

April 7, 2021

Submitted Electronically

Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street N.E.
Washington, D.C. 20426

Re: *New York Independent System Operator, Inc.* Response to Deficiency Letter in
Docket No. ER21-1018-00_.

Dear Ms. Bose:

The New York Independent System Operator, Inc. (“NYISO”) respectfully submits this response to the deficiency letter issued by the Federal Energy Regulatory Commission (“Commission”) in the above-referenced docket on March 29, 2021 (the “Deficiency Letter”). The Deficiency Letter directs the NYISO to provide additional information regarding its proposal to prescribe a process in its Market Administration and Control Area Services Tariff (“Services Tariff”) to implement and/or adjust the procurement of supplemental reserves.¹ The NYISO’s responses to the questions set forth in the Deficiency Letter are provided below.

The NYISO’s February 2, 2021 filing in this proceeding (“February 2021 Filing”)² proposed Services Tariff revisions to (1) modify the current Operating Reserve Demand Curves applicable to various locational reserve requirements established by the NYISO,³ and (2) establish a process and procedures to procure supplemental reserves, if needed, in the future.⁴ The two components of the NYISO’s proposal can be treated independently and the procurement of supplemental reserves, if needed or ordered by Commission, could be implemented in the future. The supplemental reserves component of the February 2021 filing is the only topic addressed in the Deficiency Letter and this response. There are no outstanding questions about the proposal to modify the Operating Reserve Demand Curves, and implementing that aspect of the proposal in June 2021 will enhance real-time resource performance.

¹ Supplemental reserves represent quantities of existing reserve product types in excess of the minimum amounts required to comply with applicable reliability requirements. Capitalized terms not otherwise defined herein shall have the meaning specified in the Services Tariff.

² Docket No. ER21-1018-000, *New York Independent System Operator, Inc.*, Proposed Tariff Amendments to Revise the Operating Reserves Demand Curves and to Establish the Process to Procure Supplemental Reserves (February 2, 2021).

³ February 2021 Filing at 4-8 and 10-11.

⁴ *Id.* at 8-11.

Notably, as previously acknowledged, the NYISO is not proposing the establishment of any supplemental reserve requirements at this time.⁵ Instead, the NYISO is proposing to establish the necessary process, pricing, and other terms and conditions to facilitate the implementation and/or adjustment of supplemental reserve requirements to the extent necessary in the future to maintain system reliability. The NYISO's proposal to establish a supplemental reserves process at this time is a prudent, proactive measure to facilitate maintaining reliability in response to the rapidly transforming electric grid in New York State. The proposed tariff revisions contain the appropriate rates, terms, and conditions regarding any future supplemental reserve requirements implemented through the process proposed by the NYISO. The supplemental reserves mechanism promotes electric system reliability while seeking to avoid the premature implementation of additional procurement requirements. The proposed supplemental reserves process includes appropriate safeguards and oversight and is just and reasonable. The Commission should accept the NYISO's February 2021 Filing without modification.

I. Response to Additional Information Request

The NYISO submits the responses below to the questions set forth in the Deficiency Letter.

Question No. 1.a:

Please explain in detail and support each step of the process for the decision to procure supplemental reserves, including the triggering condition(s) and the detailed process for approval from the Operating Committee. Please include relevant Tariff provisions as appropriate.

Response:

New York's electric grid is transitioning to a clean energy system in direct response to state energy and environmental policies and technological innovation. New York State is mandating installation of 6,000 MW of distributed solar resources by 2025, 3,000 MW of storage resources by 2030, and 9,000 MW of offshore wind resources by 2035.⁶ These resources are just a piece of the changing grid in New York State. The New York State Climate Leadership and Community Protection Act ("CLCPA") further mandates that 70% of Load be served by energy generated from renewable resources by 2030 and that 100% of the energy serving Load be zero emission by 2040.⁷ Increasing reliance on both grid-connected, weather-dependent generation sources, as well as behind-the-meter clean energy resources (such as distributed solar generation

⁵ February 2021 Filing at 9; and Docket No. ER21-1018-000, *supra*, Request for Leave to Answer and Answer of New York Independent System Operator, Inc. at 4-5 (March 10, 2021) ("March 10 Answer").

