal costs may not provide needed resources full recovery of their fixed costs.

Most transactions in the NYISO-administered energy market take place in the DAM, which functions as a primarily financial market that helps prepare for real-time operations. The DAM enables market participants to hedge against Real Time prices; it helps resources plan ahead for decisions such as fuel procurement, the start-up process or battery charging; and provides NYISO visibility into which resources will be operating. In the Real-Time market, schedules are re-optimized every five minutes to provide a schedule for all suppliers, precisely aligned with the reliability needs of the system.

b. Ancillary Services Markets and Cost-Based Services

NYISO administers two general categories of market-based ancillary services: regulation and reserves. Utility systems need “regulation” to balance supply and demand and maintain frequency within a five-minute dispatch interval. The need arises primarily from very short-term fluctuations around the interval-to-interval load trend, but regulation can also help address sudden disturbances that might occur while underlying “contingency” services are ramping up. Regulation is provided by electric generators that are able to respond to base point signals to move up and down every six seconds. The NYISO procures “operating reserves” to access generation to restore supply-demand balance following a potential sudden loss of a generator or transmission. The NYISO maintains readiness to deploy a matching amount of very fast-responding 10-minute reserves; which would then be replaced by comparatively slower-

responding 30-minute reserves so that the system is prepared for the next possible contingency. Total operating reserve requirements, and related requirements for specific types of reserves and locational reserve needs, are defined by the NYISO in accordance with its tariffs and manuals. Operating reserve requirements are met through the ancillary services markets administered by NYISO. Prices and schedules are determined by the NYISO's market scheduling software in accordance with FERC-approved market rules.

Certain other ancillary services are procured through cost-of-service rates rather than markets because they have physical characteristics that prevent them from being acquired through competitive markets. Generators and other resources supply "voltage support," which can be thought of as providing the pressure that moves current, or the power that customers consume, through the transmission system. Certain generators are paid for their ability to "black start," without an outside electric supply, the high voltage system after a blackout.

c. Capacity Markets

Since the NYISO was established, resource adequacy in New York State has been maintained through a series of state-administered and NYISO tariff processes to set IRMs and LCRs subject to federal and state oversight. These mechanisms build on ICAP arrangements that were introduced decades earlier. LSEs are required to procure capacity needed to meet minimum requirements based on consumption over the peak load hour. The NYISO enables LSEs to satisfy their obligations by administering auctions and by accounting for bilateral capacity transactions. The NYISO's markets are designed to send price signals to investors to build capacity where and when it is needed.

A few years after it commenced operations, the NYISO, in close collaboration with the PSC, revised its original capacity market framework by introducing "ICAP Demand Curves." The curves are designed to send economically efficient price signals regarding the amount of

unforced capacity (“UCAP”) that LSEs should procure to reliably serve their loads both statewide and for “Localities” within New York.²⁷

The NYISO administers three auctions to procure and assign obligations for sufficient UCAP²⁸ to meet the reliability requirements. Auctions are conducted covering each seasonal six month “Capability Period” (winter and summer) for the coming year. Monthly spot auctions are conducted to allow parties to adjust their net position in the market, taking into account the amounts cleared in the prior auctions for the two capability periods. Participation in the six-month and monthly auctions is voluntary. Participation in the spot auction is mandatory for all LSEs and reflects positions previously taken in the six-month and monthly auctions as well as bilaterally contracted positions.

The seasonal and monthly markets match locational bids to buy and offers to sell. The spot market has downward sloping capacity ICAP Demand Curves for New York City, Long Island, the G-J Locality, and the New York Control Area (“NYCA”) as a whole. Supply resources then compete by submitting capacity offers reflecting their net going forward costs,²⁹ and the NYISO clears the lowest-cost combination of resources that achieves the capacity requirement. Separate prices are established for the NYCA and for each Locality. Resources

²⁷ See Section II.E.

²⁸ UCAP consists of the net amount of capacity in MW that a Generator can sell based upon the Generator’s Dependable Maximum Net Capability and its forced outage rate.

²⁹ ICAP Suppliers that are deemed to be Pivotal Suppliers by the NYISO may only offer to sell Mitigated UCAP at a price no higher than the applicable UCAP Offer Reference level of their resource-specific Going Forward Costs. See Services Tariff Section 23.4.5.3. For purposes of Services Tariff Section 23.4.5, “Going Forward Costs” are defined as, “either (a) the costs, including but not limited to mandatory capital expenditures necessary to comply with federal or state environmental, safety or reliability requirements that must be met in order to supply Installed Capacity, net of anticipated energy and ancillary services revenues . . . ; or (b) the opportunity costs of foregone sales outside of a Mitigated Capacity Zone, net of costs that would have been incurred as a result of the foregone sale if it had taken place.

“clear” in the auctions by having a price at or below the clearing price, and capacity suppliers must offer into the energy market, with a few limited exceptions for intermittent suppliers.

The spot auctions utilize sloped ICAP Demand Curves that, in conjunction with offers, establish clearing prices. The ICAP Demand Curves reflect the NYISO’s forecast of capacity needs and the cost of new entry, which is currently based upon the cost of a gas turbine.³⁰ The NYISO establishes a sloped ICAP Demand Curve for Long Island, New York City, the G-J Locality and for the NYCA as a whole. The ICAP Demand Curves facilitate additional capacity procurements if cost effective, recognizing that the additional capacity provides incremental reliability value. These separate capacity market prices signal the need for investment in each Locality to meet resource adequacy.

Every four years, the NYISO undertakes an extensive process to review and update the ICAP Demand Curves. This process provides for stakeholder review and input, and the resulting proposed ICAP Demand Curves must be approved by FERC. The curves are established based on the cost of the next generation unit that would enter the market to meet the peak demand. This method allows for efficient capacity prices that accurately signal the need for investment while pricing the declining reliability value of capacity procured above requirements.

³⁰ The NYPSC first proposed that the NYISO adopt sloped ICAP Demand Curves in May 2002. *See New York Independent System Operator, Inc., Revisions to the ISO Market Administration and Control Area Services Tariff: ICAP Demand Curve*, Docket No. ER03-647-000 (March 21, 2003) at 2; *Comment of the New York State Public Service Commission*, Docket No. ER03-647-000 (April 11, 2003) (outlining the economic rationale for establishing sloped ICAP Demand Curves.) The sloped demand curve construct was adopted by the NYISO, accepted by FERC (*See New York Independent System Operator, Inc.*, 103 FERC ¶ 61,201, *reh’g denied*, 105 FERC ¶ 61,108 (2003), upheld in federal court (*Electricity Consumers Resource Council*, 407 F.3d 1232 (D.C. Cir. 2003)), and is still in use today (*See New York Independent System Operator, Inc.*, 158 FERC ¶ 61,028 (2017) (accepting the NYISO’s most recent ICAP Demand Curve reset filing), and has become a model for other markets (*See ISO New England Inc. and New England Power Pool Participants Committee*, 147 FERC ¶ 61,173 (2014) (accepting adoption of sloped capacity demand curve in New England). *See also Third Triennial Review of PJM’s Variable Resource Requirement Curve*, prepared for PJM Interconnection, LLC by The Brattle Group (May 15, 2014) (describing calculation of PJM’s sloped “variable resource requirement curve,” which performs a function very similar to the NYISO’s ICAP Demand Curves) available at <http://www.pjm.com/~media/documents/reports/20140515-brattle-2014-pjm-vrr-curve-report.ashx?>

Capacity can also be sold or procured through bilateral transactions. Bilateral capacity transactions are recognized and certified by the NYISO and are accounted for through the NYISO's auction processes.

The NYISO's market rules account for the individual performance attributes of each resource. The compensation that resources are eligible to receive from NYISO auctions is based in part on their outage performance or performance over specified peak load hours. The NYISO calculates these values in advance of the six-month winter and summer Capability Periods.

The independent MMU's annual "State of the Market Reports" have consistently recognized that the NYISO's markets, including the capacity market, are working well (while recommending continuous improvements).³¹ FERC has also consistently upheld the NYISO's use of its existing capacity market mechanisms in New York.³²

2. The NYISO Operates the Bulk Power System in Compliance with Mandatory Reliability Standards Set by Multiple Bodies and in Close Coordination with Neighboring Systems

In close coordination with the operational personnel of the transmission owners, the NYISO must comply with the nation's strictest set of reliability standards, which include nearly 1,000 requirements.

The NYISO is responsible for safe, reliable and efficient Control Area operations of the New York State Power System. The NYISO balances generation and load, exercises operational control over certain facilities under normal operating conditions and system emergencies to

³¹ See, e.g., Potomac Economics, *2018 State of the Market Report for the New York ISO Markets*, (May 2019) at ix, "The NYISO electricity markets generally performed well in 2018 and the NYISO has continued to improve its operations and enhance its market design."

³² See, e.g., *New York Public Service Commission v. New York Independent System Operator, Inc.*, 153 FERC ¶ 61,022 (2015) (rejecting broad challenge to application of BSM Rules as not supported by sufficient evidence); *New York Independent System Operator, Inc.*, 124 FERC ¶ 61,301 (2008) (declining to require the NYISO to develop a forward capacity market to supplant its existing resource adequacy mechanisms).

maintain system reliability. The NYISO dispatches generation that sells into its markets to meet consumer demands using seasonal, day-ahead, hour-ahead and real-time forecasts and data. The Real Time Commitment and Real Time Dispatch (“RTC/RTD”) system performs a security constrained unit commitment and dispatch and a corresponding power flow solution to ensure that all actual and contingency transmission constraints are secured to applicable limits. All Generators, Transmission Owners and other equipment owners must coordinate their outages and maintenance through the NYISO to ensure the safe, reliable and efficient operation of the New York State Power System.

Three levels of standards organizations oversee the NYISO’s operation of the New York State Bulk Power System. First, NERC establishes mandatory electric standards for power system operations and planning. NERC is the Electric Reliability Organization for the United States under Section 215 of the FPA.³³ NERC has authority to audit the NYISO’s compliance with the electric reliability standards. NERC may impose a range of sanctions, from non-compliance letters and remedial action plans to penalties of up to \$1 million per day per violation.

Second, the NPCC establishes reliability criteria that are more specific or more stringent than the NERC standards for the Northeastern United States and Canada. The NPCC audits and determines the NYISO’s compliance with its standards, and serves as the Regional Entity conducting compliance review and enforcement for NERC. Importantly for this proceeding, the NPCC criteria establish resource adequacy requirements for the NYISO. NPCC Directory 1

³³ Energy Policy Act of 2005, P.L. 109-58.

mandates that the New York Control Area plan for sufficient resources to meet the one-occurrence-in-ten years LOLE.³⁴

Third, the NYSRC establishes New York State Reliability Rules that are more specific or more stringent than the NERC standards and NPCC criteria. Section 215 of the FP A expressly provides that New York State may establish electric system reliability requirements that are more stringent than the rest of the United States so long as those standards do not degrade reliability outside of New York.³⁵ The PSC adopted the NYSRC Reliability Rules as New York State regulations in 2006, 2007, 2015, 2016, 2017 and 2019.³⁶ The NYISO is required to comply with the NYSRC Rules and NPCC Criteria.³⁷ The NYSRC Reliability Rules incorporate the NPCC criteria by reference,³⁸ including NPCC Directory 1 on Resource Adequacy.³⁹ Moreover, the

³⁴ NPCC Regional Reliability Reference Directory # 1, *Design and Operation of the Bulk Power System* (September 30, 2015); https://www.npcc.org/Standards/Directories/Directory_1_TFCP_rev_20151001_GJD.pdf.

³⁵ 16 U.S.C. § 824o.

³⁶ PSC Case 05-E-1180, In the Matter of the Reliability Rules of the New York State Reliability Council and the Criteria of the Northeast Power Coordinating Council, *Order Adopting New York State Reliability Council Rules* (February 19, 2006); *id.*, *Order Adopting Modifications to New York State Reliability Rules* (December 21, 2006); *id.*, *Order Adopting Second Modifications to New York State Reliability Rules* (July 23, 2007); *id.*, *Order Adopting Third Modifications to New York State Reliability Rules* (December 24, 2007); *id.*, *Order Adopting Modifications to Reliability Rules* (February 9, 2015); *id.*, *Order Adopting Modifications to Reliability Rules* (March 21, 2016); *id.*, *Order Adopting Modifications to Reliability Rules* (December 21, 2016); *id.*, *Order Adopting Modifications to Reliability Rules* (December 20, 2017); *id.*, *Order Adopting Modifications to Reliability Rules* (February 13, 2019).

³⁷ NYISO-NYSRC Agreement, Article 3.

³⁸ NYSRC Agreement §3.01.

³⁹ <http://www.nysrc.org/pdf/Reliability%20Rules%20Manuals/RRC%20Manual%20V44.pdf>.

NYSRC has promulgated its own more specific resource adequacy⁴⁰ rule⁴¹ and continuously updates its technical guidelines for establishing the annual IRM.⁴²

The NYISO has a strong record of compliance with the three tiers of reliability standards that apply to its operations, markets and planning functions. NERC and NPCC have conducted several audits of the NYISO, and to date all audits have determined that the NYISO is in full compliance with the NERC standards. The NYSRC conducts an annual compliance program with monthly examinations of NYISO's compliance certifications and documentation. Annually, the NYISO is required to document the compliance of the NYCA with the resource adequacy requirements of the NPCC and the NYSRC. Every year both organizations have determined that the NYISO is in compliance.⁴³

The NYISO coordinates its operation of the New York system with each of its neighboring power grid operators, ISO New England ("ISO-NE"), Pennsylvania-New Jersey

⁴⁰ The NYSRC Rules define "Adequacy" as "[t]he ability of the electric systems to supply the aggregate electrical demand and energy requirements of their customers at all times, taking into account scheduled and reasonably expected unscheduled outages of system elements."

