April 26, 2019

By Electronic Delivery

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: ***New York Independent System Operator, Inc.*, Docket No. ER19-____-000; Proposed Tariff Revisions to Implement a New York City Operating Reserves Region**

Dear Secretary Bose:

In accordance with Section 205 of the Federal Power Act[1] and Part 35 of the regulations of the Federal Energy Regulatory Commission ("Commission"), the New York Independent System Operator, Inc. ("NYISO") submits proposed revisions to its Market Administration and Control Area Services Tariff ("Services Tariff") and Open Access Transmission Tariff ("OATT") to implement a new locational Operating Reserves region for New York City (*i.e.*, Load Zone J).[2]

The NYISO Management Committee approved the proposed revisions, without opposition, on March 27, 2019. The NYISO respectfully requests that the proposed revisions become effective on June 26, 2019 (*i.e.*, the day following the end of the statutory 60-day notice period).

I. Documents Submitted

The NYISO respectfully submits the following documents with this filing letter:

1. A clean version of the proposed revisions to the Services Tariff ("Attachment I");

2. A blacklined version of the proposed revisions to the Services Tariff ("Attachment II");

3. A clean version of the proposed revisions to the OATT ("Attachment III"); and

[1] 16 U.S.C. § 824d.

[2] Capitalized terms not otherwise defined herein shall have the meaning specified in the Services Tariff and the OATT.

4. A blacklined version of the proposed revisions to the OATT ("Attachment IV").

II. Background

The NYISO has implemented several locational reserve regions to procure various Operating Reserves to meet reliability requirements and other operational considerations. The NYISO currently procures Operating Reserves for the following locational reserve regions: (1) New York Control Area ("NYCA") or statewide (*i.e.*, Load Zones A-K); (2) East of Central-East (*i.e.*, Load Zones F-K); (3) Southeastern New York (*i.e.*, Load Zones G-K); and (4) Long Island (*i.e.*, Load Zone K).[3]

Consistent with New York State reliability rules, the NYISO currently procures 2,620 MW of Operating Reserves statewide.[4] Reliability rules require that 1,310 MW of this current total statewide reserve requirement (*i.e.*, an amount sufficient to replace loss of the current largest single contingency) be comprised of 10-minute reserves.[5] One-half of the 10-minute reserves required statewide (*i.e.*, 655 MW) are further required to be comprised of 10-minute synchronized or spinning reserves.[6] To facilitate the availability of sufficient resource capability to restore transmission flows to within applicable ratings following the most severe transmission contingency, 1,200 MW of the total statewide 10-minute reserve requirement is procured from resources located within the East of Central-East reserve region.[7] To assist with ensuring the capability to respond to the loss of transmission or generation within the Southeastern New York ("SENY") region, 1,300 MW of the reserve capability required statewide is procured from resources in SENY in the form of 30-minute reserves.[8] A portion of the statewide 30-minute and 10-minute reserve requirements are also procured from resources located on Long Island.

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[3] *See* NYISO, Locational Reserve Requirements, available at: https://www.nyiso.com/documents/20142/3694424/nyiso_locational_reserve_reqmts.pdf/ab6e7fb9-0d5b-a565-bf3e-a3af59004672.

[4] New York State Reliability Council, L.L.C. ("NYSRC"), *Reliability Rules & Compliance Manual: Version 43* at Reliability Requirement E.1-R2b, available at: http://www.nysrc.org/pdf/Reliability%20Rules%20Manuals/RRC%20Manual%20V43%20Final[4070].pdf.

[5] *Id*. at Reliability Requirement E.1-R2a.

[6] *Id*. at Reliability Requirement E.1-R3.1.

[7] *Id*. at Reliability Requirement C.1-R1 (see Table C-2).

[8] The NYISO implemented the SENY reserve region and its associated reserve requirements in November 2015. *See, e.g.*, Docket No. ER15-1061-000, *New York Independent System Operator, Inc.*, Proposed Tariff Revisions to Ancillary Service Demand Curves and the Transmission Shortage Cost (February 18, 2015); and *New York Independent System Operator, Inc.*, 151 FERC ¶ 61,057 (2015).

