NEW YORK INDEPENDENT SYSTEM OPERATOR

10 Krey Boulevard ♦ Rensselaer, NY 12144

February 18, 2015

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. ER15-___-000; Proposed Tariff Revisions to Ancillary Service Demand Curves and the Transmission Shortage Cost

Dear Secretary Bose:

In accordance with Section 205 of the Federal Power Act[1] and Part 35 of the Commission's regulations, the New York Independent System Operator, Inc. ("NYISO") respectfully submits proposed amendments to its Market Administration and Control Area Services Tariff ("Services Tariff") and Open Access Transmission Tariff ("OATT") to revise its existing Operating Reserve Demand Curves, establish a new Operating Reserve Demand Curve, as well as revise its Regulation Service Demand Curve and Transmission Shortage Cost. As a result of the significant increase in the utilization of natural gas as a primary fuel source for New York generation, constraints in the natural gas transmission network serving the Northeast, and the experiences of the 2013-2014 winter (the coldest in recent New York history), the NYISO is actively engaged in identifying ways to further protect reliability by improving the incentives for generator performance, unit availability and fuel availability. This effort culminated in the creation of the NYISO's Fuel Assurance Initiative. The Comprehensive Shortage Pricing project ("CSP Project"), as further described below and as reflected in the Services Tariff and OATT amendments being proposed herein, is a major component of the Fuel Assurance Initiative.

The Management Committee approved the CSP Project with a vote of 83.96% in favor. The NYISO requests an Order by April 20, 2015 (*i.e.*, sixty days from the date of this filing letter), which would allow the NYISO to confidently proceed with developing and deploying the software changes necessary to implement its CSP Project before the proposed effective date of the tariff amendments, as well as avoid any adverse impacts to the schedules for other projects that the NYISO has committed to for 2015.[2] The NYISO anticipates the proposed revisions becoming effective no earlier than November 1, 2015.

[1] 16 U.S.C. § 824d.

[2] Such additional projects include the implementation of Coordinated Transaction Scheduling with ISO New England, Inc. to improve regional coordination ("CTS with ISO-NE"), as well as pursuing

I. Documents Submitted

1. This filing letter;

2. A clean version of the proposed revisions to the NYISO's Services Tariff ("Attachment I");

3. A clean version of the proposed revisions to the NYISO's OATT ("Attachment II");

4. A blacklined version of the proposed revisions to the NYISO's Services Tariff ("Attachment III);

5. A blacklined version of the proposed revisions to the NYISO's OATT ("Attachment IV"); and

6. An Affidavit from Pallas LeeVanSchaick of Potomac Economics, the NYISO's Market Monitoring Unit ("Attachment V").

II. Background

The CSP Project would increase the statewide Operating Reserves[3] requirement and procure a portion of such increased requirement in the southeastern New York ("SENY") electrical area (an area comprised of Load Zones G, H, I, J, and K). Tariff amendments are necessary to establish a new Operating Reserve Demand Curve for SENY, as well as properly align the values in the NYISO's existing Operating Reserve Demand Curves, Regulation Service Demand Curve and Transmission Shortage Cost with the increased reserves requirement and the new SENY reserves region.

The CSP Project will improve the reflection of operator actions in Energy Market pricing outcomes, thereby improving market efficiency and pricing transparency. Additionally, this project will significantly improve the performance of the generator fleet during critical operating periods, such as the polar vortex conditions experienced during the 2013-2014 winter period. By providing schedules and appropriate price signals to supply resources, the NYISO seeks to ensure that such resources are properly incented to be available to meet their schedules and acquire the necessary fuel supplies to meet such schedules.[4]

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enhancements to the NYISO's current scarcity pricing rules to further improve price formation and market efficiency ("Comprehensive Scarcity Pricing").

[3] Capitalized terms not otherwise defined herein shall have the meaning specified in Section 1 of the OATT and Section 2 of the Services Tariff.

[4] Notably, on January 7, 2014, more than 7,000 MW of generators were unavailable in New York, thereby significantly reducing the level of resources available to the NYISO to maintain the reliable operation of the system throughout the day.

A. Increasing the Statewide Operating Reserve Requirement

New York State reliability rules require the NYISO to procure 10-minute reserves in an amount sufficient to replace the loss of the largest single contingency (*i.e.*, 1,310 MW) for the New York Control Area ("NYCA").[5] The NYISO is required to procure half of this amount - or 655 MW - from resources synchronized to the system ("spinning reserves").[6] The NYISO is also required to procure 655 MW of 30-minute reserves, for a total procurement of 1965 MW in statewide Operating Reserves every day (*i.e.*, 1.5 times the largest single contingency).[7] To further ensure that there is sufficient capability to restore transmission flows within ratings following the most severe transmission contingency, the NYISO procures 1,200 MW of its 1,310 MW of 10-minute reserves in the East of Central-East region. The NYISO also procures a portion of these reserves on Long Island.

The NYSRC further requires the NYISO to fully restore its 10-minute reserves, following a contingency, within 30 minutes.[8] Under its current procurement levels, the NYISO depends on up to 655 MW of latent reserves to restore the full 1,310 MW of 10-minute reserves should it need to.[9] The NYISO's Market Monitoring Unit ("MMU"), however, has advised the NYISO to procure all 1,310 MW required to meet its reliability requirement to fully restore its 10-minute reserves by buying it all in the wholesale market, rather than relying on 655 MW of latent reserves to meet such requirement.[10] In making such recommendation, the MMU noted that, although under normal operating conditions, sufficient surplus capacity may readily be available and can be procured within 30 minutes at little cost, during very high load periods or other very tight supply conditions, the NYISO may not be able to ensure procurement of sufficient reserves absent the undertaking of potentially costly out-of-market actions by the operators.[11] The NYISO agrees with its MMU. Accordingly, the NYISO is increasing its statewide reserves procurement to twice the single largest contingency (*i.e.*, 2,620 MW of Operating Reserves).[12]

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[5] New York State Reliability Council, L.L.C. ("NYSRC") Reliability Rule D-R2a.