⁴¹ NYSRC Rule A.1 R.1 states:

R1. The NYSRC shall annually perform and document an analysis to calculate the NYCA Installed Reserve Margin (IRM) requirement for the following Capability Year. The IRM analysis shall:

R1.1 Probabilistically establish the IRM requirement for the NYCA such that the loss of load expectation (LOLE) of disconnecting firm load due to resource deficiencies shall be, on average, no more than 0.1 days per year. This evaluation shall make due allowances for demand uncertainty, scheduled outages and deratings, forced outages and deratings, assistance over interconnections with neighboring control areas, NYS Transmission System emergency transfer capability, and capacity and/or load relief from available operating procedures.

R1.2 Utilize the methodology and modeling parameters for establishing NYCA IRM requirements and a timeline for the study process, as described in NYSRC Policy 5 "Procedure for Establishing NYCA Installed Capacity Requirements."

R1.3 Prepare a technical report documenting the assumptions, models, methodology and results of the IRM Study.

⁴² NYSRC Policy 5-14, Procedure for Establishing New York Control Area Installed Capacity Requirements (June 14, 2019). [http://www.nysrc.org/pdf/Policies/Policy%205-14%20Final\[8967\].pdf](http://www.nysrc.org/pdf/Policies/Policy%205-14%20Final[8967].pdf).

⁴³ See, e.g., 2018 Comprehensive Area Review of Resource Adequacy: available at <https://www.nyiso.com/documents/20142/4011643/2018NPCC-ComprehensiveNYISORReviewRA-toNPCC-Dec4RCC-Final.pdf>.

Maryland (“PJM”) interconnection, the Independent Electricity System Operator of Ontario, and Hydro-Québec. Through Joint Operating Agreements with each of the four regions, the NYISO implements operating procedures, provides notifications of system conditions, meets energy and capacity shortages, controls voltage and reactive power resources, coordinates planned and unplanned equipment outages in operational planning and in real time, and conducts ongoing communications for broader situational awareness. Specific to resource adequacy, there is coordination to confirm that external resources providing capacity to New York or *vice versa* are clearly marked as such and not double counted between control areas. The NYISO’s interregional coordination arrangements with neighboring systems also allow for more efficient transaction scheduling which, among other things, helps to support interregional transfers of energy produced by intermittent resources.

3. The NYISO Interconnection, Transmission Planning, and Generator Deactivation Processes Support Resource Adequacy, Reliability, and State Public Policy

The NYISO’s interconnection, long-term planning, and generator deactivation processes support the electric grid’s reliability, efficiency, and ability to support public policy goals. As the NYSRC has noted, New York’s anticipated transition to a cleaner grid will present both operational and planning challenges. New transmission facilities will be needed to enable power produced by intermittent resources that are remote from load to serve load centers. Some existing system resources that are needed for reliability may need additional support to remain in operation if market revenues are inadequate. The related processes discussed below will help the NYISO plan for and address these needs.

1. **Interconnection.** New generation and transmission facilities are reliably interconnected to the New York State Transmission System through processes that identify connection facilities and system upgrades developers must build. These processes vary depending

on whether the new facilities are transmission or generation and on the level of interconnection service generation developers seek for their energy and capacity.

2. **Local Transmission Planning.** Each Transmission Owner performs studies for its local systems that are reviewed with stakeholders. The Local Transmission Plans feed into the NYISO's determination of system-wide needs.
3. **Reliability Planning.** Every two years the NYISO conducts a Reliability Needs Assessment ("RNA") and solicits market-based and regulated backstop solutions to identified reliability needs. Such solutions could include replacement supply, transmission facility upgrades, or transmission additions. The NYISO evaluates the viability and sufficiency of the proposed solutions to satisfy the identified Reliability Needs, and evaluates and selects the more efficient or cost-effective transmission solution to the identified need. In the event that market-based solutions do not materialize to meet a Reliability Need in a timely manner, the NYISO triggers regulated solutions to satisfy the need. The NYISO develops a Comprehensive Reliability Plan ("CRP") for the ten-year study period that sets forth its findings regarding the proposed solutions. The RNA and CRP are reviewed by NYISO stakeholders and approved by the independent Board of Directors.
4. **Generator Deactivation.** In addition to its regular reliability planning processes, the NYISO conducts a facility-specific generator deactivation assessment to address any reliability needs that could result from a generator deactivation, which includes the retirement or mothballing of a generator. If a reliability need is identified, the NYISO solicits market-based and regulated solutions that could receive rate recovery through the NYISO's tariff. The NYISO may choose to implement a short-term solution in the

Generator Deactivation Process or defer action to address the need in the Reliability Planning Process. As a last resort, NYISO may enter into a reliability-must-run agreement with the deactivating generator to retain its services temporarily until a longer-term solution to the reliability need can be implemented.

5. **Economic Planning.** The NYISO performs a biennial study of transmission system congestion known as the Congestion Assessment and Resource Integration Study (“CARIS”). The CARIS study utilizes, as its starting point, the results from the viability and sufficiency assessment portion of the CRP process, once they are finalized and become publicly available. CARIS Phase 1 examines congestion on the New York bulk power system, and the costs and benefits of generic alternatives to alleviate that congestion. During CARIS Phase 2, the NYISO evaluates specific transmission project proposals for regulated cost recovery.
6. **Public Policy Planning.** Every two years interested parties propose transmission needs driven by Public Policy Requirements, which are then considered by the PSC for identification of any Public Policy Transmission Needs. Upon identification by the PSC, the NYISO requests proposed solutions to the need, evaluates the viability and sufficiency of the proposed solutions, and may select the more efficient or cost-effective transmission solution to the identified need. The NYISO has selected transmission projects designed to satisfy two Public Policy Transmission Needs identified by the PSC.⁴⁴

⁴⁴ In October 2017, the NYISO selected a proposal to address the PSC-identified public policy need for new transmission in Western New York to support the State’s goal of maximizing the flow of energy from renewable resources in the region. In April 2019, the NYISO accepted two separate joint proposals in response to a PSC determination that there was a public policy need to significantly increase transfer capability on the Central East and UPNY/SENY interfaces, which run from central New York, through the Capital Region to the lower Hudson Valley. These projects will add significant transfer capability to deliver renewable resources from upstate solar, wind, and hydro resources to meet the power needs of downstate New York and help the State fulfill the Clean

7. **Interregional Planning.** The NYISO conducts interregional planning with neighboring control areas in the United States and Canada under the Northeastern ISO/RTO Planning Coordination Protocol. The NYISO may consider Interregional Transmission Projects in its regional planning processes.

4. Revenue Adequacy

Revenue adequacy – whether market incentives are enough to attract investment when needed – is a necessary condition for reliable and economically efficient wholesale markets. When energy, capacity, or other grid services are scarce, prices for the deficient product or service should rise to attract investment; and the suite of markets should attract and retain the most economic portfolio of diverse resources to meet all system needs.

To attract needed investment where generation owners bear investment and operational risk, the NYISO must provide opportunities for adequate revenues through its energy, capacity, and ancillary services markets. FERC has consistently held that suppliers in competitive markets are not guaranteed cost recovery but must have an opportunity to recover their costs.⁴⁵

The key to ensuring opportunities to earn adequate revenues is for the market design to define necessary grid services as products—primarily energy, but also ancillary services and capacity—and for the prices of those products to be able to rise when the cost of providing those products increases due to shortages. Allowing prices to rise when the availability of a service becomes limited sends correct signals for reliable and efficient operations and provides investors

Energy Standard.

⁴⁵ See, e.g., *CXA La Paloma, LLC v. California Independent System Operator, Inc.*, 165 FERC ¶ 61,148 (2018); citing *Bridgeport Energy, LLC*, 113 FERC ¶ 61,311 at P 29 (2005); *reh'g denied*, 169 FERC ¶ 61,045 (2019).

with enough revenue to prevent shortages. When investors forecast that the value of a product will increase due to a shortage, they will build the needed resources.

As such, prices act as the control signals not only in real-time operations, but also to retain and attract sufficient supply. The combination of prices and associated revenue streams across all products enables the market to optimize and find the most economic portfolio of diverse resources each of which provides a bundle of multiple products to meet all system needs while also satisfying policy objectives. For example, the combination of prices may favor controllable, flexible resources that can support the integration of state-sponsored intermittent wind and solar and devalue less flexible fossil resources.

The markets must evolve to continue to perform well as the generation fleet incorporates large amounts of intermittent renewable generation. The shift toward decarbonization creates new risks for investors and new challenges for investment in the NYISO's markets.

C. The NYISO-Administered Markets Have Benefitted Consumers and Contributed to Improved Environmental Performance

To date, the NYISO wholesale markets have met their objective of maintaining reliable service at the lowest possible cost. Much of the investment in New York since the start of the NYISO has been in efficient combined cycle units that have reduced harmful emissions. Since 2000, the NYISO's markets have attracted competitive new entry, the risk of which is borne by the owners of new generation. Over 11,000 MW of new generation has been added to New York's electric system, while nearly 7,000 MW has retired or suspended operations. Locational prices in the NYISO's competitive markets signal investors when and where on the system to add or remove resources to most efficiently serve consumers' needs.⁴⁶ The power demands of

⁴⁶ See *2019 Power Trends* at 17-18.

the southeastern New York region have attracted more than 2,700 MW of merchant transmission projects adding connections with neighboring PJM and ISO-NE.⁴⁷

NYISO's wholesale electricity markets encourage innovation and competition that has contributed significantly to the grid's improved environmental performance. For instance, generation fuel efficiency, or heat rate, improved by more than 27% in New York State—compared to a national average improvement of less than 9%. As a result of these efficiency gains, the NYISO estimated fuel cost savings of \$7.8 billion between 2000 and 2018.⁴⁸

During that time, the NYISO-administered markets contributed to a reduction in carbon emissions while maintaining a fundamental tenet of competitive wholesale markets which is to shift the economic risks of generation investments from consumers to private investors.

Competitive markets have also allowed consumers to more directly reap the benefits of falling fuel prices. In New York, the price of natural gas and the cost of electricity are closely correlated because gas-fired generation often established the clearing price for electricity in the NYISO's wholesale energy market.⁴⁹ The NYISO's markets and planning processes have signaled the development of resources necessary for reliability. As noted above, the most recent Comprehensive Reliability Plan identified no additional resource needs on the New York system between 2019 and 2028.

D. NYISO's Market Design Initiatives Have Consistently Facilitated New York State's Energy and Environmental Policies and Innovations

Competitive market efficiencies have helped New York State to advance its energy and environmental policies which have established New York as a national leader with respect to

⁴⁷ *Id.* at 18.

⁴⁸ NYISO, *The Critical Value of New York's Energy Markets*, available at: <https://home.nyiso.com/wp-content/uploads/2017/10/NYISOValue-Prop2017.pdf>.

⁴⁹ *See Power Trends 2019* at 30.

clean energy production and reduced carbon dioxide emissions (referred to herein as “carbon emissions”). The NYISO has consistently developed market rules that both facilitate the achievement of the state’s environmental policies and incent generator actions consistent with those goals.

Since 1999, New York’s power sector has reduced carbon emissions rates by 51% and in 2018, approximately 56% of electricity production in New York State was derived from non-carbon emitting energy resources.⁵⁰ The State’s generation fleet is one of the cleanest, in terms of carbon emissions, in the country and New York’s commitment to the Regional Greenhouse Gas Initiative (“RGGI”) calls for even further carbon reductions.⁵¹ The NYISO-administered markets have facilitated resource changes that met the challenge of the Title IV Sulfur Dioxide Trading Program in its early years, and later the NOx Budget program, the Clean Air Interstate Rule and Cross State Air Pollution Rule targeting sulfur dioxide and nitrogen oxides. The market design also met the challenges of the Mercury and Air Toxics Standards (“MATS”) policy and accommodated the Regional Greenhouse Gas Initiative.

Throughout its nearly 20 years of operation, the NYISO has applied its expertise to integrate new energy generation, storage and demand response technologies reliably. The objectives set forth in the CLCPA require a significant transformation in the energy sector. The NYISO expects that further evolution of the markets will be necessary to support the CLCPA’s goals.

⁵⁰ See *2018 Load & Capacity Data*, A Report by The New York Independent System Operator, Inc., “Gold Book,” (2018 Gold Book) available at <https://home.nyiso.com/wp-content/uploads/2018/04/2018-Load-Capacity-Data-Report-Gold-Book.pdf>.

⁵¹ See <https://www.governor.ny.gov/news/governor-cuomo-unveils-20th-proposal-2018-state-state-new-yorks-clean-energy-jobs-and-climate>.

1. Wind

Since its inception in 1999, the NYISO has worked with the State to achieve several important successes regarding wind resources.⁵² In 2004, the Commission adopted a Renewable Portfolio Standard (“RPS”) that required 25% of New York State’s electricity needs to be supplied by renewable resources by 2013. The development of the RPS prompted the NYISO and the New York State Energy Research and Development Authority (“NYSERDA”) to co-fund a study that was designed to conduct a comprehensive assessment of wind technology, and to perform a detailed technical study to evaluate the impact of large-scale integration of wind generation on the New York State Power System (“NYS Power System”). In 2008, the NYISO developed procedures and software to collect forecasts and real-time meteorological data from wind generation sites to facilitate more accurate predictions of generation output from each wind generation facility.⁵³ In 2009, the NYISO became the first grid operator to fully integrate wind generation resources into its economic dispatch system, which minimizes the potential for these resources to be operated out of economic merit order.⁵⁴

The NYISO’s competitive wholesale markets, in combination with the State’s current policies for advancing renewable generation, have successfully integrated large scale wind into New York’s electric system. New York’s wind resource fleet generated 3,985 gigawatt-hours in

⁵² In addition to the market and clean energy contributions discussed in this section, the NYISO has worked collaboratively with state, regional and federal entities to integrate environmental policy goals and regulations with the operation of the wholesale markets. For example, the NYISO has participated in RGGI since development of the regional cap-and-trade program began in 2003. As a result, the NYISO and electric generators in the State successfully integrated the RGGI cap-and-trade program carbon emission allowance prices into the energy market.