Reliability rules also require the NYISO to carry approximately 1,000 MW of its reserves within New York City, inclusive of approximately 500 MW of 10-minute reserve capability.[9] Unlike the locational reserve requirements described above, the NYISO does not explicitly model these New York City reserve requirements in its market software. Instead, the New York City reserve requirements are currently satisfied through a combination of the following: (i) the procurement of the other locational reserve products; (ii) reliance on latent reserve capability;[10] and (iii) if necessary, out-of-market action.

Following the market software's co-optimized commitment/dispatch of resources to provide the required energy and explicitly modeled ancillary services, the NYISO reviews the energy and reserve schedules for resources located in New York City. The NYISO determines whether reserve schedules provided to New York City resources (schedules provided in response to other locational reserve requirements) and the latent reserve capability of scheduled resources in New York City are sufficient to satisfy the applicable reserve requirements for New York City. If the scheduled reserves and latent reserve capability of New York City resources are insufficient to meet the New York City reserve requirements, the NYISO will coordinate with the local Transmission Owner (*i.e.*, Consolidated Edison of New York, Inc.) to take out-of-market action to procure additional reserves from resources located within New York City. The NYISO may also elect to activate its Special Case Resource ("SCR") program and/or the Emergency Demand Response Program ("EDRP") to maintain adequate reserves in New York City. Load reductions provided by these activations free up available production capability of other resources that can be utilized to satisfy the applicable reserve requirements.

III. Description of the Proposed Tariff Revisions

The current process for satisfying the applicable New York City reserve requirements provides a workable framework. In fact, a review of 2018 market data revealed that the procurement of the other locational reserve requirements modeled in the market software resulted in reserve schedules for New York City resources sufficient to meet the applicable 30-minute reserves requirement in 97% of all real-time intervals without accounting for any latent reserve capability.[11] Such review also identified that reserve schedules for resources located in New York City were sufficient to meet the applicable 10-minute reserves requirement in 93% of

[9] NYSRC, *Reliability Rules & Compliance Manual: Version 43* at Reliability Requirement C.1-R1 (see Table C-2) and Reliability Requirement G.1-R3, available at: http://www.nysrc.org/pdf/Reliability%20Rules%20Manuals/RRC%20Manual%20V43%20Final[4070].pdf.

[10] Latent reserves refer to the unscheduled production capability of resources scheduled to provide energy or ancillary services, measured as the difference between a resource's scheduled output levels (including reserve schedules) and its upper operating limit. Notably, however, latent reserves do not receive a Day-Ahead schedule with respect to the potential need to provide such additional capability.

[11] After accounting for latent reserves, sufficient capability was available to satisfy the applicable 30-minute reserve requirement for New York City in 99% of all real-time intervals during 2018.

all real-time intervals in 2018 prior to accounting for latent reserves.[12] Although workable, the current process for satisfying the applicable New York City reserve requirements presents opportunities for enhancement.

The NYISO proposes to improve its current process by explicitly modeling a new locational reserve region for New York City and the reserve requirements associated therewith (*i.e.*, 1,000 MW of the statewide 30-minute reserves requirement and 500 MW of the statewide 10-minute reserves requirement) in its market software.[13] Explicit inclusion of the New York City reserve requirements in the market software will provide improved price signals regarding the location-specific value of the reserve capabilities required within New York City, including during periods when the NYISO activates the SCR program and/or EDRP.[14] Such explicit modeling also provides the opportunity for improved efficiency in the scheduling of resources through extension of the market's co-optimization of products and services to include the procurement of reserves within New York City.