⁶ See Chapter 106 of the Laws of the State of New York of 2019.

⁷ The quantity of weather-dependent renewable generation resources is expected to increase dramatically over the next several years. As of December 31, 2020, the NYISO Interconnection Queue included nearly 10,000 MW of proposed solar resource projects and more than 17,000 MW of proposed wind resources. See Interconnection Queue Excel files available at www.nyiso.com/interconnections.

resources), presents more potential for frequent, unanticipated, real-time system volatility.⁸ Implementing a process to expeditiously establish supplemental reserve procurement levels in excess of the current minimum quantities required for compliance with reliability requirements will safeguard the NYISO's ability to maintain system reliability as this rapid transition of the New York's energy system unfolds.

The NYISO proposed revisions in Services Tariff Section 15.4.7 establish a process to implement supplemental reserves when warranted in the future as a direct result of system conditions. The proposed revisions contemplate implementing and/or adjusting supplemental requirements for the existing reserve products (*i.e.*, spinning, 10-minute, and 30-minute reserves).⁹ The supplemental reserves mechanism is intended to primarily address potential needs that could arise quickly, while seeking to avoid unnecessarily procuring products and services, and potentially increasing costs to Load, before a system need arises. The NYISO expects that such needs could arise quickly as intermittent, weather-dependent resources connect to both the bulk electric system and distributed systems at a rapid pace to achieve state environmental and energy policy mandates. Prior to implementing or adjusting any supplemental reserves requirements, the "[NY]ISO shall review with Market Participants any proposal to establish or adjust any Supplemental Reserves and obtain Operating Committee approval thereof at least 30 days prior to the implementation or adjustment of any Supplemental Reserves. As part of the required posting of the target level for each locational Operating Reserves requirement, the ISO shall expressly identify any Supplemental Reserves component thereof."¹⁰

Any NYISO proposal to implement or adjust a supplemental reserve requirement will include multiple meetings with stakeholders; however, the new process will allow the NYISO to respond quickly as conditions warrant. Once the NYISO determines that a supplemental reserve requirement (or change to a previously established supplemental reserve requirement) is necessary, it will review the results of its evaluation (discussed below) with stakeholders at the working group level (*e.g.*, the Market Issues Working Group and the System Operations Advisory Subcommittee). After collaborating with stakeholders to garner support for any supplemental reserve proposal, the NYISO will present the supplemental reserves proposal to the Operating Committee for review and approval. The NYISO will be required to obtain Operating Committee approval of any proposal to implement/adjust supplemental reserves at least 30 days prior to the supplemental reserves being implemented in the market.

⁸ See, *e.g.*, NYISO, *Proposed Approach for Considering Grid In Transition Recommendations* (presented to the Market Issues Working Group on December 7, 2020) at 10 (for a summary of New York's clean energy policies), available at: <https://www.nyiso.com/documents/20142/17450815/20201201%20NYISO%20-%20Approach%20for%20Considering%20Grid%20in%20Transition%20Recommendations%20FOR%20POSTIN%20G.pdf>; and NYISO, *Reliability and Market Considerations for a Grid in Transition* (December 20, 2019), available at: <https://www.nyiso.com/documents/20142/2224547/Reliability-and-Market-Considerations-for-a-Grid-in-Transition-20191220%20Final.pdf>.

⁹ The proposal only permits the establishment and/or adjustment of supplemental reserve requirements for existing reserve products. The NYISO would be required to work with stakeholders on a new project to propose tariff revisions to implement any new reserve product types/durations.

¹⁰ See, proposed revisions to Services Tariff Section 15.4.7.