⁵³ NYISO, *Integration of Wind into System Dispatch* (October 2008) at 2-4, available at: http://www.nyiso.com/public/webdocs/media_room/publications_presentations/White_Papers/White_Papers/wind_management_whitepaper_11202008.pdf.

⁵⁴ See New York Independent System Operator, Inc., *Proposed Tariff Revisions to Enhance Operational Control of Wind Resources, Amend Settlement Rules Applicable to Them and Increase System Reliability*, FERC Docket No. ER09-802-000 (March 5, 2009). See also *New York Independent System Operator, Inc.*, 127 FERC ¶ 61,130 (2009) (accepting proposal).

2018.⁵⁵ The American Wind Energy Association (“AWEA”) describes competitive wholesale electricity markets as “the best way to ensure an efficient and adequate supply of electricity and to meet the nation’s economic, energy and environmental challenges.”⁵⁶

2. Solar

Behind-the-meter solar photovoltaics have expanded greatly in New York State, with over 1,800 MW of installations already on the system. Although front-of-the-meter solar installations are relative newcomers to New York, their participation in the NYISO’s wholesale markets is expected to grow significantly in the coming years. There are currently more than 75 large solar projects in the NYISO’s interconnection queue, totaling more than 4,000 MW. In preparation for this shift in the resource mix, the NYISO studied solar integration in 2016 and subsequently updated its solar forecasting capabilities to enable visibility and support reliable system planning and operations. More recently, the NYISO has proposed rules to better accommodate large-scale solar generators and intends to implement those rules in time for the anticipated growth in front-of-the-meter solar generation.

The NYISO expects to treat these large-scale solar resources similarly to wind resources currently operating in NYISO markets. Under this approach, the NYISO would use specific forecasting tools and economic offers to dispatch solar resources supporting reliability. In addition to forecasting requirements, the rules would require solar plants to submit flexible energy market offers that indicate their willingness to generate at various price levels.

⁵⁵See 2018 Gold Book at 68.

⁵⁶ American Wind Energy Association and Compete Coalition, *Joint Statement Supporting Competitive Wholesale Electricity Markets*, October 28, 2010, available at <http://www.competecoalition.com/resources/compete-awea-joint-statement-supporting-competitive-wholesale-electricity-markets>.

3. Energy Storage Resources

Energy Storage Resources (“ESR”), which include advanced batteries and compressed air storage, have unique capabilities that can help grid operators handle peak demand, manage the variability of intermittent resources, and potentially defer transmission upgrades. Their unique ability to both withdraw energy from, and inject energy into, the grid can provide resource flexibility and grid resilience. ESRs can also help improve the cost effectiveness of the system by charging during periods of low demand and low prices, and supplying energy to the grid during periods of high demand when prices typically rise.

On December 3, 2018, the NYISO filed a comprehensive set of rules with FERC that will allow the expansion of wholesale market participation for ESRs.⁵⁷ The NYISO’s ESR participation model will allow storage resources to either self-manage their energy levels or to use the NYISO’s energy level monitoring capabilities. The option of relying on the NYISO’s capabilities to monitor and manage energy storage levels will optimize storage resource availability for periods when they can best support bulk power system reliability. That filing remains pending before FERC.

Longer-term goals include exploring market rules to facilitate participation from intermittent renewable resources that also integrate energy storage capabilities, with the goal of improving renewable resource flexibility. The NYISO will consider market rules that account for large-scale, weather-dependent resources coupled with storage behind a single interconnection point. For small resources, market rules allowing participation of certain renewable resources that incorporate a storage component were included in the NYISO’s DER filing with FERC.

⁵⁷ New York Independent System Operator, Inc., *Compliance Filing and Request for Extension of Time of Effective Date*, Docket No. ER19-467-000 (December 3, 2018) (“Order No. 841 Compliance Filing”); *Amendment to New York Independent System Operator, Inc. Order No. 841 Compliance Filing*, Docket No. ER19-467-002 (May 31, 2019).

4. Distributed Energy Resources

The NYISO filed with FERC on June 27, 2019, a comprehensive set of rules to more fully integrate DERs into wholesale markets.⁵⁸ This filing represents a significant milestone in a multi-year effort. The market rules proposed in this filing expand market opportunities for these resources and ensures that they will be compensated for the benefits they provide. This filing is currently pending before FERC.

The NYISO has initiated a pilot project program to test innovative technology and assist with potential further refinement of the DER participation model. The pilot framework allows developers and the NYISO to gain knowledge about the technology's capabilities, and support the PSC's REV demonstration efforts. Pilot projects continue to help guide the NYISO's continued development of market rules to appropriately incorporate new technology capabilities and meet bulk power system needs. The pilot framework provides the opportunity to test new capabilities and operating paradigms that aggregations of DERs present.

5. Demand Response

The NYISO compensates large electricity consumers, and aggregations of smaller energy users, that make themselves available to reduce their demand on the bulk power system during periods of peak demand or in response to price signals. Large power customers and aggregated groups of smaller consumers participate in several demand response programs developed in the NYISO markets. Two of the programs, the Emergency Demand Response Program ("EDRP") and the Installed Capacity – Special Case Resource ("ICAP/SCR") program reduce power consumption by directing demand response resources to reduce load or to use qualified Local

⁵⁸ New York Independent System Operator, Inc., *Proposed Tariff Revisions Regarding Establishment of Participation Model for Aggregations of Resources, Including Distributed Energy Resources, and Proposed Effective Dates*, Docket No. ER19-2276-000 (June 27, 2019) (the "DER Filing").

Generators to remove load from the system during grid emergencies or when reserve shortages are anticipated or actually occur. For the summer of 2019, SCR provided the capability to reduce demand by up to 1,309 MW, while EDRP provided an additional 5 MW of demand reduction.

The NYISO also offers two economic demand response programs: the Day-Ahead Demand Response Program (“DADRP”) in the Energy market, and the Demand-Side Ancillary Services Program (“DSASP”) in the Ancillary Services market. The DADRP allows LSEs to offer their load reductions into the Day-Ahead Market to supply Energy. The DSASP allows participant to offer the load curtailment capability into the Day-Ahead Market or the Real-Time Market to provide Operating Reserves and Regulation Service.

E. Resource Adequacy Requirements and Market-Based Procurement Mechanisms Support Electric System Reliability in New York State

1. Defining Installed Capacity Requirements

ICAP Requirements direct LSEs to procure capacity equal to 100 percent of their forecasted peak load plus a percentage margin over that amount. The reserve margin represents the amount of capacity that LSEs need to reliably serve their customers in the event that one or more resources or transmission elements suddenly become unavailable (*e.g.*, “trip off”) to provide electric service. The current IRM of 17.0 percent requires LSEs in New York to procure capacity equal to 117 percent of their forecasted peak load.⁵⁹ In addition, there are separate location-specific capacity requirements for LSEs in New York City, Long Island, and, collectively, Load Zones G, H, I, and J (the “G-J Locality”) that reflect the existence of transmission constraints in those areas.

⁵⁹ The forecasted peak demand for the 2019-2020 Capability Year (May 1, 2019 - April 30, 2020) is 32,382 MW. The 17.0 percent reserve margin means that LSEs must procure ICAP in the amount of the 32,382 MW peak demand plus 5,505 MW, for a total ICAP requirement for the NYCA is 37,887 MW.

2. Evolving ICAP Requirements

Installed Capacity Requirements were first established in New York as a reliability measure decades before the NYISO was formed. In proposing formation of the NYISO to FERC, proponents stated that:

[t]he requirement that LSEs provide ICAP is a continuation of an important regional reliability practice, reserve sharing, that has historically been implemented in the New York Control Area by the [New York Power Pool]. Reserve sharing benefits all customers by ensuring adequacy of supply, even under unusual supply or demand circumstances, at least cost.⁶⁰

For reliability reasons, Con Edison developed a “locational” requirement that a substantial portion of New York City load be served by capacity physically located in the city years before the NYISO existed.⁶¹

In 2000, the NYISO designated New York City and Long Island, which had traditionally been recognized as transmission-constrained regions, as “Localities” that must meet LCRs. In 2014, the NYISO designated NYISO Zones in the lower Hudson Valley (Zones G, H, and I) together with New York City (Zone J) as a new Locality. Most recently, the NYISO submitted in June 2018 proposed tariff changes to FERC to implement a new method for determining LCRs. This alternative methodology determines LCRs for each of the regions in a way that minimizes the total statewide cost of capacity while continuing to meet reliability requirements. The FERC accepted the NYISO’s tariff filing and new methodology in October 2018, which was implemented for the 2019-20 Capability Year.⁶²

⁶⁰ See Member Systems of the New York Power Pool, *Filing in Compliance with the Commission’s Orders Regarding the Comprehensive Proposal to Restructure the New York Wholesale Electric Market*, Docket No. ER97-1523-000 at 43 (April 30, 1999) (April 30, 1999 Filing).

⁶¹ See *Consolidated Edison Company of New York, Inc., Localized Market Power Mitigation Rules Applicable to Sales of Capacity, Energy, and Ancillary Services from Specified Generating Units in New York City*, Docket No. ER98-3169-000 at 10 (June 1, 1998) (“Con Edison historically has maintained sufficient capacity inside the City to assure continued reliability.”) (“Con Edison Mitigation Filing”).

⁶² See *New York Independent System Operator, Inc.*, 165 FERC ¶ 61,011 (2018).

3. Setting Installed Reserve Margin and Minimum Locational Capacity Requirements for New York

The NYSRC sets the IRM annually in compliance with the NPCC's resource adequacy standard.⁶³ The NYSRC's annual IRM determination is based in large part on studies and analyses conducted by the NYISO.⁶⁴ The NYISO performs the annual IRM Study according to the procedures set forth in NYSRC's Policy 5 and under the oversight of the NYSRC Installed Capacity Subcommittee ("ICS"). As in previous years, the NYISO employed General Electric's Multi-Area Reliability Simulation ("GE-MARS") model to determine the amount of ICAP that is required NYCA-wide to meet the resource adequacy criterion.

The NYISO uses the IRM and the GE-MARS model to determine the NYCA Minimum Installed Capacity Requirement in accordance with the Services Tariff and consistent with NYSRC and NPCC criteria.⁶⁵ The NYISO converts these values into NYCA-wide capacity requirements and LCRs, *i.e.*, the specific capacity obligations that LSEs are required to meet.⁶⁶ The NYISO assigns each Locality its own LCR, which recognizes the impacts of transmission constraints on resource adequacy. The NYISO assigns individual LSE capacity requirements which LSEs procure in capacity auctions for the entire NYCA and for each Locality.⁶⁷

Within the NYISO's capacity market, the LCR established for each Locality may result in a separate clearing price to reflect the reliability needs of the local area and to value resources

⁶³ The NPCC requires that the probability of an unplanned disconnection of firm electric load must be less than one occurrence in ten years. See *NYISO Installed Capacity Manual* at Section 2.3 (September 2014) available at http://www.nyiso.com/public/markets_operations/market_data/icap/index.jsp As described above, the NPCC Criteria and NYSRC Reliability Rules were adopted by the NYPSC as enforceable state regulations.

⁶⁴ The NYSRC submits a filing to FERC and the NYPSC that contains the IRM for their review.

⁶⁵ See Services Tariff Section 5.10. In its calculation of the LCRs, the NYISO uses the IRM provided by the NYSRC to satisfy the LOLE resource adequacy criterion.

⁶⁶ See Services Tariff Section 5.11.

⁶⁷ See *New York Independent System Operator, Inc.*, 90 FERC ¶ 61,319 (2000).

that can meet those local needs. On a monthly basis, the NYISO must also consider the impact of capacity exports from a Locality, if any, to external control areas. Capacity exports can further impact the amount of capacity needed within the Localities based on their transmission loading and the NYISO has an adjustment approach known as a “Locality Exchange Factor” to reflect this impact.⁶⁸

4. PSC and FERC Jurisdiction over the Installed Reserve Margin

The New York State Reliability Council Agreement obligates the NYSRC to submit any proposed revisions of the NYCA IRM to the FERC for approval before the beginning of the Capability Year to which the change would apply in the NYISO’s wholesale capacity markets.⁶⁹ The PSC also has issued annual orders approving the IRM since 2007, determining that it has jurisdiction to approve the IRM based upon its jurisdiction over resource adequacy and over generation.⁷⁰ The PSC provides a degree of deference to the NYSRC, stating “[g]iven the NYSRC’s experience and expertise in developing the IRM, the Commission has given considerable weight to its findings, conclusions and recommendations.”⁷¹ Each year the NYISO has requested that the FERC and the PSC exercise their jurisdiction over the IRM in coordination with each other and avoid establishing conflicting requirements.⁷² IRM values have varied over

⁶⁸ Beginning May 1, 2019, the LCR for New York City (Zone J) is 82.8%; for Long Island (Zone K), 104.1%; and, for the lower Hudson Valley region 92.3%.

⁶⁹ NYSRC Agreement, Section 3.03.

⁷⁰ See, e.g., PSC Case 07-E-0088, In the Matter of the Adoption of the Installed Reserve Margin for the New York Control Area, *Order Adopting Installed Reserve Margin for the 2019-2020 Capability Year* (March 6, 2019).