Technological developments, economic and environmental considerations, and public policies are transforming the electric grid and resource mix in New York. Providing transparent price signals that indicate the value of the products and services required within New York City will support the ongoing transformation of the grid. Such transparent price signals also help incentivize resources to possess the performance capabilities required to maintain system reliability.[15]

Explicitly procuring the reserves required in New York City through the markets also provides schedules to the resources selected to provide such reserves. Continued reliance on latent reserves, as is required in part by the current process, could prove problematic under certain circumstances. Absent the provision of schedules to provide service, resources lack any

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[12] The NYISO's analysis determined that sufficient 10-minute reserve capability was available in 97% of all real-time intervals during 2018 after accounting for latent capability.

[13] Inclusion of the New York City reserve requirements within the market software does not increase the overall quantity of reserves procured by the NYISO. Instead, the proposal provides for greater specificity regarding the locational dispersion of the reserves procured.

[14] The NYISO activated SCRs and EDRP resources in Load Zone J on three separate occasions during the 2018 Summer Capability Period. However, because the NYISO does not explicitly model the New York City reserve requirements in the market software, price signals during these events did not optimally reflect system conditions. *See, e.g.*, Potomac Economics Ltd., *Quarterly Report on the New York ISO Electricity Markets: Third Quarter of 2018* at 12-13, available at: https://www.nyiso.com/documents/20142/2927097/NYISO-Quarterly-Report-2018-Q3.pdf/fea3f24e-d2ea-e497-58c9-3e8c4d5e4cca.

[15] This proposal is a product of the NYISO's ongoing, multi-faceted initiative to identify, review, and develop market and operational enhancements necessary to address the evolving nature of New York's electric system. *See, e.g.*, Docket No. AD18-7-000, *Grid Resilience in Regional Transmission Organizations and Independent System Operators*, Response of the New York Independent System Operator, Inc. (March 9, 2018); and Docket No. AD18-7-000, *supra*, Reply Comments of the New York Independent System Operator, Inc. (May 9, 2018).

incentive to take the necessary actions (including, if applicable, fuel procurement) to make such latent capability available if called upon.

Implementation of a New York City locational reserve region requires proposed tariff changes primarily located within Rate Schedule 4 of the Services Tariff. The proposed changes account for the proposed new reserve region and establish the methodology for calculating the prices for New York City reserves. The NYISO also proposes clarifying revisions to: (1) certain reserve-related definitions in the Services Tariff and the OATT; and (2) Rate Schedule 6 of the Services Tariff.

A. Proposed Revisions to Rate Schedule 4 of the Services Tariff

The NYISO proposes revisions throughout Rate Schedule 4 of the Services Tariff to account for the proposed establishment of a new locational reserve region for New York City. These proposed revisions are set forth in Sections 15.4.1.1, 15.4.4.1, 15.4.5.1, 15.4.6.1 and 15.4.7. The proposed revisions in Section 15.4.1.1 also clarify that only resources located within Load Zone J qualify to satisfy the New York City reserve requirements.

The NYISO proposes revisions to the calculation of reserve clearing prices in Section 15.4.5.1 (Day-Ahead Market) and 15.4.6.1 (Real-Time Market) to include formulas for calculating New York City reserve prices. The market clearing price calculations recognize the capability of "higher" quality reserves and reserves within more constrained, nested regions to satisfy the requirements for procuring "lower" quality and less location-constrained reserve products.[16] As such, the market clearing price for a particular reserve product is calculated based on the sum of the Shadow Prices for that product, any lower quality reserve products within the same locational reserve region, and all equivalent or lower quality reserve products for broader locational reserve regions within which the applicable reserve region is nested.[17]

The NYISO proposes to revise Section 15.4.6.1.1 to extend the procedures effective during SCR program and/or EDRP activations to the proposed New York City locational reserve region. These provisions alter the otherwise applicable reserve requirements and the Operating Reserve Demand Curves in real-time for the locational reserve regions impacted by a demand

[16] For example, 10-minute spinning (or synchronized) reserves located in the East of Central-East reserve region also qualify toward satisfying: (1) the 10-minute total reserves requirement in the East of Central-East reserve region; (2) the 30-minute reserves requirement in the East of Central-East reserve region; (3) the 10-minute spinning reserves requirement for NYCA; (4) the 10-minute total reserves requirement in NYCA; and (5) the 30-minute reserves requirement for NYCA. Reference to "lower" quality reserves herein reflects a general preferential ordering of reserve products where spinning reserves are considered the "highest" quality, followed by 10-minute total reserves, and then 30-minute reserves.