This stakeholder process could, if warranted by the conditions present and imminence of potential adverse impacts to system reliability, potentially be accomplished in as few as two months. Thus, the NYISO could, if approved by stakeholders, implement a supplemental reserves requirement in as few as three months following identification of system conditions warranting the implementation of supplemental reserves (*i.e.*, 30 days after an affirmative Operating Committee vote). Absent the proposed supplemental reserves process, if the NYISO were required to proceed through its typical process to develop a proposal for filing under Section 205 of the Federal Power Act, that process generally takes at least six months after an issue is identified before an appropriate solution can be implemented. This extended period, while weather-dependent resources continue interconnecting rapidly in response to state mandates, could exacerbate electric system reliability concerns and require reliance on potentially more costly and less efficient out-of-market actions, such as increases in reliability commitments outside the market processes, to resolve such concerns in the interim.

While developing the supplemental reserves proposal contained in the February 2021 Filing, the NYISO identified and discussed with its stakeholders certain operational metrics that the NYISO will monitor, which may trigger the need to implement, or adjust, supplemental reserve requirements.¹¹ The metrics relate to data and information the NYISO already transparently tracks, reports, and presents to stakeholders on a monthly basis.

The first operational metric is the NYISO's under-forecast net load forecast error.¹² If the NYISO observes a maximum under-forecast net load forecast error of at least 1,000 MW for two consecutive months, it will commence further review to determine whether supplemental reserves may be needed. The high penetration levels of intermittent, weather-dependent resources expected in the near future could exacerbate reliability concerns because a small percentage error in the forecasted performance of these resources could lead to large MW quantities of under-forecasted net load that the system would need to balance in real time by using operating reserves.¹³

The second metric identified by the NYISO is the number of adverse operating state declarations that occur on a monthly basis.¹⁴ An increase in the number of Alert State Declarations or Major Emergency State Declarations associated with operating reserve shortages

¹¹ The NYISO's supplemental reserves proposal in this proceeding contemplates that the details described herein regarding triggers for evaluating supplemental reserve needs and considerations in establishing supplemental reserve procurement targets will be set forth in an appropriate NYISO manual(s) (*e.g.*, NYISO Ancillary Services Manual). See March 10 Answer at 9.

¹² See, *e.g.*, pages 13-14 of the NYISO Operations Performance Metrics Monthly Report, available at https://www.nyiso.com/documents/20142/20282347/03%20Operations_Report.pdf/aa85c35f-2cc3-225b-4e49-f9bbd2bf44a8.

¹³ The Commission's Common Metrics Report recognizes the importance of accurate forecasting and metrics data. See https://www.ferc.gov/sites/default/files/2020-05/08-09-common-metrics_1.pdf.

¹⁴ See *id.*, at page 3.

would also warrant further review regarding the potential implementation and/or adjustment of supplemental reserve requirements.

Prior to proposing any supplemental reserve requirements, the NYISO will conduct a detailed evaluation of the two operational metrics and whether net load forecasting performance is within expected industry forecasting accuracy norms. The NYISO will also assess whether the load forecasting performance can be improved to obviate or reduce the need to procure supplemental reserves.¹⁵ The forecasting evaluation will also include a review of wind and utility-scale solar forecasting accuracy and potential improvements thereto. If it is determined that forecasting systems enhancements cannot fully resolve the under-forecast net load forecast error being observed, the NYISO will conduct a historical analysis of the net load forecast error data to establish a level of supplemental reserves that is sufficient to capture 95% of the under-forecast net load forecast error being observed.¹⁶

When the NYISO determines that supplemental reserves need to be implemented, or adjusted, the NYISO will review the proposal to implement or adjust supplemental reserves with stakeholders as described above. The proposed tariff revisions require the NYISO to obtain Operating Committee approval of the proposal to implement/adjust supplemental reserves at least thirty days prior to being implemented in the wholesale markets.¹⁷

Question No. 1.b:

You state that supplemental reserves are designed to primarily address potential needs that could arise quickly from net load forecasting errors. What conditions will cause NYISO to decide to propose procuring supplemental reserves for approval from the Operating Committee? For example, will net load forecast errors need to meet a specific magnitude or frequency before NYISO determines that supplemental reserves should be procured?