⁷¹ *Id.* at 9.

⁷² The NYISO has pointed out to both the PSC and FERC that conflicting determinations could put the NYISO in the difficult position of applying inconsistent federal and state requirements and would greatly complicate the NYISO’s ability to fulfill its ICAP-related tariff responsibilities in a timely manner. Further, the NYISO could be exposed to demands for refunds, in addition to other legal claims, from either LSEs claiming that the NYISO unlawfully required them to over-procure capacity or generators alleging an unlawful under-procurement of capacity and lost revenues.

the last twenty years within a band ranging from 15 to 18.2 percent.

LCRs are derived from the IRM. They are established by the NYISO, in accordance with FERC-accepted tariff provisions,⁷³ using an economic optimization model designed to minimize total ICAP costs for the NYCA. LSEs with customers in Localities, must fulfill a portion of their respective purchase obligations (*i.e.*, the LCRs) from capacity resources electrically located within those areas. Absent the NYISO's methodology, it would be necessary to have alternative mechanisms to determine the amount and location of each resource type to build.

5. The NYISO's Unforced Capacity Requirements Properly Value the Contribution of all Resource Types to Resource Adequacy

With the PSC's support, the NYISO introduced UCAP metrics and other improvements to incentivize better performance by capacity resources in 2001.⁷⁴ Resources are paid based on their history of availability to provide service to the power system. The UCAP methodology maintains system reliability by ensuring that adequate resources are procured depending on their resource type and performance.

For example, thermal generators have their UCAP calculated based on the timing, frequency and duration of outages that a particular generator experiences. UCAP for Intermittent resources (including wind and solar) is determined based on the performance history of the resource during certain peak periods.⁷⁵ The NYISO filed with FERC tariff revisions for

⁷³ See *New York Independent System Operator, Inc.*, 165 FERC ¶ 61,011 (2018) (accepting the NYISO's currently effective methodology for determining LCRs).

⁷⁴ These initiatives were accepted by FERC. See *New York Independent System Operator, Inc.*, 96 FERC ¶ 61,251 (2001).

⁷⁵ See NYISO Installed Capacity Manual, Section 4.5.1, *Calculation of UCAP for Intermittent Power Resources* (describing UCAP methodology for wind, solar, and landfill gas resources) available at https://www.nyiso.com/documents/20142/2923301/icap_mnl.pdf/234db95c-9a91-66fe-7306-2900ef905338.

resources that have energy duration limitations that would properly determine each resource's UCAP based, in part, on how long it can continuously operate.⁷⁶

Accurately reflecting the reliability contribution of different types of resources will be increasingly essential to resource adequacy as the attributes of the resource mix become more variable. It is also critical that the NYISO be able to track how the capacity value of resources is likely to change over time.⁷⁷ The NYISO's UCAP rules, as modified by its pending proposal, will allow the NYISO to correctly gauge, and pay for, the true reliability benefits that different resources will provide. It is noteworthy that the CAISO appears to take a similar view regarding the merits of UCAP. The CAISO is proposing to incorporate UCAP metrics comparable to New York's into its own resource adequacy framework as California pursues its own clean energy transition.⁷⁸

F. The BSM Rules Are Intended to Prevent “Artificial Price Suppression” Associated with “Uneconomic Entry” and to Balance the Risks of “Over-Mitigation” and “Under-Mitigation”

1. The Purpose and Evolution of the BSM Rules

The BSM Rules were implemented in 2008. They were introduced after the NYISO proposed changes to the capacity market power mitigation rules for New York City that would have only applied to suppliers. Certain parties argued that the NYISO needed “balanced” mitigation rules that also addressed “buyer market power, which must be resolved to maintain

⁷⁶ See DER Filing ER19-2276 at 65-77.

⁷⁷ See, e.g., DER Filing at 77, noting that the NYISO expects “the reliability value of duration limited resources to decrease with the increased penetration of such resources over time.”)

⁷⁸ See, e.g., *Resource Adequacy Enhancements Second Revised Straw Proposal* at Section 5.1 (“For all resources with NQC values, CAISO proposes to establish UCAP values to identify the unforced capacity value (discounted for units’ forced outage rates) for use in system and flexible RA showings and assessments. The UCAP value speaks to the quality and dependability of the resources procured to meet RA requirements.”) (Internal footnote omitted) (October 3, 2019) available at <http://www.caiso.com/Documents/SecondRevisedStrawProposal-ResourceAdequacyEnhancements.pdf> (“CAISO Second Revised Straw Proposal”).

the integrity of the market.”⁷⁹ They noted that similar “buyer side” rules had been included in the then-new PJM and ISO-NE capacity market designs.⁸⁰ FERC rejected the NYISO’s supplier-only mitigation proposal and initiated a Section 206 proceeding to investigate “the justness and reasonableness of the New York ISO’s in-city installed capacity (ICAP) market and whether and how market rules need to be revised to provide a level of compensation that will attract and retain needed infrastructure and thus promote long-term reliability while neither over-compensating nor under-compensating generators.”⁸¹

The NYISO ultimately submitted a 2008 compliance filing that included the original version of the BSM Rules. FERC’s order accepting that proposal explained that “[m]arkets require appropriate price signals to alert investors when increased entry is needed” and that uneconomic entry could result in “artificially depressed” capacity prices. FERC further noted that although “a strategy of investing in uneconomic entry and offering it into the capacity market at a low or zero price may seem to be good for customers in the short-run, it can inhibit new entry, and thereby raise price and harm reliability, in the long-run.”⁸² FERC emphasized that, “[u]nder the FPA, the Commission must ensure that rates are just and reasonable. The courts have long held that establishing just and reasonable rates involves a balancing of consumer and investor interests.”⁸³ Subsequent FERC orders have reiterated that the NYISO must implement the BSM Rules because “under-mitigation” of uneconomic entry can artificially

⁷⁹ *Motion to Intervene and Protest of the Independent Power Producers of New York, Inc.*, Docket No. ER07-360-000 at 8 (January 15, 2007).

⁸⁰ *Id.*

⁸¹ *New York Independent System Operator, Inc.*, 118 FERC ¶ 61,182 at P 17 (2007).

⁸² *New York Independent System Operator, Inc.*, 122 FERC ¶ 61,211 (2008) at P 103.

⁸³ *Id.*

suppress capacity prices, which, ultimately harms long-term consumer interests.⁸⁴ “Under-mitigation” could create incentives that would undermine the market, result in an over-reliance on cost-based “Reliability Must Run” Agreements or transmission expansion to maintain reliability.

At the same time, the NYISO is required to avoid the potential harms of “over-mitigation,” which can unnecessarily discourage entry by new resources.⁸⁵ To help achieve this balance, the Commission has authorized multiple exemptions from the BSM Rules. Such exemptions must be carefully-tailored so that they only apply to resources that are shown to have “limited or no incentive and ability to artificially suppress ICAP Market Prices.”⁸⁶ The NYISO has supported such exemptions when the need for them was demonstrated, both in its stakeholder process and before the Commission.⁸⁷ The NYISO has also taken action when warranted to avoid over-mitigation, most recently by urging FERC to allow it to implement a long-pending proposed exemption for renewable resources.⁸⁸

⁸⁴ See, e.g., *New York State Public Service Commission, et al. v. New York Independent System Operator, Inc.*, 154 FERC ¶ 61,088 at P 31 (reiterating the importance of balancing “the need to mitigate the exercise of buyer-side market power to ensure just and reasonable ICAP market prices with the risk of over-mitigating new entrants.”); *Consolidated Edison Co. of New York, Inc. v. New York Independent System Operator, Inc.*, 150 FERC ¶ 61,139 at P 4 (2015); *New York Independent System Operator, Inc.*, 143 FERC ¶ 61,217 at P 77 (2013) (noting that buyer-side market power mitigation rules must “appropriately balance the need for mitigation of buyer-side market power against the risk of over-mitigation.”)

⁸⁵ *Id.*

⁸⁶ See, e.g., *New York Public Service Commission v. New York Independent System Operator, Inc.*, 153 FERC ¶ 61,022 at P 10 (2015); 154 FERC ¶ 61,088 at P 31 (2016) (“We maintain that certain narrowly defined renewable and self-supply resources should not be subject to the buyer-side market power mitigation rules because they have limited or no incentive and ability to exercise buyer-side market power to artificially suppress ICAP market prices.”)

⁸⁷ See, e.g., *Answer of New York Independent System Operator, Inc.*, Docket No. EL15-64-000 (June 29, 2015) (supporting multiple proposed exemptions); *Answer of New York Independent System Operator, Inc. in Support of Complaint*, Docket No. EL15-26-000 (January 15, 2015) (supporting introduction of competitive entry exemption and noting earlier NYISO efforts to establish one).

⁸⁸ See *Motion Requesting Commission Action on Compliance Filing, Notice of Implementation Plans, and Conditional Request for Tariff Waivers of the New York Independent System Operator, Inc.*, Docket No. ER16-1404-000 (July 19, 2019).

Over the last decade, the scope of the BSM Rules has evolved. For example, the rules initially would have applied only to “net buyers” that subsidized uneconomic entry. However, this limitation was removed relatively early on.⁸⁹ At one point, the rules were broadened to apply to Special Case Resources (“SCRs”) but new SCRs were eventually made prospectively exempt.⁹⁰ The BSM Rules originally only applied to New York City, were later expanded to include the G-J Locality, but have not, to date, been applied in other parts of New York State.

2. The NYISO’s Interpretation of the Scope of the BSM Rules and the Criteria for Establishing Exemptions

FERC has made various statements concerning the applicability of the BSM Rules over the years. Some of these statements have led to differences in interpretation between the PSC and the NYISO that are relevant to this proceeding.

The NYISO recognizes that the PSC’s view is that exemptions from the BSM Rules are justified whenever mitigation would interfere with legitimate state objectives.⁹¹ By contrast, the NYISO’s interpretation is that FERC will only allow exemptions when it evidence shows that they will not result in “artificial price suppression.” The NYISO believes that FERC will require such a showing even when a new exemption is proposed in order to accommodate state policy goals and even if there is no evidence of any intent to suppress prices.⁹²

⁸⁹ See *New York Independent System Operator, Inc.*, 124 FERC ¶ 61,301 (2008) at P 29 (“Upon further review, for the reasons set forth in the requests for rehearing, the Commission will grant rehearing on this issue. NYISO will not be required to modify its proposed market power mitigation rules for uneconomic entry so that they only apply to net buyers. We find that all uneconomic entry has the effect of depressing prices below the competitive level and that this is the key element that mitigation of uneconomic entry should address.”)

⁹⁰ See *New York Independent System Operator, Inc.*, 124 FERC ¶ 61,301 (2008) at P 41 (applying BSM Rules to SCRs); *New York State Public Service Commission, et al. v. New York Independent System Operator, Inc.*, 158 FERC ¶ 61,137 at P 31 (2017) (granting complaint requiring the NYISO to establish a prospective exemption for SCRs).

⁹¹ See, e.g., *Motion for Leave to Answer and Answer of the New York State Public Service Commission and the New York State Energy Research and Development Authority*, FERC Docket No. EL19-86-000 (October 1, 2019) at 5 and n. 9.

⁹² See *Calpine Corp. v. PJM Interconnection, L.L.C.*, 163 FERC ¶ 61,236 (2018) (“PJM MOPR Order”), *reh’g pending* at P 155 (“The Commission has previously recognized that resources receiving out-of-market support

FERC’s most recent rulings concerning the scope of buyer-side mitigation rules in other regions provide guidance that is relevant to this proceeding. A January 2018 Order (the “CASPR Order”) accepting ISO-NE’s CASPR proposal announced a new general policy regarding “Minimum Offer Price Rules” (“MOPRs”) such as the BSM Rules.⁹³ FERC stated that the “first principles” of capacity markets were that they “should facilitate robust competition for capacity supply obligations, provide price signals that guide the orderly entry and exit of capacity resources, result in the selection of the least-cost set of resources that possess the attributes sought by the markets, provide price transparency, shift risk as appropriate from customers to private capital, and mitigate market power.”⁹⁴ However, “[w]here participation of resources receiving out-of-market state revenues undermines those principles, it is our duty under the FPA to take actions necessary to assure just and reasonable rates.”⁹⁵ “Absent a showing that a different method would appropriately address particular state policies,” FERC explained that it intended to use “mitigation to address the impacts of state policies on the wholesale capacity markets.”⁹⁶

The CASPR Order acknowledged that “there can be more than one valid method of managing such impacts, and that methods may be tailored to the specific challenges posed by the state policies in a given region.”⁹⁷ Accordingly, while FERC intended to use mitigation as its

are capable of suppressing market prices, regardless of intent. We reiterate that finding here.”) (Footnote omitted). See also *Midwest Indep. Transmission Sys. Operator, Inc.*, 139 FERC ¶ 61,199 at P 69 (2012) (“it is not reasonable for buyer-side mitigation to depend on the intent of the seller because an artificially low offer price can unreasonably suppress market prices regardless of the seller’s intent.”); *ISO New England, Inc., et. al.*, 135 FERC 61,029 at P 170 (2011) (finding that uneconomic entry, regardless of resource and regardless of intent, “can produce unjust and unreasonable prices by artificially depressing capacity prices”).

⁹³ *ISO New England Inc.*, 162 FERC ¶ 61,205 (2018).

⁹⁴ CASPR Order at P 21.

⁹⁵ *Id.*

⁹⁶ *Id.* at P 22.

⁹⁷ *Id.*

“standard solution,” it would “consider supplemental or alternative proposals to manage the impact of state policies, provided that those proposals are sufficiently consistent with the above-mentioned principles of capacity markets.”⁹⁸ FERC concluded that ISO-NE’s CASPR proposal was an acceptable means of managing the impact of state policies in New England while maintaining just and reasonable rates.