[6] NYSRC Reliability Rule D-R3.

[7] NYSRC Reliability Rule D-R2b.

[8] NYSRC Reliability Rule D-R4.

[9] Latent reserves are unscheduled reserves held by dispatched generators between their scheduled output levels and their upper operating limits. Such latent reserves, however, do not receive a Day-Ahead schedule with respect to the potential need to provide such additional capability.

[10] Potomac Economics, *2013 State of the Market Report for the New York ISO Markets* at 69 and 100-101 (May 2014) ("2013 SOM Report").

[11] *Id*. at 69.

[12] In recognition of the concerns raised by the MMU and in light of the experiences of the winter 2013-2014 period, the NYISO is concerned that continued reliance on latent reserves could be problematic because, in the absence of a schedule to provide their latent capability, supply resources lack any incentive to procure fuel to provide such latent capability if called upon. During certain system conditions, such as summer or winter peak load days, natural gas-fired generation may be unable to procure additional natural gas supply to meet a real-time schedule or other real-time instruction to provide additional energy due to constraints on the natural gas system.

As such, the NYISO will continue to procure 1,310 MW of 10-minute reserves in order to restore the loss of its single largest contingency, but will increase its procurement of 30-minute reserves from 655 MW to 1,310 MW. The NYISO will also continue to procure 1,200 MW of its 10-minute reserve requirement from Eastern Reserves and will procure 330 MW of such 10-minute Eastern Reserves as spinning reserves.

B. Procuring a Portion of Statewide Operating Reserves Requirement in the SENY Region.

To ensure that the NYISO can respond to the loss of transmission or generation in the SENY region, the NYISO will be acquiring 1,300 MW of its 30-minute Operating Reserves from resources located within the SENY region.[13] Transmission constraints into this region can prevent Eastern Reserves from being available to serve the significant load centers located there.[14] Establishing a new SENY requirement of 1,300 MW of 30-minute reserves will account for the potential loss of two significant transmission facilities serving the SENY region - the 92 Leeds-Pleasant Valley and the 91 Athens-Pleasant Valley lines, which are part of the UPNY-SENY interface. SENY reserves will assist the NYISO in re-preparing the system in the event of the loss of these facilities. Accordingly, defining a SENY reserve region[15] will increase the likelihood that Operating Reserves will be deliverable when needed, thus increasing system reliability.[16]

The NYISO will continue to procure 120 MW of 10-minute total reserves on Long Island, but will limit the contribution of Operating Reserves held on Long Island toward meeting

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[13] The MMU has also recommended that the NYISO implement a 30-minute reserve requirement for the SENY region. *See* 2013 SOM Report at 69 and 100.

[14] Eastern Reserves can be procured from Load Zone F, a Load Zone not included in the SENY region. The transmission constraints of concern can prevent reserves procured from resources located in Load Zone F from being available to serve needs within the SENY region because Load Zone F is located upstream of the constraints at issue.

[15] The NYISO first identified SENY as a transmission constrained load pocket in a presentation to the Management Committee in March 2013. See map graphics at: http://www.nyiso.com/public/webdocs/markets_operations/committees/mc/meeting_materials/2013-03-27/SENY_Load_Pocket_MC_3_27_2013.pdf. Since 2011, the NYISO has had to rely on a number of demand response activations in the SENY region to address transmission security issues arising during high load periods. The NYISO now evaluates transmission security issues for the SENY Load Pocket in its reliability and economic planning processes. Transmission security refers to the ability of the NYISO to restore power flows to normal operating limits following a contingency event within a 30-minute timeframe.

[16] *See* Docket No. ER13-1380-000, *New York Independent System Operator, Inc.*, Proposed Tariff Revisions to Establish and Recognize a New Capacity Zone and Request for Action on Pending Compliance Filing at Attachment X, *2013 New Capacity Zone Study Report* at 12 (April 30, 2013) ("The UPNY-SENY interface constrained about 849 MW of generation moving from [Load] Zones A through F to [Load] Zones G through I.").

the statewide or Eastern 10-minute total reserves and statewide, Eastern or SENY 30-minute reserves requirements to between 270 and 540 MW.[17] As explained by Dr. LeeVanSchaick, the NYISO proposal to treat Long Island as nested within the SENY reserve zone is generally

> … appropriate because when Long Island reserves are deployed, it usually: (a) allows a SENY generator outside Long Island to ramp-down, increasing available reserves in SENY, and/or (b) reduces transmission flows into SENY, thereby relieving overloaded transmission facilities into the area. Either way, deploying reserve units on Long Island usually helps the NYISO maintain reliability following a contingency that would otherwise overload transmission into SENY.[18]

Based on the foregoing, locating 1,300 MW of 30-minute reserves in the SENY region and establishing a new SENY Operating Reserve Demand Curve will improve the price signals in this portion of the state and incent resources located there to make Operating Reserves available. Additionally, as noted by Dr. LeeVanSchaick, the NYISO's proposal to increase the NYCA 30-minute reserve requirement, as well as establish a new SENY reserve region will improve pricing outcomes by reducing the potential need to rely on out-of-market actions to satisfy applicable reliability criteria, which would not be reflected in market prices.[19]

III. Justification for Adding New SENY Operating Reserve Demand Curves and Revising the Current Operating Reserve Demand Curves, Regulation Service Demand Curve and the Transmission Shortage Cost Values

In connection with the Operating Reserves procurement revisions described above, the NYISO is proposing to add new SENY Operating Reserve Demand Curves, as well as revise the values it uses for its existing Operating Reserve Demand Curves, Regulation Service Demand Curve[20] and Transmission Shortage Cost (also referred to as the "graduated transmission demand

[17] The limitation on the ability of reserves held on Long Island to contribute to the NYCA, Eastern and SENY reserve requirements is based upon the current Long Island 30-minute reserve requirement, which varies from 270 MW to 540 MW depending on the hour. As noted by Dr. Pallas LeeVanSchaick of Potomac Economics, the NYISO's proposal regarding limitations on the contribution of reserves held on Long Island to NYCA, East of Central-East and SENY provides a reasonable balance between the recognition of the value that reserves on Long Island provide and the limitations of the transmission system that affect the level of energy that can be exported from Long Island to the rest of the State. *Affidavit of Pallas LeeVanSchaick, Ph.D.*, Attachment V at ¶ 27-29 ("LeeVanSchaick Affidavit").