Response:

As discussed within the NYISO response to Question No. 1.a, the NYISO will commence further review of the potential need for supplemental reserves if it observes: (1) a maximum under-forecast net load forecast error of at least 1,000 MW for two consecutive months that cannot be remedied through improvements to net load forecasting performance; and/or (2) an increase in the number of Alert State Declarations or Major Emergency State Declarations associated with reserve shortages.

¹⁵ Behind-the-meter solar generation resources are currently accounted for as part of the load forecast developed by the NYISO. Thus, the assessment of load forecast accuracy and potential enhancements thereto would also include an evaluation of the forecasting related to the production capability of distributed solar resources in New York.

¹⁶ The NYISO will monitor and evaluate: (1) 60-minute ahead under-forecast net load forecast errors in assessing the potential need for 30-minute supplemental reserves; and (2) 30-minute ahead under-forecast net load forecast errors in assessing the potential need for spinning and 10-minute total supplemental reserves.

¹⁷ See February 2021 Filing at 9-10; and March 10 Answer at 7-8.

If the NYISO cannot fully resolve the under-forecast net load forecast error through forecasting systems improvements, the NYISO will analyze historical forecast error data to determine the level of supplemental reserves needed to maintain electric system reliability and review any such proposal with stakeholders prior to seeking approval thereof at the Operating Committee. Supplemental reserve procurement targets proposed by the NYISO will be designed to capture 95% of the under-forecast net load forecast error observed based on a review of historical data. If the NYISO identifies a need for 10-minute supplemental reserves, the NYISO additionally intends to procure 50% of any identified need for 10-minute supplemental reserves as spinning reserves.¹⁸

Question No. 1.c:

You state that once NYISO determines that supplemental reserves need to be implemented or adjusted, NYISO will review the proposal with stakeholders. You further state that the Operating Committee must approve the proposal to implement or adjust supplemental reserves at least 30 days prior to being implemented in the wholesale markets. Under the proposed process, please describe what steps will be taken in the event that NYISO does not obtain approval from the Operating Committee.

Response:

The proposed revisions in Services Tariff Section 15.4.7 require the NYISO to “review with Market Participants any proposal to establish or adjust any Supplemental Reserves and obtain Operating Committee approval thereof at least 30 days prior to the implementation or adjustment of any Supplemental Reserves.”¹⁹ In addition to this proposed tariff obligation, the Operating Committee is also specifically charged with determining the minimum quantities of Operating Reserves required throughout the New York Control Area.²⁰ Thus, the Operating Committee is qualified, and in fact required, to make these types of decisions to support the reliable operation of the electric system in New York.

The NYISO’s shared governance process has a proven track record of success in addressing the challenges and opportunities facing the bulk power system and wholesale energy markets in New York. The NYISO is confident in its ability to work collaboratively with its stakeholders to continuously evolve and enhance its markets in response to the ongoing transformation of New York’s electric system, including, as necessary, the implementation and/or adjustment of supplemental reserve requirements over time.

¹⁸ This approach provides for consistency with an existing New York State Reliability Council, L.L.C. (“NYSRC”) requirement that directs the NYISO to procure at least one-half of the minimum 10-minute operating reserve requirement as spinning reserves. See, NYSRC Operating Reserve Requirement R3.1, available at <http://www.nysrc.org/PDF/Reliability%20Rules%20Manuals/RRC%20Manual%20V45%20Final.pdf>.

¹⁹ See, proposed revisions to Services Tariff Section 15.4.7.

²⁰ See Section 8.01 of the ISO Agreement.