FERC’s June 2018 PJM MOPR Order applied the CASPR Order’s holdings. FERC reiterated its new policy of requiring buyer-side mitigation as its “standard solution” to the impacts of state subsidies and policies on FERC-jurisdictional capacity markets.⁹⁹ Unlike the CASPR Order, however, the PJM MOPR Order concluded that PJM had not devised an acceptable alternative to mitigation. FERC further determined that state subsidies in the PJM region were artificially suppressing capacity market prices. FERC therefore required that an expanded MOPR encompassing both existing and new resources and allowing for very limited exemptions be developed in PJM. The PJM MOPR Order emphasized that, “[s]tates may continue to support their preferred types of resources in pursuit of state policy goals. At the same time, we have exclusive jurisdiction over the wholesale rates of both subsidized and unsubsidized resources, and a statutory obligation to ensure they are just and reasonable.”¹⁰⁰ But FERC also suggested that PJM might modify its existing “Fixed Resource Requirement” mechanism to accommodate state policy decisions by allowing “resources that receive out-of-market support to remain online, establish an option in the Tariff that would allow, on a resource-specific basis, resources receiving out-of-market support to choose to be removed from the PJM capacity market, along with a commensurate amount of load, for some period of time.” This

⁹⁸ *Id.*

⁹⁹ PJM MOPR Order at 17, n. 24.

¹⁰⁰ PJM MOPR Order at P 158.

FERC-proposed “Fixed Resource Requirement Alternative” is one of the options that the PSC Order indicated the PSC was interested in exploring and is discussed below in Section II.H.2 of these comments.

FERC action on pending matters may provide additional guidance on its buyer-side capacity market power mitigation policies in the near future. FERC may soon address requests for rehearing and competing compliance proposals in the PJM MOPR Order proceeding. Action on the PJM MOPR Order may also clear the way for FERC to issue orders on other mitigation matters in both New York and New England that have long been pending.¹⁰¹ Such future rulings could provide guidance on what the NYISO may do to accommodate New York State’s energy policies and mandates within the FERC-jurisdictional markets without triggering mitigation.

3. The Current Structure of the BSM Rules

Each proposed new generator, UDR project, or project that requests Additional CRIS MW (an “Examined Facility”), that seeks to enter a “Mitigated Capacity Zone” (*i.e.*, New York City or the G-J Locality), with one exception not relevant here,¹⁰² is subject to evaluation under the BSM Rules. Entrants that are not found to be exempt under the BSM Rules are subject to Offer Floor mitigation until their capacity clears twelve monthly auctions. A new entrant can be exempted from the Offer Floor if the NYISO determines that it passes either one of two economic exemption tests.

The “Part A” test is designed to exempt new entrants as long as there is a reasonable balance between supply and demand. It compares the forecast of capacity prices in the first year

¹⁰¹ These include the NYISO’s pending compliance filing to establish renewable and self-supply exemptions from the BSM Rules, the PSC’s pending energy storage exemption complaint in Docket No. EL19-86-000, and the pending rehearing requests in the ISO-NE CASPR docket.

¹⁰² The BSM Rules ceased to apply to a certain category of entrants, including resources under 2 MW, in 2016. A pending NYISO proposal would restore the applicability of the BSM Rules to such resources. *See* Order No. 841 Compliance Filing at 52.

of an Examined Facility's operation to the Default Offer Floor, which is 75 percent of the net [cost of new entry (CONE)] of the hypothetical unit modeled in the most recent Demand Curve reset, such that a new entrant is exempted if the price forecast for the first year is higher than the Default Offer Floor. Under the Part B test, the NYISO examines the economics of individual entrants. It compares a forecast of capacity prices in the first three years of an Examined Facility's operation to the net CONE of the Examined Facility," so that a new entrant will be exempted "if the price forecast for the three years is higher than the net CONE of the Examined Facility."

In addition, to the two economic tests, the BSM Rules include a Competitive Entry Exemption ("CEE"). It is designed to allow private investors, relying solely on market revenues, to enter the capacity market unmitigated upon certifying that they are a purely merchant investment, with no out of market subsidy. This exemption avoids over-mitigation of true merchant resources that should be free to make investment decisions with their own capital.¹⁰³ The NYISO has recently developed enhancements to the CEE through its stakeholder process. These proposed changes would expand eligibility for that exemption by making it permissible for CEE applicants have certain types of short-term contracts with utility sponsors and by allowing requests for additional capacity rights to seek the CEE. These changes were unanimously approved by NYISO stakeholders at the NYISO's Business Issues Group on November 6, 2019. They will be voted on at the Management Committee meeting on November 20, 2019.

¹⁰³ See *Consolidated Edison Co. of New York, Inc. v. New York Independent System Operator, Inc.*, 150 FERC ¶ 61,139 (2015) at P 3 ("The purpose of the MOPR, however, is not to protect a merchant resource from making a poor investment decision with its own capital."); citing *PJM Interconnection, L.L.C.*, 143 FERC ¶ 61,090, at P 57 (2013).

The NYISO has also proposed “narrowly tailored” exemptions for renewable resources (up to 1,000 MW of ICAP per Class Year) and self-supply resources in response to a FERC directive. Both proposals have been pending before FERC since 2016.¹⁰⁴

G. The NYISO Is Prepared to Work Collaboratively to Address the Concerns Identified in the PSC Order Including Through its Commitment to Conduct a Comprehensive Review of the BSM Rules in 2020

The PSC Order initiated this proceeding “to consider how to reconcile resource adequacy programs with the State’s renewable energy and environmental emission reduction goals.” The PSC identified two principal concerns.¹⁰⁵ First, that “ICAP, as currently designed, is an incomplete resource adequacy instrument because it fails to recognize and provide compensation for many important factors, such as environmental and local reliability benefits. Because of this, there is no guarantee that the resources that clear the ICAP auctions are the same ones needed to meet the State’s clean energy and other mandates.”¹⁰⁶ Second, that “the NYISO may impose ‘mitigation’ on resources that are the subject of state policy support by intervening to raise their minimum bid levels into the NYISO-administered auctions and thereby potentially causing them to not clear the auction, and therefore to not be counted as eligible capacity resources. As a result, consumers may pay higher costs than necessary, and that increase could grow substantially over time as the State’s clean energy goals expand.”¹⁰⁷ The PSC has raised the second concern in various other proceedings before FERC.

¹⁰⁴ See FERC Docket No. ER16-1404.

¹⁰⁵ PSC Order at 4.

¹⁰⁶ *Id.* at 3-4 (footnote omitted).

¹⁰⁷ *Id.*

The NYISO acknowledges the importance of the PSC's concerns. Moreover, the NYISO agrees with the NYSRC that a resource mix with substantially more intermittent renewable resources poses significant planning and operational challenges. As the NYSRC observed:

Additional transmission facilities and/or other resources will be required to enable the power produced by renewable resources to serve the load centers in New York State, and new operating reserve requirements and operating performance rules will be need to ensure that the New York State bulk power system continues to operate reliability with the significant increase in intermittent resources.¹⁰⁸

The NYISO stands ready to work collaboratively with the PSC, and with other stakeholders, to address the PSC Order's concerns and to meet the reliability challenges that the transition to a cleaner grid will present. Solutions should be market-based to the greatest extent practicable and should recognize the integrated nature of the NYISO's energy, ancillary services, and capacity markets, as well as its transmission planning and reliability backstop mechanisms. The NYISO is confident that a solution that includes market-based approaches will enable New York State to meet its goals expeditiously while maintaining both reliability and the consumer benefits of competitive price signals.

Multiple efforts are underway to address these issues. The most immediately relevant to this proceeding is the comprehensive review of the BSM Rules that the NYISO has committed to complete in 2020.¹⁰⁹ Further, the NYISO has commenced work to further the concepts contained in its May 2019 white paper on grid in transition issues.¹¹⁰ The NYISO is evaluating whether

¹⁰⁸ NYSRC Comments at 5.

¹⁰⁹ See *2020 Market Project Candidates: Product and Project Management* (June 12, 2019) at 1114 (describing the proposed "Comprehensive Mitigation Review.") available at <https://www.nyiso.com/documents/20142/7617587/02%202020%20Project%20Candidates%20-%20MP%20Markets%20Descriptions.pdf/80538b46-0930-a6fd-e624-8da343162958>.

¹¹⁰ *Reliability and Market Considerations for a Grid in Transition: A Report by the New York Independent System Operator* (May 2019) available at <https://www.nyiso.com/documents/20142/6785167/Grid%20in%20Transition%20DRAFT%20FOR%20POSTING.pdf/74eb0b20-6f4c-bdb2-1a23-7d939789ed8c>.

today's energy and ancillary service products will continue to support reliable operations and the necessary resource investment as the system evolves. As part of that evaluation, the NYISO is considering the need for new products and changes to the current ancillary service requirements that would provide incentives for attracting and retaining more flexible resources.

This ongoing evaluation has already resulted in the implementation of new reserve requirements for New York City this past summer, as well as a proposal for more targeted reserve requirements for certain load pockets within New York City. The NYISO has also developed a proposal to procure an additional portion of the current statewide reserve requirement from downstate resources to assist in better aligning the location of reserve capability with system reliability needs. Further, the NYISO commenced a re-evaluation of its current Ancillary Services shortage pricing levels to help ensure that the markets continue to provide appropriate price signals as to the value of the products and services necessary to maintain reliability.

The NYISO believes that pursuing these kinds of reforms will ensure that the NYISO-administered markets are compatible with New York State policies while continuing to provide opportunities for resources to earn adequate revenues and to support reliability.

The NYISO understands that although its existing market structures have previously contributed to New York's achievement of its environmental goals they were not expressly designed to do so. The current market model is focused on providing reliable service at least cost and does not directly incorporate environmental externalities. This does not mean that the market model should be discarded in order to address New York State's new environmental policy priorities. Achieving reliable service at least cost is still sound policy. The PSC should

support improvements to the NYISO market structures that will allow them to continue preserve reliability at least cost while better serving New York State’s environmental objectives.

This goal can be achieved without moving away from the use of an ICAP product. With respect to the PSC’s concerns about the use of ICAP, market enhancements can be developed that will allow capacity market structures to better “recognize and provide compensation for many important factors, such as environmental and local reliability benefits” and result in auctions incorporating resources that “are the same ones needed to meet the State’s clean energy and other mandates.” Changes are needed to meet the needs of a transitioning grid and the NYISO has already started taking steps to make them. Any such changes should be market-based and considered in the integrated context of the NYISO’s complementary energy, ancillary services, and capacity markets. The NYISO’s carbon pricing proposal¹¹¹ would address, at least in part, the two principal concerns expressed by the PSC Order. Carbon pricing would not directly apply to the capacity market but it would allow the NYISO-administered markets as a whole to internalize the cost of emissions and reward resources with desired environmental

¹¹¹ The proposal would price the social cost of carbon emissions into NYISO-administered wholesale energy markets to contribute to the achievement of New York State’s policies at the least cost to consumers. This effort is expected to reduce the cost of clean energy resource procurement, which is currently conducted through Renewable Energy Credits (“RECs”) and Zero Emission Credits (“ZECs”), by increasing the wholesale energy market revenues paid to renewable and zero emissions resources. The cost of carbon emissions would be incorporated into the NYISO-administered wholesale energy markets using a social cost of carbon emissions price in dollars per ton of carbon emissions. Suppliers would embed carbon charges in their energy offers (referred to as the supplier’s carbon emissions adder in \$/MWh) and the NYISO’s existing processes would incorporate the carbon price into the commitment, dispatch, and price formation. Because the Supplier’s carbon emissions adders would increase the variable costs of carbon-emitting generation dispatched by the NYISO, the market-clearing price of energy would increase whenever carbon-emitting resources are on the margin (referred to as the carbon effect on LBMPs). All Suppliers, including clean energy resources such as wind resources would receive the higher energy price, net of any carbon charges due on their emissions, if applicable. Lower emitting resources, including efficient fossil burning units, other renewable resources, hydropower, and nuclear generators, are also expected to benefit from higher net revenues, and in pursuit of those higher revenues would be incentivized to further lower their respective carbon emissions. Under the NYISO’s market design, wholesale LSEs would continue to be charged the LBMP for wholesale energy purchases, which would account for the carbon emissions adder of the marginal units. The NYISO would return to wholesale LSEs any carbon emissions adder charge residuals (*i.e.*, the sum of the carbon charges debited from suppliers).

attributes. By doing so, carbon pricing would ameliorate concerns that the NYISO's existing ICAP product does not compensate resources for environmental and local reliability benefits. Similarly, by making resources less dependent on capacity revenue it would help to reduce the risk that consumers would be exposed to "double payments" for capacity. Carbon pricing could also "accommodate" state policies in the way that the CASPR Order indicates is required in order to avoid the "standard solution" of mitigation. A new study by the Analysis Group finds that introducing carbon pricing into New York's competitive wholesale energy markets can help the state meet the requirements of the CLCPA faster and more cost effectively while reducing emissions and maintaining grid reliability.¹¹²

H. Preliminary Comments Regarding the Resource Adequacy Alternatives

In this section, the NYISO offers its preliminary views on the "California Model" and "FRRA" alternatives that are specifically mentioned in the PSC Order. The NYISO is open to assessing the merits and risks of these options, and of other market-based alternatives. The NYISO is currently in the early stages of considering a variety of potential changes ranging from modest adjustments to the existing framework to more fundamental alterations to the auction structure and mitigation paradigm. NYISO has not yet identified a preferred reform proposal but intends to work with its stakeholders to do so expeditiously.