[17] For example, the SENY locational reserve region is nested within the broader East of Central-East and NYCA locational reserve regions.

response program activation.[18] The intent of these special procedures is to reflect the costs associated with deploying these demand response resources in real-time prices.

The NYISO proposes to revise Section 15.4.7 to establish Operating Reserve Demand Curves for New York City reserves.[19] The Operating Reserve Demand Curves establish maximum Shadow Price costs that the market software will incur in seeking to satisfy the various locational reserve requirements. These demands curves are also intended to represent the escalating value of reserves as the level of resources capable of providing such services decreases. Escalating prices under shortage conditions provides proper economic signals regarding the value of these reliability and resiliency services.

The NYISO proposes to apply Operating Reserve Demand Curves that assign a maximum allowable Shadow Price value of $25 per MWh to the proposed New York City reserves, except for any Load Zone J Scarcity Reserve Requirement established in real-time as the result of an activation of SCRs and/or EDRP within New York City. Any such Load Zone J Scarcity Reserve Requirement would be assigned an Operating Reserve Demand Curve value of $500 per MWh. Based on the NYISO's review of 2018 market outcomes described above, the proposed $25 per MWh value provides a reasonable increment over the otherwise prevailing reserve costs in other reserve regions (*e.g.*, SENY as it relates to 30-minute reserves and East of Central-East for 10-minute reserves) to encourage efficient resource commitment and dispatch outcomes and shifting of reserve schedules to resources located in New York City in response to the reserve requirements for the proposed New York City locational reserve region.[20] This value

[18] *See, e.g.*, Docket No. ER16-425-000, *New York Independent System Operator, Inc.*, Proposed Revisions to Services Tariff and OATT to Implement Improved Scarcity Pricing (November 30, 2015); Docket No. ER16-425-000, *supra*, Compliance Filing (March 25, 2016); Docket No. ER16-425-000, *supra*, Response to Data Request (May 26, 2016); and *New York Independent System Operator, Inc.*, 154 FERC ¶ 61,152 (2016).

[19] The proposed Operating Reserve Demand Curves for New York City reserves are set forth in proposed Sections 15.4.7(d), 15.4.7(i), and 15.4.7(n). In addition to the generally applicable Operating Reserve Demand Curve for New York City 30-Minute Reserves, the second paragraph of proposed Section 15.4.7(n) establishes the revised Operating Reserve Demand Curve applicable during real-time intervals for which the NYISO has instituted a Load Zone J activation of the SCR program and/or EDRP.

[20] As previously noted, a review of 2018 market outcomes revealed that in the absence of explicitly modeling the New York City reserve requirements the procurement of the existing locational reserves resulted in reserve schedules for in-city resources that were sufficient to satisfy the proposed 30-minute and 10-minute reserve requirements for New York City in 97% and 93% of all real-time intervals, respectively. The proposed Operating Reserve Demand Curve value essentially represents a willingness to incur an additional cost of $25 per MWh or less to: (1) hold 500 MW of the 1,200 MW East of Central-East 10-minute reserves requirement on resources located within New York City; and (2) carry 1,000 MW of the otherwise applicable 1,300 MW 30-minute reserves requirement for SENY within New York City.

reasonably accounts for the typical range of potential foregone revenue margins that may arise from scheduling resources to provide reserves instead of Energy and/or Regulation Service.[21]