[18] *Id*. at ¶ 27.

[19] *Id*. at ¶ 16-17.

[20] *See* Services Tariff Sections 15.4.7 (Operating Reserve Demand Curve) and 15.3.7 (Regulation Service Demand Curve).

curve").[21] The Commission first approved Operating Reserve Demand Curves ("shortage pricing") in 2004 when it approved the NYISO's SMD market rule redesign.[22]

In its filing seeking authority to redesign its markets in this fashion, the NYISO argued that adopting Operating Reserve Demand Curves would ensure not only that the value of foregone ancillary services was appropriately reflected in Energy prices during shortage periods, but also that the price of each type of Operating Reserves would not exceed its economic value, particularly at times when the product was scarce or unavailable.[23] Additionally, the NYISO noted that the proposed curves would make the NYISO's scheduling and pricing rules consistent with actual operating practices followed in New York.[24]

The NYISO has continually reviewed and updated its Operating Reserve Demand Curves to ensure they continue to conform to these standards.[25] Since initial implementation in 2005, NYISO's experience has illustrated additional criteria for evaluating appropriately designed shortage prices. For example, shortage pricing values should incent the correct short- and longterm desired responses from all energy resources, but not at the detriment of driving energy away from another short region when region-wide shortages occur.

Properly designed shortage pricing will allow the New York energy markets to:

- Provide targeted market signals that align with actual reliability needs of the NYCA at times when actions are being taken to maintain reliability;
- Provide resources the correct incentives to follow NYISO instructions for meeting NYCA reliability;
- Create incentives for investment in the areas that need it most, including fuel assurance investments;
- Reduce the "missing money" covered by capacity payments;[26]

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[21] Docket No. ER15-485-000, *New York Independent System Operator, Inc.*, Letter Order (January 15, 2015). The recently-accepted revisions to the Transmission Shortage Cost require further modification to better align with the revisions proposed in this filing.

[22] *New York State Independent System Operator, Inc.*, 106 FERC ¶ 61,111 (2004). The Regulation Service Demand Curve was also established in that proceeding.

[23] *See* Docket No. ER04-230-000, *New York Independent System Operator, Inc.*, Tariff Revisions Reflecting Implementation of Enhanced Real-Time Scheduling Software at 21 (November 26, 2003).

[24] *Id*.

[25] *See*, *e.g.*, Docket No. ER11-2454, *New York Independent System Operator, Inc.*, Letter Order (February 4, 2011).

[26] As explained by Dr. LeeVanSchaick, "[e]fficient shortage pricing reduces the amount of revenue that must be recovered through the installed capacity market because it provides additional compensation to resources that perform reliably during stressed operating conditions. Shifting reliance

- Promote additional response from demand response and distributed energy providers when needed; and

- Facilitate creation of a more level playing field in the market for resources that are more dependent on revenue from the Energy Market.

In establishing revised values for its Operating Reserve Demand Curves, the NYISO reviewed recent bid information pertaining to Generators located within New York that are eligible to provide 30-minute reserves.[27] Such information revealed that bid and start-up costs for certain of such Generators exceeded $700 per MWh during the coincident peak hour for the Summer 2013 Capability Period and the Winter 2013-2014 Capability Period, respectively.[28] Such data further indicated that the current shortage pricing levels would have left a significant amount of the generating capacity eligible to provide 30-minute reserves unavailable for economic commitment during the NYCA coincident peak hour for the Summer 2013 and Winter 2013-2014 Capability Periods because such eligible units exhibited bid and start-up cost values that exceeded the current maximum $200 per MW value for NYCA 30-minute reserves.[29]

Accordingly, to better reflect operator actions that may be taken to maintain 30-minute reserves by calling upon higher cost Generators that may not have otherwise been scheduled economically, the NYISO is proposing to increase the maximum Operating Reserve Demand Curve value for NYCA 30-minute reserves from $200 per MW to $750 per MW. As noted above, the revised value more appropriately reflects potential bid and start-up costs of Generators capable of providing 30-minute reserves, especially during critical peak load periods when such resources are likely to be needed most.[30] The NYISO is proposing additional revisions to the values embedded in its current Operating Reserve Demand Curves to:

- ensure continued compliance with applicable reliability requirements;

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from the capacity market to shortage pricing tends to reduce overall wholesale costs for load customers because shortage prices are paid only to resources that perform during stressed conditions, while capacity prices must be paid to nearly all in-service resources." LeeVanSchaick Affidavit at ¶ 12.

[27] NYISO, *Comprehensive Shortage Pricing* at 16-17 (presented at the September 19, 2014 Market Issues Working Group Meeting) available at http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg/meeting_materials/2014-09-19/agenda_04_Comprehensive%20Shortage%20Pricing%20September%20MIWG.pdf.

[28] *Id*. In fact, on July 19, 2013, the bid and start-up costs for a limited number of such Generators slightly exceeded $800 per MWh.

[29] *Id*. Notably, the NYISO established new all-time record peak load values for both the Summer and Winter Capability Periods during each respective hour for which the graphical data was presented at the September 19, 2014 Market Issues Working Group meeting.

[30] Dr. LeeVanSchaick further illustrates that the proposed increases to the pricing points for certain of the Operating Reserve Demand Curves facilitate inclusion of supply resource costs in market prices rather than reliance on out-of-market action. LeeVanSchaick Affidavit at ¶ 19-21.