In order to determine the best path forward for New York, any modifications must be carefully considered in light of the value provided by the current market construct and with an eye toward the substantial investments that will be needed to achieve the CLCPA's vision. The NYISO is just beginning its assessment, has not pre-judged any proposal, and looks forward to

¹¹² See *Clean Energy in New York State: The Role and Economic Impacts of a Carbon Price in NYISO's Wholesale Electricity Markets*, Susan F. Tierney and Paul J. Hibbard (October 3, 2019) available at <https://www.nyiso.com/documents/20142/2244202/Analysis-Group-NYISO-Carbon-Pricing-Report.pdf/81ba0cb4-fb8e-ec86-9590-cd8894815231?t=1570098686835>.

better understanding the views of the PSC and other parties. With that understanding these initial comments are limited to addressing the specific proposals mentioned in the PSC Order and one model accepted for ISO-NE by FERC.

1. The California Resource Adequacy Model

The PSC Order asks whether New York State should consider “alternative approaches” to “ensure the procurement of generation resources is aligned with State policy goals.”¹¹³ It references “an approach similar to the one used by California”¹¹⁴ as a possible model. The PSC Order states that:

The current resource adequacy framework in the California Independent System Operator (ISO) region coordinates requirements established by the ISO tariff’s “Reliability Requirements” with those of the California Public Utility Commission’s “Resource Adequacy” program. This approach imposes resource requirements on the LSEs, which are able to meet these resource requirements through self-supply, or through resources procured through bilateral contracts; LSEs are also required to enter into forward capacity commitment contracts with generators while must-offer obligations are used to ensure that resources contribute to meeting resource adequacy requirements.

a. Description of the California Model

The California Public Utility Commission (“CPUC”) and the California Independent System Operator, Inc. (“CAISO”) are jointly responsible for maintaining resource adequacy, chiefly through various CPUC-administered programs. FERC also partially oversees the California Model. CAISO tariff provisions pertaining to FERC-jurisdictional aspects of the model have sometimes been accepted and sometimes rejected by the agency.¹¹⁵ As discussed

¹¹³ PSC Order at 11.

¹¹⁴ *Id.*

¹¹⁵ See, e.g., *California Independent System Operator Corporation*, 168 FERC ¶ 61,199 (2019) (accepting revisions to the “Capacity Procurement Mechanism” and Reliability Must Run components of the CAISO’s resource adequacy arrangements); 167 FERC ¶ 61,001 (2019) (rejecting proposed modification to an exemption under a resource adequacy incentive mechanism); 166 FERC ¶ 61,042 (2018) (accepting a set of six tariff revisions intended to enhance the CAISO’s resource adequacy provisions.)

below, FERC has also recently adjudicated a complaint seeking to modify the California Model and retains authority to require changes over components of the program that are governed by the CAISO's tariff.¹¹⁶

A CPUC program requires LSEs to procure capacity in three distinct categories: system capacity requirements, local capacity requirements, and flexible capacity requirements. LSEs meet their requirements through a combination of owned resources and both short and long-term bilateral contracts. Capacity procured under the resource adequacy program carries an obligation to bid into the CAISO markets, *i.e.*, it has a must offer obligation. The process for addressing longer-term resource adequacy needs is the CPUC Integrated Resource Planning (“IRP”) framework. CPUC uses the IRP to assess long-term additional resource needs and identify necessary procurement to meet those needs. The IRP process implements California law by ensuring that LSEs’ planning and procurement efforts are on track to meet California’s greenhouse gas emissions reductions targets. The CPUC is required by law to “[i]dentify a diverse and balanced portfolio of resources needed to ensure a reliable electricity supply that provides optimal integration of renewable energy in a cost-effective manner.”¹¹⁷ The CPUC describes the IRP process as an analysis leading to an optimized portfolio of resources to serve load that is constrained by greenhouse gas emissions, reliability, and cost.¹¹⁸

The CAISO performs residual backstop functions but does not administer a capacity market or other form of centralized procurement. Instead it administers a “Capacity Procurement

¹¹⁶ See, *e.g.*, *CXA La Paloma, LLC v. California Independent System Operator, Inc.*, 165 FERC ¶ 61,148 (2018); *reh'g denied*, 169 FERC ¶ 61,045 (2019). Specifically, in this proceeding, FERC rejected a complaint that sought to replace the California resource adequacy model with market based structures. But FERC did not conclude that it lacked authority to require such a remedy. Instead, FERC held that complainants had not presented sufficient evidence under Section 206 of the FPA to meet their burden of proof and thus had not shown that FERC should act.

¹¹⁷ *Id.* at P 6 (describing structure of California programs).

¹¹⁸ *Id.*

Mechanism” (“CPM”) and, when necessary, awards Reliability Must Run Agreements. These programs are governed by CAISO’s FERC-jurisdictional tariffs.

b. Preliminary Concerns Regarding the Adoption of the California Model in New York

The NYISO has a number of concerns regarding the potential adoption of the California Model in New York.¹¹⁹ The NYISO understands why the PSC might be interested in exploring an approach that is used by another state with comparably ambitious clean energy goals and that does not include buyer-side mitigation rules. Nevertheless, moving towards a California-type bilateral contracting model could be a step backwards for New York. Adopting the California Model would also likely require sweeping changes that would take a long time to implement while also prompting litigation delays, which could frustrate New York State’s ability to reach its environmental goals in a timely manner.

The first concern is that, abandoning the centralized procurement regime currently used in New York for a system based on bilateral contracting, with regulators selecting preferred resource types, would be likely to lead to increased consumer costs. The California Model treats existing and new resources, and various kinds of capacity resources differently. Capacity resources are often paid very different prices. For example, existing fossil fuel resources have complained that they receive only a fraction of the compensation that CPUC-regulated utilities are paying to resources chosen through the IRP. This large price discrepancy indicates that California is likely substantially overpaying for new generation and forgoing lower-cost opportunities to retain existing resources. In the context of New York’s goals defined in the

¹¹⁹ As noted above at n. 11, the NYISO is not raising any concerns with respect to the suitability of the California Resource Adequacy Model for the state of California or the CAISO. The NYISO’s concerns relate only to the suggestion that California’s rules, or something similar, be adopted in New York.

CLCPA, the transformation of the electric sector will require sustained investment signals to build out the needed resource base over the long term.

Second, in California, LSEs procure resource needs in a distributed fashion (built up of layers of auctions which procure the same attribute (capacity) at widely different prices). This is less efficient than the NYISO's centralized approach where resources compete under a non-discriminatory procurement for the single capacity attribute. Greater competition between new and existing resources would create opportunities to identify relatively low-cost uprate, retrofit, and repowering opportunities for existing generators, encourage the timely retirement of units that are no longer economic, and postpone the need to invest in costlier new generation resources. By contrast, the quantities of capacity procured under a bilateral contracting model is likely sub-optimal. In California, under the IRP for new resources, there are large uncertainties in the outlook for load growth, retirements, imports, and demand resources. This means that projections of whether and when new generation will be needed are imperfect. In some cases, these uncertainties have led to over-estimating the quantity of new resources needed for resource adequacy. Such over-estimates could result in prematurely building new generation resources at contract prices that may far exceed the current cost of alternative supplies such as uprating existing generators or decreasing capacity exports or increasing capacity imports. A bilateral contracting model would also require agreements with a certain number of fossil-fuel resources to balance and support growing levels of intermittent resources. It is unclear to what extent such contracts would be palatable to the PSC or New York consumers.

The third concern is that significant structural differences in the electric industry in California and New York impacts whether the California Model can be a suitable fit for New York. California's framework for retail competition and customer choice is materially different

from New York's. California cities and counties have the opportunity to pursue "community choice aggregations" ("CCAs") in which the investor-owned local distribution utility provides wires service and the CCA entity provides commodity supply service within its geographic footprint. Under this construct, either the CCA or the utility is the LSE for electricity consumers in a particular area.¹²⁰ In New York, there are a greater number and more diverse group of ESCOs that act as LSEs. The NYISO recognizes that the PSC is reviewing the practices of certain ESCOs and is considering potential changes to the existing retail access market.¹²¹ Nevertheless, the fact that the California Model is built upon a CCA framework means that many significant design questions would have to be considered before something like it could be introduced in New York. At a minimum, moving to a California-regime would be a dramatic change that could not be implemented quickly.

Fourth, a non-market based contracting model could be detrimental to innovation. In a 2012 study of resource adequacy in California, the Brattle group noted that "evidence from the eastern capacity markets in PJM, ISO-NE, and NYISO shows that open, nondiscriminatory procurement auctions are able to mobilize large quantities of low-cost capacity supply from unconventional and unanticipated sources."¹²² This study indicated that innovation in site-selection, technology choice and other areas was fostered by competitive market forces.

Preserving innovation will be key to realizing the CLCPA's mandate that the electric system be

¹²⁰ The NYISO understands that there is an for grandfathered retail-choice customers who were able to choose retail suppliers before retail access was ended in the aftermath of the 2000-2001 California electricity crisis.

¹²¹ See NYPSC Cases 15-M-0127, 12-M-0476, 98-M-1343.

¹²² *Resource Adequacy in California, Options for Improving Efficiency and Effectiveness*, Johannes P. Pfeifenberger, Kathleen Spees, Samuel A. Newell (October 2012) at 25 ("2012 Brattle Study"), available at http://files.brattle.com/files/6238_resource_adequacy_in_california_calpine_pfeifenberger_spees_newell_oct_2012.pdf.

100% carbon-free by 2040. The role of competitive markets in fostering innovation is well documented and widely accepted.

Fifth, in California, LSEs must identify the specific resources that satisfy flexible capacity requirement and procure them separately. The performance-based mechanisms that the NYISO has built into its capacity and energy markets procure desired performance attributes without discriminating between different resource classes.

Sixth, New York's prior experience with PPAs between utilities and QFs under PURPA illustrates the severity of potential cost shifts to consumers that can be caused by over-reliance on long-term bilateral contracting combined with preferential pricing for favored resources. New York's "Six Cent Law" ultimately resulted in high costs for several New York utilities with one company reaching a multi-billion dollar settlement to terminate above-market QF PPAs in order to avoid bankruptcy.¹²³ Consumers ultimately bore a large part of the bill. The PSC itself has previously recognized the disadvantages of over-reliance on long-term bilateral contracting. In its 2007 long-term resource portfolio planning proceeding, the PSC concluded that mandating the use of long-term resource procurement contracts risked exposing consumers to significant investment risks. The PSC reasoned that, "[t]o the extent required, mandatory utility long-term contracts can be used as a last resort to facilitate new investment for reliability or other policy reasons, if the market fails to provide such capacity."¹²⁴ Instead, the PSC determined that

¹²³ Ultimately, Niagara Mohawk Power Corporation agreed in 1997 to pay 19 independent power producers approximately \$3.6 billion in cash plus certain stock and assets to restructure or terminate 29 power purchase agreements that required the utility to buy electricity at above-market prices, avoiding a potential bankruptcy filing that had been contemplated in 1996. *See* PSC Case 94-E-0098, *et al.*, Proceeding on Motion of the Commission to the Rates, Charges, Rules and Regulations of Niagara Mohawk Power Corporation for Electric Service, Opinion and Order Adopting Terms of Settlement Agreement Subject Modifications and Conditions, Opinion No. 98-8 (March 20, 1998).

¹²⁴ *See* Case 07-E-1507, Proceeding on Motion of the Commission to Establish a Long-Range Electric Resource Plan and Infrastructure Planning Process, *Order Initiating Electricity Reliability and Infrastructure Planning* (December 24, 2007) at 23.

resource procurement should principally focus on competitive markets and initiatives compatible with them, such as the procurement of generator attributes through renewable energy credit and zero emission credit programs.¹²⁵ As these decisions illustrate, long-term contracts have an important place in capacity markets but there would be downsides to supplanting markets with them entirely.

The PSC should also recognize that the California Model is being re-evaluated. The CAISO is currently “performing a comprehensive review of the CAISO’s Resource Adequacy (RA) provisions and proposing enhancements that ensure effective procurement of capacity to reliably operate the grid all hours of the year.”¹²⁶ Other modifications were recently accepted by FERC and more are being developed.¹²⁷

A number of the concerns referenced above were implicated in a recent proceeding before FERC. In 2018, a generator filed a complaint against the CAISO which asserted that the California Model was unduly discriminatory, producing inadequate revenues for conventional generation, and undermining reliability. It asked FERC to replace the California Model with a capacity market over the objections of the CPUC, the CAISO, and other California stakeholders. FERC denied the complaint in November 2018 and denied rehearing in October 2019. Importantly, FERC’s determinations were based on its conclusion that the complainant had not presented sufficient factual evidence to satisfy its burden of proof under Section 206 of the

¹²⁵ See Case 15-E-0302, Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard, *Order Adopting a Clean Energy Standard* (August 1, 2016). Pages 14, 19-20.

¹²⁶ See CAISO Second Revised Straw Proposal at 4, July 1, 2019. See also *Id.* (“The rapid transformation to a cleaner, yet more variable and energy limited resource fleet, and the migration of load to smaller and more diverse load serving entities requires re-examining all aspects of CAISO’s Resource Adequacy program.”)

¹²⁷ See n. 120 above.

FPA.¹²⁸ If FERC had believed that the evidence was stronger it could have directed CAISO to make changes to the FERC-jurisdictional portions of the California Model, up to and including introducing market mechanisms.