Applying a higher value to New York City reserves under the rules proposed herein may result in unnecessarily high prices that do not accurately reflect system conditions, especially during Storm Watch events.[22] Although a higher Operating Reserve Demand Curve value is currently applied to SENY 30-minute reserves, the SENY reserve requirement is reduced to zero during Storm Watch events to facilitate efficient pricing outcomes during such events. To accommodate the implementation of a New York City locational reserve region in advance of the anticipated peak load period for the 2019 Summer Capability Period, the NYISO cannot accommodate the software revisions that would be required to effectuate changes in the New York City reserve requirements in real-time during Storm Watch events.[23] Notably, however, as part of ongoing efforts to review reserve procurement rules, the NYISO and its stakeholders will assess potential future enhancements to the procurement of New York City reserves, including potential changes to the Operating Reserve Demand Curve values assigned to New York City reserves and the quantity of New York City reserves procured in real-time during Storm Watch events.

The NYISO also proposes certain non-substantive, ministerial revisions within several provisions of Rate Schedule 4 that are unrelated to the proposal to implement a locational reserve region for New York City. Such proposed revisions are set forth in Sections 15.1.4.1.2.2, 15.4.1.2.3, 15.4.2.1, 15.4.4.1, and 15.4.6.1.1.

B. Additional Proposed Tariff Revisions

The NYISO proposes to revise the definition of "Operating Reserve Demand Curve" in Section 2.15 of the Services Tariff to remove unnecessarily redundant language. Language substantially similar to the sentence the NYISO proposes to delete is also set forth in Section 15.4.7 of Rate Schedule 4 of the Services Tariff, which provides a detailed description of the Operating Reserve Demand Curves.

The definitions of "Operating Reserves" and "Operating Reserve Demand Curve" set forth in Section 1.15 of the OATT merely replicate the definitions of the same terms as set forth in Section 2.15 of the Services Tariff. To reduce unnecessary duplication of provisions in the

[21] Any such foregone revenue margins are accounted for in determining the market clearing prices for reserves. *See* Sections 15.4.5.1 and 15.4.6.1 of Rate Schedule 4 of the Services Tariff.

[22] Storm Watch events occur during certain actual or anticipated severe weather conditions. During these events, specific portions of the transmission system that facilitate flows into SENY and New York City from upstate New York are operated in a more conservative manner by reducing transmission transfer limits. These actions effectively result in operating the system to N-1-1 criterion.

[23] Implementing the proposed New York City locational reserve region in advance of the expected peak load period this summer is important for improving pricing outcomes during any activations of SCRs and/or EDRP resources in Load Zone J that could arise. As previously noted, such activations occurred three times last summer.

Services Tariff and the OATT, the NYISO proposes to delete the substance of these definitions in the OATT and replace them with cross references to the Services Tariff definitions of such terms.

The NYISO proposes to revise the calculation of the compensation paid to providers of Quick Start Reserves as set forth in Section 15.6.5 of Rate Schedule 6 of the Services Tariff to account for New York City reserve prices. The NYISO also proposes to correct a reference to certain non-synchronous reserves in Section 15.6.4 of Rate Schedule 6 to use the tariff-defined term "10-Minute Non-Synchronized Reserve."

IV. Effective Date

The NYISO respectfully requests that the proposed tariff revisions become effective on June 26, 2019 (*i.e.*, the day following the end of the statutory 60-day notice period).[24]

V. Stakeholder Process

The Management Committee approved the proposed revisions to the Services Tariff and the OATT, without opposition, on March 27, 2019. The NYISO Board of Directors approved the proposed tariff revisions on April 16, 2019.

VI. Communications and Correspondence

Please direct all communications and service in this proceeding to:

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VII. Service

The NYISO will send an electronic link to this filing to the official representative of each of its customers, each participant on its stakeholder committees, the New York State Public

[24] Should the NYISO determine that anticipated system conditions or other factors prevent implementation of the proposed tariff revisions on June 26, 2019, it will promptly notify Market Participants and the Commission.

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.

VIII. Conclusion

The NYISO respectfully requests that the Commission accept the proposed tariff revisions attached hereto with an effective date of June 26, 2019.

Respectfully submitted,

/s/ Garrett E. Bissell
Garrett E. Bissell
Senior Attorney
New York Independent System Operator, Inc.

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