- reflect the knowledge and information gained from its review of more recent data and information regarding bid and start-up costs of Generators in New York;
- recognize the increasing value of reserves by product type;
- incent holding reserves in the areas of greatest need; and
- maintain consistency with actions taken by operators to maintain system reliability.

The proposed use of a $25 per MW price level for SENY 10-minute spinning reserves, SENY 10-minute total reserves and SENY 30-minute reserves is consistent with the value utilized by the NYISO for other reserve requirements that represent operational practices/guidelines. When the NYISO initially proposed the use of Operating Reserve Demand Curves in 2003, it noted that the reserve requirements encompassed by the proposed demand curves represented a combination of targets corresponding to prescriptive reliability rules and others corresponding to operational guidelines.[31] For all of the reserve requirements representing operational guidelines, the NYISO proposed to utilize a value of $25 per MW.[32] Accordingly, because the establishment of SENY reserve requirements, as proposed herein, is intended to facilitate the distribution of reserves for managing SENY reliability needs, the NYISO proposes use of the same pricing value the Commission has previously approved for similar reserve requirements.[33]

The NYISO's proposed revisions to its current pricing values for the Operating Reserve Demand Curves, as well as the pricing values proposed for the new SENY region are reflected in the table below.

[31] Docket No. ER04-230-000, *New York Independent System Operator, Inc.*, Tariff Revisions Reflecting Implementation of Enhanced Real-Time Scheduling Software at Attachment II, *Affidavit of Andrew P. Hartshorn* at ¶ 23 (November 26, 2003).

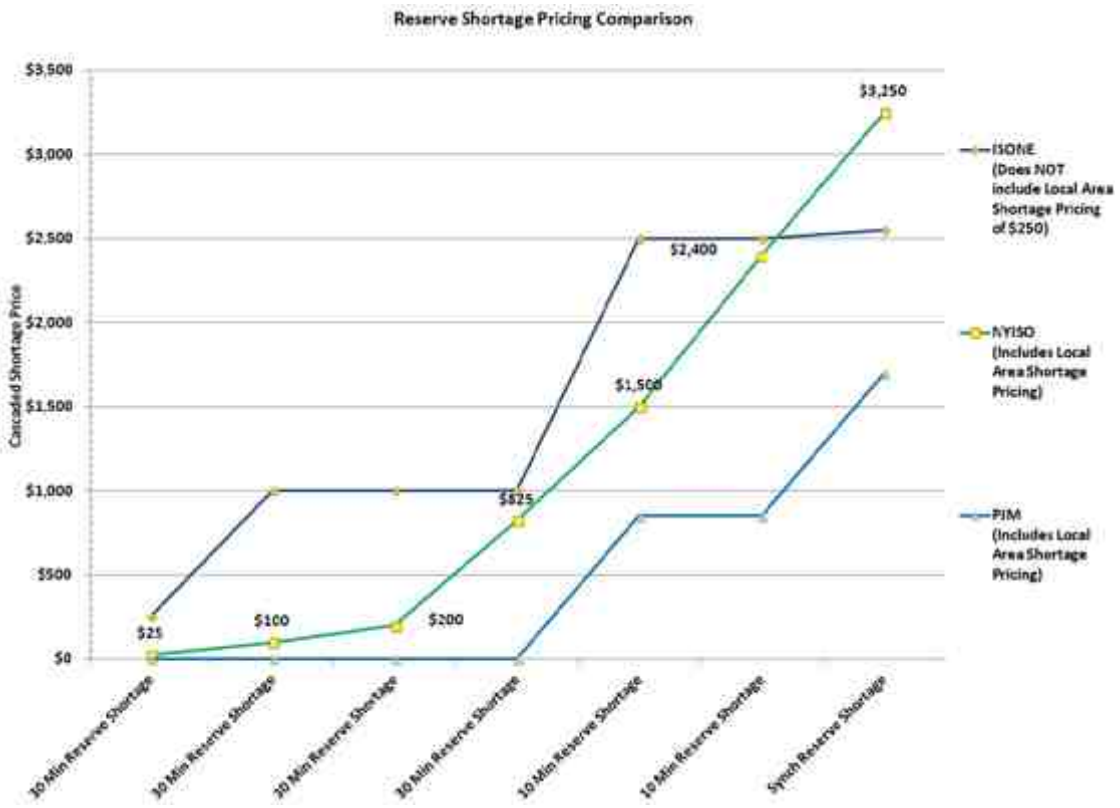
[32] *Id*. at ¶ 24. This pricing construct was approved by the Commission. *See New York State Independent System Operator, Inc.*, 106 FERC ¶ 61,111 at P 44 (2004).

[33] Dr. LeeVanSchaick concludes that use of the $25 per MW pricing level for the SENY reserve demand curves "is a significant improvement over the status quo." LeeVanSchaick Affidavit at ¶ 22.

Proposed Reserve Demand Curve Prices			
Reserve Region	Current	Proposed	Rationale
	10 Min Spin		
NYCA	$500	$775	10 Min Synch reserves are equally important to maintaining 10 minute reserves in the EAST
EAST	$25	$25	Facilitates distribution of reserves throughout NY
SENY	N/A	$25	Facilitates distribution of reserves throughout NY
LI	$25	$25	Facilitates distribution of reserves throughout NY
Reserve Region	10 Min Total		Rationale
NYCA	$450	$750	Cost to replenish by converting 30 Min GTs to energy, consistent with operator actions
EAST	$500	$775	10 Min reserves for Central East post-contingency voltage IROL exceedence
SENY	N/A	$25	Facilitates distribution of reserves throughout NY
LI	$25	$25	Facilitates distribution of reserves throughout NY
Reserve Region	30 Min Total		Rationale
NYCA	N/A	100 MW at $25	Allow a portion of the increased 30 Minute Total reserves to be forgone to protect against price volatility, 200 MW of LI Reserve adds to this 100 MW point
	200 MW at $50	355 MW at $100	Consistent with operator actions to maintain 30 minute reserves (GT OOMs)
	200 MW at $100	300 MW at $200	Consistent with operator actions to maintain 30 minute reserves (SREs)
	Remainder at $200	Remainder at $750	Consistent with operator actions to maintain 30 minute reserves (SCRs) and maintain comparable shortage pricing with neighboring ISO/RTOs
EAST	$25	$25	Facilitates distribution of reserves throughout NY
SENY	N/A	$25	Facilitates distribution of reserves throughout NY
LI	$25	$25	Facilitates distribution of reserves throughout NY

Moreover, appropriate shortage prices should also be aligned with shortage pricing in neighboring regions to ensure that when the region as a whole is in shortage conditions, energy is not flowing out of the state to a neighboring region as a result of higher priced shortages in such neighboring areas. As such, the NYISO reviewed shortage pricing values in neighboring regions to ensure that the NYISO's proposed revisions to its shortage pricing provide adequate incentives to maintain energy in New York during critical operating periods.