Moreover, the fact that FERC declined to impose a capacity market on California does not necessarily mean that it would agree to impose the California Model on New York. This would be especially true if the change were proposed under FPA Section 206 in the face of stakeholder objections. Such a determination would require an evidentiary showing that the NYISO's existing market-based structures are unjust, unreasonable, or unduly discriminatory. FERC has been clear that different resource adequacy structures may be just and reasonable in different regions. The fact that the California Model survived claims that it was unjust, unreasonable, and not unduly discriminatory in the context of California does not necessarily mean that FERC would necessarily find it to be just, reasonable, and not unduly discriminatory in the context of New York. Among other things, FERC might refuse to allow the introduction of potentially discriminatory differences in payments made to different classes of resources when such discrimination does not exist under the existing NYISO capacity market. At a minimum, it is very likely that a push to adopt the California Model in New York would lead to litigation delays and require an extensive overhaul of foundational elements of the competitive electric utility industry structure in the state as well as of existing NYISO resource adequacy mechanisms. These realities would not serve to further New York State's ability to achieve its environmental policy goals in a timely fashion.

¹²⁸ See *CXA La Paloma, LLC v. California Independent System Operator, Inc.*, 165 FERC ¶ 61,148 (2018) at PP 72-75.

2. The Fixed Resource Requirement Alternative

The NYISO appreciates that the PSC is interested in exploring whether the FRRR concept introduced in the PJM MOPR Order could be adopted for New York. As noted above, FERC's FRRR proposal would allow an individual resource to elect to be removed from the PJM capacity market along with a corresponding quantity of load. The resource would no longer be eligible for a capacity payment but could receive state support without being subject to mitigation (and without triggering a double payment issue.)

An FRRR-like mechanism might, in principle, be added to the NYISO's current market design, perhaps in combination with other market design changes. Nevertheless, the PJM MOPR Order's original FRRR proposal could not be translated directly to New York. For one thing, the NYISO does not currently have a rule comparable to PJM's existing Fixed Resource Requirement (which was the foundation of FERC's FRRR proposal). PJM itself has proposed a variant on the FRRR, which it calls a "Resource Carve Out" ("RCO") mechanism along with an "Extended RCO" alternative. Other PJM stakeholders have proposed their own variations on the FRRR and RCO concepts. It is unclear how FERC will respond to these proposals.

Moreover, the NYISO has some preliminary concerns with the concept. It appears that an FRRR would negatively impact the revenue streams of both subsidized resources removed from the market and those resources that remain in the market. Resources removed from the market would lose the opportunity to earn capacity revenues completely, which would make them even more dependent on subsidies. Resources remaining in the market would likely also still face suppressed capacity prices. This is because the overall level of surplus capacity would be the same before and after subsidized resources and a corresponding amount exited the market. Removing resources from the market would also weaken competitive incentives for those resources to perform efficiently. Resources would still be motivated to respond to energy market

price signals but, depending on the relative impact of their capacity and energy revenues, price signals could be significantly muted. Finally, by allowing capacity prices to be depressed, an FRRR would weaken market signals for new investment in conventional market-based resources and for innovation in all energy technologies. The PSC should consider these potential disadvantages as it evaluates possible FRRR mechanisms.

3. CASPR

One possible enhancement to the BSM Rules would be to adopt the ISO-NE's CASPR model for use in New York. The NYISO is assessing the potential merits of adopting CASPR for use in New York and will consider this further, with other potential approaches, as part of the Comprehensive Mitigation Review.

The ISO-NE version of CASPR is intended to accommodate public policy resources in ISO-NE's Forward Capacity Market ("FCM") over time, while minimizing the impact that such resources have on competitively based capacity prices that encourage the development of resources in the region when needed. CASPR introduces a Substitution Auction ("SA") that runs immediately after the Forward Capacity Auction ("FCA") to coordinate the entry of new publicly sponsored resources in the capacity market with the exit of existing capacity resources willing to permanently leave. The SA settles at a distinct clearing price, based on its supply and demand. The clearing price in the SA is paid by the retiring resources to the new public policy resources that take on the Capacity Supply Obligations of the FCM. Existing resources that exit the market via the SA receive a final payment equal to the difference between the (higher) FCA clearing price and the (lower) SA clearing price. By pairing entry and exit in the SA, potential over-supply concerns are reduced while maintaining resource adequacy in New England.

A version of CASPR could be designed and considered for implementation in New York. Such a model could allow resources developed in response to public policies to enter into

bilateral transactions to acquire Capacity Resource Interconnection Service (“CRIS”) rights, under already-established NYISO rules, along with an exemption from the BSM Rules from an existing resource. The existing resource would have to retire before CRIS rights and the exemption were transferred. This version of a New York CASPR would build on existing NYISO rules that recognize and support bilateral CRIS transfers. The guiding principle behind any New York CASPR proposal would be to structure a market mechanism to guide the orderly entry and exit of capacity resources. The design objective would be to maintain competitive market pricing levels that would sustain retaining needed existing resources while allowing for new entry consistent with the State’s environmental policies.

A New York version of CASPR would seek to allow state-subsidized resources to enter the market without adding to surplus capacity. This feature would enable CASPR to maintain sustainable market prices for both subsidized and market resources. CASPR would reduce New York State’s need to use subsidies to achieve its environmental objectives. Locational reliability (and locational price signals) could be preserved under CASPR by matching resource exit and entry within Localities. A possible advantage of adapting CASPR for New York would be that the expected influx of new state supported clean energy resources over the next few years will likely coincide with the retirement of a significant amount of conventional generating capacity.

However, there are challenges to address with a CASPR design. In particular, existing resources might have a problematic incentive to defer retirement in hopes of maximizing the “option value” of retiring. Mechanisms to facilitate the coordinated exit and entry of resource have not yet been developed. The fact that a form of CASPR has already been accepted for New England does not guarantee that a New York variant would be. It is also unclear whether

CASPR, even if it were found to be appropriate for New York, would be a sufficient, or the most advantageous, approach to harmonize the wholesale markets with state policy.

I. The NYISO's 2020 Comprehensive Mitigation Review

The NYISO intends to expeditiously explore changes to its market structures to better harmonize them with New York State's environmental policies and mandates. This includes the NYISO's commitment to complete a comprehensive review of the BSM Rules in 2020. The NYISO encourages the PSC to engage in this effort and to work collaboratively with the NYISO and NYISO stakeholders.

The NYISO is mindful that there is some skepticism concerning the use of the NYISO stakeholder process to develop changes to the BSM Rules.¹²⁹ It is true that over the last several years the stakeholder process has not resulted in super-majority support for certain proposed new exemptions. In the past, however, the stakeholder process has led to significant capacity market design changes. These have included the introduction of the ICAP Demand Curves, significant enhancements to the BSM Rules, and the NYISO's recent proposal to modify its eligibility and compensation rules for capacity suppliers to account for the attributes of smaller, limited duration resources.¹³⁰

The NYISO is hopeful that it will secure stakeholder approval for reforms to the BSM Rules in the near future. The first set of proposed improvements, which would include a

¹²⁹ See, e.g., *Motion for Leave to Answer and Answer of the New York State Public Service Commission and the New York State Energy Research and Development Authority*, Docket No. EL19-86-000 at 6-7 (October 1, 2019). The NYISO notes that its stakeholder process has successfully approved numerous tariff modifications, the great majority of which are approved unanimously, by show of hands.

¹³⁰ See *New York Independent System, Operator, Inc.*, 133 FERC ¶ 61,178 (2010) (accepting multiple enhancements to BSM rules under FPA Section 205); DER Filing at 2, 16 (noting that the proposals in that filing were successfully developed through an extensive stakeholder process.). See also Section II.B.3 above (noting the NYISO and PSC's close collaboration in creating ICAP Demand Curve market design.)

broadening of the CEE¹³¹ and adjustments to conform to “Class Year” interconnection process changes that should expedite mitigation review for smaller entrants, are expected to be filed at FERC in December. A comprehensive review of the BSM Rules will be completed in 2020. The NYISO respectfully submits that the kind of balanced and broad proposal that may emerge from the comprehensive review will be more likely to attract consensus stakeholder support than were earlier, narrower, proposals to establish exemptions to the BSM Rules without other changes.¹³² Furthermore, the enactment of the CLCPA should encourage all stakeholders to acknowledge the challenges ahead and work collectively to develop market changes to address state environmental policy.

Thus, the NYISO asks that the PSC work, at least in the first instance, through the NYISO stakeholder process to help to develop changes to the BSM Rules that could attract super-majority stakeholder support. Such proposals are more likely to be accepted by FERC in the timeframe necessary for New York State to meet its goals.

J. The Collaborative Development of Market-Based Resource Adequacy Improvements Is the Clearest Legal and Regulatory Path to Better Harmonizing the FERC-Jurisdictional NYISO-Administered Markets with New York State Environmental Policies and Mandates

As noted above, the NYISO intends to better harmonize the present wholesale market design with New York’s climate change goals. The NYISO has committed to begin this effort with a comprehensive review of its BSM Rules. The NYISO looks forward to all of the parties’ comments and recommendations in this proceeding. The legal and regulatory path to effect change, however, is more complex than one might conclude from the PSC Order alone.

¹³¹ See Section II.F.3, above.

¹³² *Id.*

The PSC Order spells out in detail the PSC’s statutory authority to address resource adequacy under the Public Service Law.¹³³ It also references the authority that the FPA reserves to the PSC, and other state public utility commissions, with respect to resource adequacy and the development of generation resource.¹³⁴ The NYISO does not dispute that the PSC has broad authority over these matters.

The PSC Order does not, however, address the extent of FERC’s concurrent jurisdiction over resource adequacy matters in New York. FERC’s authority is not limited to accepting reliability standards that may implicate resource adequacy.¹³⁵ Instead, as FERC has stated, “the question of jurisdiction over resource adequacy is a complex matter that represents the ‘confluence of state and federal jurisdiction’” FERC is “cognizant of the traditional role of state and local entities in regulating resource adequacy” but also has a statutory responsibility of its own under the FPA to “ensure the reliability of the system and that wholesale rates are just and reasonable.”¹³⁶ FERC will “defer to state and local entities’ decisions when possible on resource adequacy matters, but in doing so we will not shirk our congressionally-mandated responsibilities.”¹³⁷

The existing NYISO market-based resource adequacy framework is established under the NYISO’s FERC-accepted tariffs. Thus, while the PSC has considerable jurisdictional powers over resource adequacy and the regulation of generation, those powers are not exclusive. FERC’s

¹³³ See PSC Order at 8-9, 10.

¹³⁴ See PSC Order at 9.

¹³⁵ See PSC Order at 9. In addition, the NYISO respectfully submits that the reservation of state authority with respect to reliability standards under FPA Section 215, including the language of that provision establishing New York State’s unique authority in this area, in no way limits or diminishes FERC’s exclusive jurisdiction over the resource adequacy provisions of the NYISO’s FERC-jurisdictional tariffs.

¹³⁶ See, e.g., *PJM Interconnection, L.L.C.*, 119 FERC ¶ 61,318 (2007) at P 40 (setting forth FERC’s conception of its responsibility and jurisdiction over resource adequacy and citing relevant precedents).

¹³⁷ *Id.*

statutory obligation under the FPA to ensure that capacity prices (including the rates of bilateral wholesale capacity contracts) in New York are *just and reasonable* and not *unduly discriminatory* must be considered. Any changes to the current market design will likely require FERC approval. Any new design, or replacement model, will be subject to FERC oversight (just as the FERC-jurisdictional portions of the California model are). Although FERC will not necessarily insist that New York must retain a market-based capacity framework, any proposed change to that structure, including a proposal to replace it with a bilateral contracting model, will require FERC's approval under the FPA's standards.

Unless FERC were to act to modify the NYISO's current market-based structures on its own initiative, which would implicate Section 206 of the FPA, the NYISO's existing capacity regime could only be modified through a filing made at FERC. Under the NYISO's FERC-approved shared governance process, a broad cross-section of market participants among five sectors represented in the Management Committee must first approve tariff changes by at least a 58% vote. If that requirement is satisfied, then the NYISO's Board of Directors must concur with the recommended changes and direct the NYISO management to file them with FERC under FPA Section 205. Tariff filings proposed under Section 205 must generally be accepted by FERC within sixty days if FERC finds that they are just, reasonable, and not unduly discriminatory. Only the NYISO may make a Section 205 filing to revise its tariffs.

Tariff amendments may alternatively be pursued in the form of a complaint proceeding under FPA Section 206, or a "unilateral" Section 206 tariff filing by the NYISO itself. However, the Section 206 route, which is an adversarial administrative proceeding, carries a high burden of first proving that the existing tariffs are *unjust and unreasonable* before the FERC will entertain the justness and reasonableness of proposed amendments. Moreover, unlike a Section 205 filing

there is no statutory time limit for FERC action under Section 206. Indeed, several New York buyer side mitigation matters have been pending for years without Commission action. Filings on contested resource adequacy issues in other regions, including the PJM MOPR proceeding, have likewise taken years to resolve.

Non-market based approaches might seem like an appealing, or easier, way to reach New York's goals. In reality, however, replacing existing capacity market structures with the kind of bilateral contracting regime represented by the California Model would be no faster and could take significantly longer. A lengthy transition would almost certainly be needed to allow for an orderly shift from the current framework to a California style model. Finally, the risk of significant litigation delays would be very high. Although this risk would exist for any proposal it would be much greater for an initiative that sought to replace working capacity market structures with bilateral contract mechanisms. Such an effort would almost certainly not obtain the necessary stakeholder support to be filed under Section 205. Section 206 would remain an option but a difficult burden of proof would apply, as demonstrated by FERC's recent rejection of a Section 206 challenge to the California Model. Even if FERC were open to such a fundamental restructuring of capacity structures in New York, disadvantaged market participants be certain to challenge it on appeal. At a minimum, such challenges would create years of uncertainty and delay and potentially chill the investment signal needed to achieve the CLCPA's goals. If opponents were to succeed in blocking the proposal at FERC, or overturning an accepted proposal on appeal, it would disrupt any implementation effort. Thus, the PSC is much more likely to achieve its goals expeditiously by supporting improvements to the current market model rather than by trying to replace that model.