If, however, the Operating Committee did not approve a specific proposal to implement or adjust the procurement of supplemental reserves, the NYISO would not have independent authority to implement the proposed supplemental reserves requirement or adjustment thereto. Under such circumstances, the NYISO envisions that it would likely proceed on two parallel paths. The NYISO would engage in further review and discussion with stakeholders of: (1) the analysis that led to its determination of the need to implement or adjust supplemental reserve requirements; (2) the reliability issues that may arise absent approval of the supplemental reserves proposal at issue; and (3) any additional information not already provided to stakeholders that may be reasonably necessary to respond to specific questions raised regarding the supplemental reserves proposal at issue.²¹ While such further stakeholder discussions occur, NYISO grid operators potentially may need to rely on the use of more costly and less efficient, out-of-market actions to protect electric system reliability in the interim, such as additional reliability commitments through the Day-Ahead Reliability Unit (“DARU”), Supplemental Resource Evaluation (“SRE”), and/or Out-of-Merit (“OOM”) processes. If the NYISO faces an imminent threat to system reliability, it could also exercise the authority provided in Section 15.4.7 of Rate Schedule 4 of the Services Tariff to temporarily procure additional reserves. This provision provides the NYISO authority to temporarily modify the quantity and/or pricing levels of reserves, if necessary, to avoid real-time operational or reliability issues that would otherwise require system operators to take out-of-market action. Such temporary modifications require notice to Market Participants and may only remain in effect for up to 90 days.²²

II. Effective Date

The NYISO reiterates its request that the Commission accept the tariff revisions proposed in the February 2021 Filing with a flexible effective date.²³ At this time, the NYISO anticipates seeking an effective date as early as June 8, 2021. However, the NYISO cannot specify a more precise effective date until the software changes necessary to implement the proposed tariff revisions are finished, adequately tested, and the software deployment is scheduled.

The NYISO proposes to submit a compliance filing at least two weeks prior to the proposed effective date that will specify the date on which the revisions will take effect. Consistent with Commission precedent, the compliance filing will provide adequate notice to the Commission and Market Participants of the implementation date for the revisions proposed herein.²⁴

²¹ The NYISO’s proposal in this proceeding predefines the applicable shortage price values for any future supplemental reserve requirements within the proposed revisions to Services Tariff Section 15.4.7. *See* February 2021 Filing at 10; and March 10 Answer at 5-6.

²² If circumstances allow, the NYISO is required to consult with its stakeholders, the New York State Public Service Commission, and the Market Monitoring Unit prior to implementing any such temporary change.

²³ As part of this filing, the NYISO resubmits the proposed tariff revisions (as Attachments I and II, clean and redline, respectively) that were attached to the February 2021 Filing.

²⁴ *See, e.g., New York Indep. Sys. Operator, Inc.*, 106 FERC ¶ 61,111 at P 10 (2004); Docket No. ER 11-2544-000, *New York Indep. Sys. Operator, Inc.*, Letter Order at 1 (February 10, 2011); Docket No. ER15-485-000,

III. Service

The NYISO will send an electronic link to this filing to the official representative of each party to this proceeding, the official representative of each of its customers, each participant on its stakeholder committees, the New York State Public Service Commission, and the New Jersey Board of Public Utilities. The NYISO will also post the complete filing on its website at www.nyiso.com.

IV. Conclusion

The NYISO's proposal, as set forth in the February 2021 Filing, is just and reasonable and the NYISO respectfully requests that the Commission accept the proposed tariff revisions, without modification, with a flexible effective date to be established in a subsequent filing upon at least two weeks' prior notice. However, if questions about the supplemental reserves procurement process persist, the Commission could accept the remainder of NYISO's February 2021 Filing without modification to facilitate the expeditious implementation of the proposed Operating Reserve Demand Curve enhancements.

Respectfully submitted,

/s/ James H. Sweeney

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding in accordance with the requirements of Rule 2010 of the Rules of Practice and Procedure, 18 C.F.R. §385.2010.

Dated at Rensselaer, NY this 7th day of April 2021.

/s/ Joy A. Zimmerlin

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