The following figure depicts the NYISO's proposed Operating Reserve Demand Curve values in context with the shortage pricing values for neighboring regions. As demonstrated by this figure, the NYISO's revised shortage pricing values remain properly aligned with neighboring regions. Additionally, as the severity of the shortage conditions in New York increases, the price escalates and ultimately exceeds shortage pricing levels in neighboring regions to ensure that energy is retained in New York during such critical operating periods.



As noted above, the NYISO also uses a Regulation Service Demand Curve to value Regulation Service when supplies are short[34] and a Transmission Shortage Cost (or graduated transmission demand curve)[35] to value Energy when the supply of dispatchable resources is short. Because the NYISO co-optimizes the scheduling of Energy, Operating Reserves and Regulation Service on Resources that have bid in a manner that qualifies them for providing such services, the demand curve values for shortages in each product need to be compatible. The NYISO has worked closely with its MMU to set the demand curves at levels consistent with the NYISO's actual operating practices, economic theory and region-wide comparability.

The NYISO is proposing to revise all three pricing values for the Regulation Service Demand Curve in order to ensure consistency with operator actions and appropriate trade-offs between the various products. The NYISO is proposing to revise the first pricing point on the Regulation Service Demand Curve (*i.e.*, for shortages of Regulation Capacity up to 25 MW) to reduce the current value of $80 per MW to $25 per MW. Use of a $25 per MW value is

[34] *See* Services Tariff Section 15.3.7. The Commission previously approved revising the Regulation Service Demand Curve from a mechanism having only two pricing points to one that includes three pricing points in 2011. *See* Docket No. ER11-2454, *New York Independent System Operator, Inc.*, Letter Order (February 4, 2011).

[35] The Commission recently approved the NYISO's proposed revisions to the Transmission Shortage Cost. *See* Docket No. ER15-485-000, *New York Independent System Operator, Inc.*, Letter Order (January 15, 2015).

consistent with the value utilized in the Operating Reserve Demand Curves for reserve requirements that represent an operational practice/guideline rather than a prescriptive reliability rule and reflects the operational willingness to forego a limited amount of Regulation Capacity in exchange for scheduling resources to obtain balance between load and supply.

The NYISO is also proposing to increase the value of the second pricing point (*i.e.*, corresponding to a Regulation Capacity shortage of more than 25 MW but less than 80 MW) from $180 per MW to $400 per MW. This proposed increase in pricing is intended to reflect the operational desire to hold Regulation Capacity during periods of small shortages of 30-minute reserves, as well as during small transmission shortages of up to 5 MW. In other words, the pricing point value reflects an operational preference to maintain Regulation Capacity and willingness to allow small shortages of transmission or 30-minutes reserves in order to maintain such regulation capability. As such the proposed pricing point value is set higher than: (i) the first three pricing points for NYCA 30-minute reserves, which are valued at a maximum Shadow Price of $200 per MW; and (ii) the first pricing point of $350 per MW for the graduated transmission demand curve (*i.e.*, representing the price for transmission shortages of 5 MW or less), but below the final $750 per MW pricing point for NYCA 30-minute reserves and the second pricing point for the graduated transmission demand curve.

The NYISO further proposes to increase the third pricing point of the Regulation Service Demand Curve (*i.e.*, corresponding to Regulation Capacity shortages of 80 MW or greater) from $400 per MW to $775 per MW. The proposed increase is intended to ensure that Regulation Capacity is valued equally with the proposed pricing point for shortages of NYCA 10-minute spinning reserves, thereby reflecting the relative equivalence in operational value of spinning reserves and Regulation Capacity.[36]

The NYISO is also proposing to revise the second pricing point of its recently-approved graduated transmission demand curve (*i.e.*, corresponding to a transmission shortage above 5 MW and less than or equal to 20 MW) by increasing the value of such point from $1,175 to $2,350. Consistent with the intent of the initially-proposed value for the second pricing point of the graduated transmission demand curve, this revised value is intended to ensure that transmission shortages greater than 5 MW but no greater than 20 MW are equally valued with avoiding Operating Reserves shortages of East of Central-East 10-minute total reserves, as well as 10-minute total reserves in the new SENY region being proposed by the NYISO. As such the proposed pricing point recognizes the NYISO operators view that limiting transmission shortages to 20 MW or less and avoiding shortages of 10-minute total reserves in the East of Central-East and SENY regions are equally important.[37]

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[36] Dr. LeeVanSchaick concludes that the NYISO's proposed revisions to the Regulation Service Demand Curve "… are reasonable and will generally result in an efficient allocation among the different Ancillary Services products." LeeVanSchaick Affidavit at ¶ 24.

[37] Furthermore, as illustrated by Dr. LeeVanSchaick, the proposed increase to the second pricing point of the graduated transmission demand curve provides for the maintenance of appropriate economic priority between the scheduling of Eastern 10-minutes reserves and securing the Central-East interface. LeeVanSchaick Affidavit at ¶ 25.

The NYISO's proposed revisions to the values for the Regulation Service Demand Curve and its recently-approved graduated transmission demand curve are shown in the following tables.