In her dissent in the PJM MOPR proceeding, former Commissioner LaFleur warned that rushing major changes to PJM’s capacity market rules without allowing adequate time for stakeholder input was unwise and would have adverse consequences.¹³⁸ The NYISO agrees with Commissioner LaFleur’s philosophy. NYISO stakeholders, which include private and public investors in transmission and supply, consumer advocates, and environmental interests, should be afforded an opportunity to collaboratively work through complex changes before any attempt is made to impose them. The NYSRC, which has the authority to set New York’s resource adequacy requirements, should be a necessary participant in any process to modify the NYISO’s capacity market.

K. Recommended Next Steps

As discussed above, the NYISO-administered capacity markets, have achieved significant benefits for New York consumers over the last twenty years. The markets are now facing a significant transformation, including a changing resource mix driven largely by public policy. These changes do not trigger a need to alter the fundamental structure of how resources are procured for resource adequacy. The NYISO intends to help to lead this transition, while preserving reliability, by leveraging the benefits of competitive markets. The NYISO acknowledges that capacity market design improvements, including a re-evaluation of the BSM

¹³⁸ *PJM MOPR Order*, LaFleur *dissenting* at 5 (“Ultimately, I continue to believe that capacity markets, if properly designed and adapted, can provide meaningful benefits for customers. While I agree that the increase in state subsidies by restructured states does pose a long-term challenge to the capacity markets’ ability to deliver those benefits, I am concerned that the desire for action has led the Commission to pursue a flawed and rushed process that could do more harm than good. The majority is proceeding to overhaul the PJM capacity market based on a thinly sketched concept, a troubling act of regulatory hubris that could ultimately hasten, rather than halt, the re-regulation of the PJM market. I would instead follow the “regulatory Hippocratic oath” to first, do no harm, and give PJM and its stakeholders time and direction to address these difficult issues in a sustainable manner.”)

Rules, are needed to better accommodate New York State’s renewable energy and environmental emission reduction goals.

Assuming that FERC’s “standard solution” buyer-side mitigation policy will not substantially change in the near future, the NYISO will continue to be required to prevent “artificial price suppression” in its capacity market.¹³⁹ It is likely that FERC would be concerned that state sponsorship of the clean energy investments at the level necessary to satisfy the CLCPA would “artificially suppress” capacity prices. The NYISO intends to work diligently to find a better alternative to the “standard solution.”

The NYISO believes that the best way forward would be the collaborative development of tariff changes that results in a consensus proposal being submitted to FERC under Section 205 of the FPA. Such an effort could readily address the two concerns that prompted the PSC Order. Specifically, capacity products can be further developed or refined to better value environmental and operating attributes that are appropriate for an evolving grid and resource mix. Market design changes, can limit or eliminate the risk that New York State policies will be frustrated or that consumers would have to make “double payments” for capacity. Both goals can be accomplished without sacrificing the benefits of competitive markets or assuming the risks of a bilateral contract regime.

The NYISO’s comprehensive review of the BSM Rules in 2020 will be an expedited effort to identify and develop a workable improvements that could potentially attract the broad

¹³⁹ Even if the NYISO were to move to a California-style bilateral contracting model, FERC would still seek to ensure that wholesale capacity rates were just and reasonable and that all resource owners had a “reasonable opportunity” to recover their costs. Moreover, parties have raised “price suppression:” concerns regarding the California Model. *See CXA La Paloma*, 165 FERC ¶ 61,148 at P 64. Although such claims have been unsuccessful to date they could be raised again in New York even under a bilateral contracting based resource adequacy regime. Eliminating capacity markets would therefore not remove the risk that state policy priorities would conflict with FERC concerns and precedents. Accordingly, the PSC should support efforts to better harmonize FERC-jurisdictional NYISO market structures with New York State environmental policies and mandates.

stakeholder support necessary to make a Section 205 filing and obtain a timely FERC approval. Other market-based alternatives may also represent practical and effective potential solutions to the challenges identified by the PSC Order. They should be identified through a stakeholder process, submitted to FERC for approval, and then promptly implemented so that the NYISO-administered markets will be better harmonized with the CLCPA's goals.

The PSC should recognize that market-based resource adequacy mechanisms are not an “outdated” solution to old problems. Market structures can be the solutions to the challenges of today, and of the future. Experience and economic theory both clearly demonstrate that market-based mechanisms are more efficient, and have the potential to bring greater consumer benefits, than administrative alternatives.¹⁴⁰ Market-based resource adequacy procurement structures can be adapted to help achieve New York's planned transition to a cleaner energy system. In the long run, those market mechanisms will also be the best approach after the transition is complete. Even in a 100 percent clean energy future, harnessing market forces will be the best way to send efficient price signals, protect consumers from investment risks, and support reliability. Market-based resource adequacy mechanisms should evolve, not be discarded, as New York pursues its environmental objectives.

III. CONCLUSION

The NYISO respectfully asks that the PSC embrace the recommendations offered in these initial comments. Specifically, the PSC should work with the NYISO, and the NYISO's stakeholders, to develop market-based improvements to existing NYISO resource adequacy structures that are needed to better accommodate New York State's energy policies and mandates. The NYISO has acknowledged that its BSM Rules should be adjusted to achieve this

¹⁴⁰ See, e.g., PSC Opinion 96-12.

goal and has committed to complete a comprehensive review of the BSM Rules by the end of 2020. The NYISO is also open to exploring other potential market design changes. A collaborative, consensus-based approach is most likely to allow New York State to achieve its objectives quickly while also protecting consumers and preserving resource adequacy. By contrast, seeking to impose non-market-based changes would likely harm consumers while subjecting New York's environmental agenda to extensive stakeholder litigation delays and a lengthy implementation timetable. The NYISO looks forward to continuing the collaborative relationship it has established with the NYPSC over the last twenty years to identify solutions that will help New York State achieve the CLCPA's goals while preserving the consumer benefits of competitive markets.

Respectfully submitted,

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Appendix

Answers to the Commission's Questions on Resource Adequacy Matters

Q1: Are the State's energy policies and mandates, such as those related to Offshore Wind, photovoltaics, other renewables, and energy storage compatible with the NYISO's resource adequacy mechanisms? If not, what issues are manifested?

Also, if not, how could they be aligned?

A1: New York State's energy policies and mandates are compatible with NYISO's existing resource adequacy mechanisms, including the NYISO's use of market-based mechanisms for procuring and valuing capacity. The NYISO's resource adequacy mechanisms have preserved reliability, produced appropriate price signals and supported state environmental policy goals for two decades. They have benefitted consumers and contributed to improved environmental performance (*See* Initial Comments §§ 1.C, 1.D, II.C). There is every reason to expect that they will continue to do so during, and after, the state's transition to a cleaner grid.

This does not mean that changes to the existing resource adequacy mechanisms will not be needed. The NYISO acknowledges the need to better harmonize the wholesale electricity markets with state environmental policies, in particular those embodied in the CLCPA, while maintaining competitive price signals. The NYISO has committed to complete a comprehensive review of its BSM Rules in 2020 to identify adjustments to address conflicts with state policy initiatives (*See* Initial Comments §§ II.G, II.I). There are a number of other potential enhancements to the wholesale market rules that could take account of desirable environmental attributes. The NYISO is currently in the early stages of considering a variety of potential

changes ranging from modest adjustments to the existing framework to more fundamental alterations to the auction structure and mitigation paradigm. In order to determine the best path forward for New York, any modifications must be carefully considered in light of the value provided by the current market construct and with an eye toward the substantial investments that will be needed to achieve the CLCPA's vision. The NYISO is just beginning its assessment, has not pre-judged any proposal, including the carbon pricing and CASPR concepts discussed at §§ II.G and II.H.3 of the Initial Comments, respectively, and looks forward to better understanding the views of the PSC and other parties.

All potential changes should be considered and developed through a collaborative stakeholder process aimed at developing proposals with broad support. Such proposals have the best chance of being accepted by FERC on a timetable that is compatible with New York State's goals.

Q2: Does the interaction of policies and market structure mechanisms result in safe and adequate service at just and reasonable rates for customers?

A2: Yes.

First, there is no question that the NYISO's existing resource adequacy and market mechanisms have resulted in safe and adequate service to date (*See* Initial Comments §§ II.B.2 and II.E). The NYSRC is correct to point out that the grid transition contemplated by the CLCPA will pose new planning and reliability challenges due to the nature of intermittent resources. Nevertheless, the NYISO is confident that market-based resource adequacy mechanisms can evolve to meet the new challenges.

Second, the NYISO would note that the justness and reasonableness of wholesale rates in the NYISO-administered markets are determined by FERC. FERC has consistently upheld the justness and reasonableness of the NYISO's energy, ancillary services, and capacity rates and the independent Market Monitoring Unit has repeatedly confirmed that the markets are working well (*See Initial Comments § II.B.1*). The NYISO markets do not directly establish retail rates that fall within the PSC's jurisdiction. The NYISO believes, however, that any necessary market design improvements made to better harmonize the wholesale markets with New York's environmental policies can be consistent with PSC-jurisdictional rates continuing to be just and reasonable.

Q3: Is an ICAP product an effective long-term solution for resource adequacy given the required future generating resource mix, which may have lower marginal costs or different availability profiles than many current generation resources in operation? What are the salient attributes of such long-term solutions?

A3: The use of an ICAP product, and the use of markets to value capacity products, will continue to be an effective long-term solution for resource adequacy. To the extent that the existing NYISO ICAP product does not fully capture environmental attributes this issue can be addressed by developing market enhancements will allow the NYISO's resource adequacy structures to better "recognize and provide compensation for many important factors, such as environmental and local reliability benefits" and result in auctions incorporating resources that "are the same ones needed to meet the State's clean energy and other mandates." (*See Initial Comments at § II.G*).

The NYISO is not aware of alternatives to the use of an ICAP product that would preserve resource adequacy and that could be introduced in a timely fashion. As a point of comparison, California, which is pursuing clean energy policy goals similar to New York, appears to be seeking to improve, not replace, its version of an ICAP product. The NYISO's UCAP rules, especially as modified by pending enhancements before FERC, will allow the NYISO to correctly gauge, and pay for, the true reliability benefits that different resources will provide. It is noteworthy that the CAISO appears to take a similar view regarding the merits of UCAP. The CAISO is proposing to incorporate UCAP metrics comparable to New York's into its resource adequacy framework as California pursues its own clean energy transition. *See, e.g., Resource Adequacy Enhancements Second Revised Straw Proposal* at Section 5.1 ("For all resources with NQC values, CAISO proposes to establish UCAP values to identify the unforced capacity value (discounted for units' forced outage rates) for use in system and flexible RA showings and assessments. The UCAP value speaks to the quality and dependability of the resources procured to meet RA requirements.") (Internal footnote omitted).

Q4: Is there a preferred mechanism(s) for ensuring resource adequacy? What are the cost impacts and benefits to consumers under the various potential resource adequacy mechanisms?

A4: In general, market-based resource adequacy mechanisms should be used to the greatest extent practicable because they shift investment risks from investors to consumers. By comparison, a mechanism that is based on long-term fixed price bilateral contracts runs the risk of creating uneconomic financial obligations that would be borne by consumers, as occurred under PURPA and the "six-cent" law. The NYISO has not yet analyzed the relative cost impacts

and benefits to consumers of other “potential resource adequacy mechanisms.”

Q5: Should alternative approaches be considered to ensure the procurement of generation resources is aligned with State policy goals. If so, which ones? Are there existing or proposed models which might be instructive, such as the State overseeing LSEs’ resource adequacy portfolios (e.g., an approach similar to the one used by California) or restructuring NYISO rules to accommodate State public policies (e.g., a Fixed Resource Requirement Alternative, as proposed by FERC Order issued on June 29, 2018 in Docket No. EL16-49, ¶160 et seq.)?

A5: In Section II.H of its Initial Comments, the NYISO offers its preliminary comments on the “California Model” and “FRRA.” That Section also discusses the “CASPR regime that has been implemented in ISO-NE and which some have suggested should be adapted for use in New York.” The NYISO is open to assessing the merits and risks of these options, and of other market-based alternatives. Nevertheless, there are a number of significant questions that would have to be addressed before the California Model or an FRRA system could be adopted in New York. At a minimum, it would require many resources, and potentially involve substantial delays to move from the current market-based resource adequacy mechanisms to a California-style model or to add an FRRA-type component to the existing market design. There is a serious risk that the time needed for such a transition, including time lost to litigation-related delays, could interfere with New York’s ability to achieve its environmental policy objectives in a timely manner.

Q6: What is the State role with respect to resource adequacy matters that best serves New York’s electricity customers with safe, adequate, and reliable service at just and reasonable rates in the context of state policies?

A6: New York State should continue to exercise the generation and resource adequacy roles that the FPA reserves for it. The PSC should seek to work cooperatively with FERC, which has asserted jurisdiction over resource adequacy matters to the extent that they “affect” wholesale markets or grid reliability.

Q7: What, if any, next steps should the Commission take with respect to resource adequacy matters?

A7: The PSC should work collaboratively with the NYISO and with NYISO stakeholders to develop any necessary changes to existing resource adequacy arrangements. This would include participating in the NYISO’s comprehensive 2020 review of the BSM Rules and with other efforts to explore potential market enhancements that could lead to a Section 205 filing of tariff changes to the market rules and/or the BSM Rules. It is clear that a collaborative effort that produces consensus proposals for filing at FERC would be the best, and most expeditious way for New York State to achieve its environmental policy goals. (*See Initial Comments §§ II.J and K.*)