Proposed Regulation Service Demand Curve Prices			
Reserve Region	Regulation		Rationale
	Current	Proposed	
NYCA	<=25 MW at $80	<=25 MW at $25	Provide additional ramp flexibility for meeting gen-load balance and operating reserve constraints
	>25 and <=80 MW at $180	>25 and <=80 MW at $400	Maintain Regulation during small 30 minute reserve shortages; Regulation is more valuable than 30 minute reserves
	>80 MW at $400	>80 MW at $775	Valued as much as 10 Min Synch to ensure some Regulation Service is procured because any unused Regulation Capacity can be counted as 10 Min Synch

Proposed Transmission Shortage Costs			
Reserve Region	Transmission Shortage		Rationale
	Current	Proposed	
NYCA	<=5 MW at $350	<=5 MW at $350	Approved for implementation in Q4 2014
	>5 and <=20 MW at $1,175	>5 and <=20 MW at $2,350	Cascaded cost of going shortage EAST & SENY 10 Min Total
	>20 MW at $4,000	>20 MW at $4,000	Approved for implementation in Q4 2014

IV. Description of Tariff Amendments

A. Definitions

The NYISO proposes to revise the definitions of "Operating Reserve Demand Curve" and "Transmission Shortage Cost," as well as add a newly defined term "Southeastern New York (SENY)" within Section 2 and Section 1 of the Services Tariff and the OATT, respectively.

A newly defined term "Southeastern New York (SENY)" is proposed to be added to Section 2.19 and Section 1.19 of the Services Tariff and the OATT, respectively, as follows:

> **Southeastern New York (SENY):** An electrical area comprised of Load Zones G, H, I, J and K, as identified in the ISO Procedures.

As described in Section III above, the NYISO is proposing to implement a new SENY reserve region in order to improve market efficiency and better reflect its operational desire to ensure that sufficient reserves are scheduled within this transmission constrained region.

The definition of "Operating Reserve Demand Curve" in Section 2.15 of the Services Tariff and Section 1.15 of the OATT is proposed to be amended to reflect that with the addition of the SENY reserve region, the NYISO will price twelve Operating Reserve requirements, rather than nine. The increase in the number of Operating Reserve requirements by three represents the additional reserve products associated with the creation of a new SENY reserve region (*i.e.*, 30-minute reserves, 10-minute total reserves and 10-minute spinning reserves).

In addition, the NYISO proposes to revise the definition of "Transmission Shortage Cost" in Section 2.20 of the Services Tariff and Section 1.20 of the OATT to reflect an increase to the second pricing point of the graduated transmission demand curve recently approved by the Commission (*i.e.*, corresponding to a transmission shortage greater 5 MW, but less than or equal to 20 MW).[38] As further described in Section III above, the revisions, in part, propose to increase the value of the second pricing point from $1,175 to $2,350. Furthermore, the NYISO is proposing certain enhancements to the definition of "Transmission Shortage Cost" to clarify that this mechanism consists of a series of pricing points corresponding to different levels of transmission shortage.

B. Services Tariff Rate Schedule 3

The NYISO is proposing to revise Section 15.3.7 of the Services Tariff to modify the three pricing points of its Regulation Service Demand Curve. As further described in Section III above, the NYISO proposes to: (i) decrease the pricing point for Regulation Capacity shortages of 25 MW or less from $80 per MW to $25 per MW; (ii) increase the pricing point for Regulation Capacity shortages greater than 25 MW but less than 80 MW from $180 per MW to $400 per MW; and (iii) increase the pricing point for Regulation Capacity shortages of 80 MW or greater from $400 per MW to $775 per MW.

C. Services Tariff Rate Schedule 4

The proposed revisions to Rate Schedule 4 of the Services Tariff provide for: (i) the establishment of the SENY reserve region; (ii) the calculation of market clearing prices for Operating Reserves in the SENY region; (iii) adjustments to the payment logic for Suppliers of Operating Reserves on Long Island to reflect establishment of the SENY region; (iv) adjustments to the pricing logic for Operating Reserves during scarcity conditions to reflect establishing a new SENY reserve region; (v) adjustments to the pricing points for the NYISO's existing Operating Reserve Demand Curves; and (vi) establishment of Operating Reserve Demand Curves for the SENY region.

The NYISO proposes to revise Section 15.4.1.1 of the Services Tariff to reflect the establishment of new locational Operating Reserves requirements for the SENY region. Moreover, the proposed revisions clarify that a Supplier is only eligible to meet such new locational requirements to the extent that such Supplier is located within the SENY region.

In connection with the establishment of the new SENY reserve region, revisions to Section 15.4.4.1 of the Services Tariff are being proposed to provide that the NYISO will calculate Day-Ahead and Real-Time Market clearing prices for operating reserves in four regions going forward: (i) West of Central-East; (ii) East of Central-East, excluding the new SENY region; (iii) SENY, excluding Long Island; and (iv) Long Island. Consistent with the proposed revision to the definition of "Operating Reserve Demand Curve," the addition of the SENY

[38] Docket No. ER15-485-000, *New York Independent System Operator, Inc.*, Letter Order (January 15, 2015).

region will increase the number of locational Operating Reserves prices that the NYISO will calculate from nine to twelve, in order to account for the three additional reserve products associated with the SENY region (*i.e.*, 30-minute reserves, 10-minute total reserves and 10-minute spinning reserves).

Section 15.4.4.2 of the Services Tariff is proposed to be amended in order to revise the logic for determining settlement payment values provided to Operating Reserves located on Long Island in light of the establishment of the new SENY region. Previously, this Section established that Operating Reserves located on Long Island would receive settlement payments as though such reserves were located in East of Central-East (*i.e.*, providing payment based on the applicable Eastern Reserves price). With the establishment of the new SENY region, the NYISO proposes to pay such Long Island Operating Reserves as if they were located in the SENY region (*i.e.*, providing payment based on the applicable SENY reserves price).

The NYISO proposes to revise Sections 15.4.5.1 and 15.4.6.1 of the Services Tariff to address the establishment of the new SENY region for purposes of calculating Operating Reserves prices in the Day-Ahead and Real-Time Markets. The market clearing prices for Operating Reserves products are calculated in a fashion to recognize the capability of "higher" quality reserves to satisfy the requirements for "lower" quality and less locationally restrictive reserve products.[39] As such the market clearing price for a particular Operating Reserve product is calculated based on the sum of the Shadow Prices for such product, any lower quality products within the same reserve area, as well as equivalent or lower quality reserves within less locationally restrictive reserve areas.[40] Accordingly, the NYISO proposes to add new formulas and Shadow Price descriptions for the SENY region. The new formulas recognize the ability of SENY Operating Reserve products to satisfy any lower quality reserve products within such region, as well as equivalent or lower quality reserve requirements for the less locationally constrained Eastern and Western areas. In addition, the NYISO proposes to revise the market clearing price calculations for Long Island Operating Reserves products to reflect the continued ability of such products to satisfy equal or lower quality reserve requirements in the less locationally restrictive Eastern and Western areas in addition to the new SENY region, which is also less locationally restrictive than the Long Island reserve area.

[39] The reference to "lower" quality reserves herein is intended to refer to a general preferential order of reserve products whereby spinning reserves are considered "highest" quality, followed by 10-minute total reserves and then 30-minute reserves. As such, spinning reserves could be used to satisfy either or both of the applicable requirements for "lower" quality 10-minute total and 30-minute reserves.

[40] For example, 10-minute spinning reserves located in the East of Central-East region could also satisfy the requirements for 10-minute total reserves in the East of Central-East region, 30-minute reserves in the East of Central-East region, 10-minute spinning reserves for NYCA, 10-minute total reserves for NYCA and 30-minutes reserves for NYCA. Accordingly, the applicable market clearing price for 10-minute spinning reserves located in the East of Central-East region is calculated based on the sum of the applicable Shadow Prices for each of the aforementioned Operating Reserves products.

The NYISO further proposes revisions to its scarcity pricing rules for Operating Reserves that apply during activations of EDRP/SCR Resources to address the establishment of the new SENY region. It is important to note that the NYISO is not proposing to change the application or methodology for its scarcity pricing rules. Instead, the NYISO is merely proposing to extend such rules to recognize and properly reflect the new SENY reserve region. The proposed revisions to Section 15.4.6.2 of the Services Tariff reference the addition of a new Section 15.4.6.2.3, which specifies the scarcity pricing rules for SENY reserves that apply to situations where: (i) the NYISO has called upon EDRP/SCR Resources; (ii) the existing scarcity pricing rules set forth in Sections 15.4.6.2.1 and 15.4.6.2.2 have not been used; (iii) the NYISO uses the scarcity pricing rule set forth in Section 17.1.2.2 of the Services Tariff and (iv) the aggregate amount of Available Reserves in all Load Zones encompassed by the SENY region is less than the number of EDRP/SCR MW called upon by the NYISO.

The proposed modifications to Section 15.4.6.2.1 of the Services revise the scarcity pricing rules for calculating the market clearing prices for Eastern reserve products (*i.e.*, 10-minute spinning, 10-minute total and 30-minute reserves) during statewide scarcity conditions to clarify that the applicable clearing price will be the higher of: (i) the highest Lost Opportunity Cost for any provider of the applicable reserve product(s) specified for the type of Eastern reserve at issue that is scheduled by RTD and not located in the SENY region; and (ii) the original market clearing price for the applicable reserve product calculated pursuant to Section 15.4.6.1 of the Services Tariff. In addition, the NYISO proposes to revise Section 15.4.6.2.1 of the Services Tariff to specify the scarcity pricing rules for calculating the applicable market clearing prices for SENY reserve products (*i.e.*, 10-minute spinning, 10-minute total and 30-minute reserves) during statewide scarcity conditions. The proposed additions provide that the clearing price for the applicable SENY reserve product will be the higher of: (i) the highest Lost Opportunity Cost for any provider of the applicable reserve product(s) specified for the type of SENY reserve at issue that is scheduled by RTD and not located on Long Island; and (ii) the original market clearing price for the applicable reserve product calculated pursuant to Section 15.4.6.1 of the Services Tariff.

Similarly, the NYISO proposes revisions to Section 15.4.6.2.2 of the Services Tariff to revise the market clearing price calculations for Eastern Reserves during intervals when the scarcity pricing rules apply for Eastern scarcity conditions, as well as add language to provide the applicable calculation of market clearing prices for SENY reserve products during such periods. The NYISO proposes to clarify that the applicable market clearing prices for Eastern reserve products (*i.e.*, 10-minute spinning, 10-minute total and 30-minute reserves) will be the higher of: (i) the highest Lost Opportunity Cost for any provider of the applicable Eastern reserve product(s) specified for the type of Eastern reserve at issue that is scheduled by RTD and not located in the SENY region; and (ii) the original market clearing price for the applicable reserve product calculated pursuant to Section 15.4.6.1 of the Services Tariff. The NYISO also proposes to add language to Section 15.4.6.2.2 of the Services Tariff to provide that the clearing price for the applicable SENY reserve product (*i.e.*, 10-minute spinning, 10-minute total and 30-minute reserves) will be the higher of: (i) the highest Lost Opportunity Cost for any provider of the applicable Eastern or SENY reserve product(s) specified for the type of SENY reserve at issue that is scheduled by RTD and not located on Long Island; and (ii) the original market

clearing price for the applicable reserve product calculated pursuant to Section 15.4.6.1 of the Services Tariff.

As noted above, the NYISO also proposes to add a new Section 15.4.6.2.3 to the Services Tariff to establish the scarcity pricing rules for calculating the marketing clearing prices for SENY reserve products during SENY scarcity conditions. The proposed additions provide that the clearing price for the applicable SENY reserve product (*i.e.*, 10-minute spinning, 10-minute total and 30-minute reserves) will be the higher of: (i) the highest Lost Opportunity Cost for any provider of the applicable SENY reserve product(s) specified for the type of SENY reserve at issue that is scheduled by RTD and not located on Long Island; and (ii) the original market clearing price for the applicable reserve product calculated pursuant to Section 15.4.6.1 of the Services Tariff.

The NYISO also proposes to revise Section 15.4.7 of the Services Tariff to: (i) revise the pricing points and associated values for the existing Operating Reserve Demand Curves consistent with the table set forth in Section III above; and (ii) establish new Operating Reserve Demand Curves for the SENY region and pricing points associated therewith consistent with the table set forth in Section III above. The proposed revisions are as follows:

- Increase the price for quantities less than or equal to the target level for NYCA 10-minute spinning reserves from $500 per MW to $775 per MW;

- Establish: (i) a price for SENY 10-minute spinning reserves equal to $25 per MW for quantities less than or equal to the target level for such reserves; and (ii) a price equal to $0 per MW for quantities in excess of the applicable target level;

- Increase the price for quantities less than or equal to the target level for NYCA 10-minute total reserves from $450 per MW to $750 per MW;

- Increase the price for quantities less than or equal to the target level for Eastern 10-minute total reserves from $500 per MW to $775 per MW;

- Establish: (i) a price for SENY 10-minute total reserves equal to $25 per MW for quantities less than or equal to the target level for such reserves; and (ii) a price equal to $0 per MW for quantities in excess of the applicable target level;

- Revise the Operating Reserve Demand Curve for NYCA 30-minute reserves to include the following four pricing points to replace the currently-effective three pricing points: (i) a price equal to $25 per MW for quantities that are less than the target level for such reserves but fewer than 300 MW less than such target level; (ii) a price equal to $100 per MW for quantities that are greater than or equal to 300 MW less than the target level for such reserves but fewer than 655 MW less than such target level; (iii) a price equal to $200 per MW for quantities that are greater than or equal to 655 MW less than the target level for such reserves but fewer than 955 MW less than such target level; and (iv) a price equal to $750 per

MW for quantities greater than or equal to 955 MW less than the target level for such reserves;

- Establish: (i) a price for SENY 30-minute reserves equal to $25 per MW for quantities less than or equal to the target level for such reserves; and (ii) a price equal to $0 per MW for quantities in excess of the applicable target level; and

V. Effective Date

The NYISO respectfully requests Commission action within sixty days from the date of this filing (*i.e.*, April 20, 2015) to provide the NYISO and Market Participants with timely notice that the changes proposed herein have been accepted. Such timely action by the Commission will: (a) allow the NYISO to confidently proceed with developing and deploying the software changes necessary to implement its CSP Project; (b) ensure the NYISO's capability of achieving the desired effective date for this proposal; and (c) assist the NYISO in avoiding the potential for adverse impacts to other projects it has committed to for 2015 in the event that modifications are required to the software changes associated with the CSP Project in response to Commission action relating thereto.[41]

The NYISO requests a flexible effective date for the Services Tariff and the OATT revisions proposed in this filing which will be no earlier than November 1, 2015.[42] The NYISO proposes to submit a compliance filing at least two weeks prior to the proposed effective date which will specify the date on which these revisions will take effect. Consistent with Commission precedent, the compliance filing will provide adequate notice to the Commission and to Market Participants of the implementation date for the CSP Project.[43]

To the extent necessary, the NYISO requests a waiver of Commission regulations to allow the NYISO to make this filing more than 120 days prior to the date on which the proposed service is to become operational.[44] No Market Participant will be prejudiced by this request because the proposed implementation timetable was developed in consultation with Market Participants. As such, Market Participants have known for some time that the NYISO does not

[41] As noted above, such additional projects include, but are not limited to, CTS with ISO-NE and Comprehensive Scarcity Pricing.

[42] The NYISO currently remains on schedule to deploy the software changes necessary to implement its CSP Project in June 2015. Such software once deployed will remain inactive until such time as the NYISO establishes an effective date for the proposed revisions contained herein pursuant to the process proposed in this filing.

[43] *See*, *e.g.*, *New York Independent System Operator, Inc.*, 106 FERC ¶ 61,111 at P 10 (2004) ("We will allow NYISO to implement parts of the filing prior to September 2004, as such parts become ready for implementation, provided that NYISO adheres to the three steps identified above in Paragraph 5 of this order."); Docket No. ER11-2544-000, *New York Independent System Operator, Inc.*, Letter Order at 1 (February 10, 2011); and Docket No. ER15-485-000, *New York Independent System Operator, Inc.*, Letter Order at 2 (January 15, 2015).

[44] *See* 18 C.F.R. § 35.3(a)(1).

plan for its CSP Project to become effective earlier than November 1, 2015. Furthermore, as noted above, the NYISO will provide at least two weeks prior notice before implementation of its CSP Project, including the revisions to the Services Tariff and the OATT proposed herein if they are accepted by the Commission.

VI. Requisite Stakeholder Approval

These amendments were approved by the NYISO Management Committee on December 17, 2014 with a vote of 83.96% in favor. The NYISO's Board of Directors approved the proposed revisions on January 13, 2015.

VII. Communications and Correspondence

All communications and service in this proceeding should be directed to:

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VIII. Service

The NYISO will send an electronic link to this filing to the official representative of each of its customers, to each participant on its stakeholder committees, to the New York Public Service Commission, and to the New Jersey Board of Public Utilities. In addition, the complete filing will be posted on the NYISO's website at www.nyiso.com.

IX. Conclusion

Wherefore, for the foregoing reasons, the New York Independent System Operator, Inc. respectfully requests that the Commission accept for filing the proposed revisions to the Services Tariff and the OATT that are attached hereto within sixty days of the date of this filing (*i.e.*, by April 20, 2015) with a flexible effective date not earlier than November 1, 2015, to be provided with two weeks' notice.

Respectfully submitted,

/s/ *Garrett E. Bissell*
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