NEW YORK INDEPENDENT SYSTEM OPERATOR
10 Krey Boulevard ♦ Rensselaer, NY 12144

May 26, 2016

By Electronic Delivery

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

Re: Docket No. ER16-425-000, *New York Independent System Operator* - Response to Data Request

Dear Secretary Bose:

On November 30, 2015, the New York Independent System Operator, Inc. ("NYISO") filed proposed tariff revisions to improve its scarcity pricing logic ("Comprehensive Scarcity Pricing").[1] On March 1, 2016, the Federal Energy Regulatory Commission ("Commission") accepted the proposed revisions ("March 1 Order").[2] The Commission also directed the NYISO to "submit a compliance filing within 30 days of the date of this order clarifying its proposed Services Tariff and OATT provisions to clearly identify and state where they apply to shortage events versus scarcity events."[3] On March 29, 2016, the NYISO submitted a compliance filing in response to the Commission's directive in the March 1 Order ("March 29 Compliance Filing").[4]

On May 19, 2016, the Commission issued a data request regarding the March 29 Compliance Filing ("Data Request").[5] The Data Request directed the NYISO to respond to two enumerated questions. Responses to each question are provided in Section II below.

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[1] 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) ("Comprehensive Scarcity Pricing Filing"). Capitalized terms not otherwise defined herein shall have the meaning specified in Section 2 of the NYISO Market Administration and Control Area Services Tariff ("Services Tariff") and Section 1 of the NYISO Open Access Transmission Tariff ("OATT").

[2] *New York Independent System Operator, Inc.*, 154 FERC ¶ 61,152 (2016).

[3] *Id*. at P 24.

[4] Docket No. ER16-425-001, *New York Independent System Operator, Inc.*, Compliance Filing (March 29, 2016).

[5] Docket No. ER16-425-001, *supra*, Data Request Regarding Compliance Filing (May 19, 2016).

I. Implementation Timeline

The NYISO respectfully submits this response to the Data Request, which is intended to fully address questions raised by the Commission regarding the Comprehensive Scarcity Pricing Filing and the March 29 Compliance Filing. In response to Question No. 1, the NYISO provides detailed examples of the Comprehensive Scarcity Pricing logic for a wide range of Emergency Demand Response Program ("EDRP") and Special Case Resource ("SCR") program activation scenarios. The examples are intended to illustrate the operation of the tariff revisions associated with Comprehensive Scarcity Pricing, specifically as it relates to the 30-minute reserve demand curves that are utilized to price shortages during scarcity and non-scarcity periods.

As noted in the response to Question No. 2 below, the NYISO is aware of the concern raised in the comments submitted by the New York Transmission Owners in response to the March 29 Compliance Filing.[6] The NYISO has committed to further discuss this concern with its stakeholders to determine whether any additional, future revisions to the Comprehensive Scarcity Pricing logic are warranted. The New York Transmission Owners agree that such pending stakeholder review should not delay the planned implementation of the tariff revisions accepted by the March 1 Order for the upcoming summer.[7]

As indicated in the Comprehensive Scarcity Pricing Filing, the NYISO intends to implement the enhancements to its scarcity pricing logic on in June 2016.[8] Implementation in June is important from a market perspective to ensure that the Commission-approved enhancements are in place prior to the peak load periods of the summer when the NYISO is most likely to activate the EDRP and SCR program.

In addition to the need to deploy the software to implement Comprehensive Scarcity Pricing prior to the summer peak load periods, the NYISO also requires certain software changes to ensure compliance with the Bulk Electric System ("BES") definition of the North American Electric Reliability Corporation ("NERC") and requirements relating thereto. These requirements must be complied with commencing on July 1, 2016.

Due to the common implementation timeframes of the Comprehensive Scarcity Pricing and BES projects, as well as the technical demands of testing and deploying software associated with both of these important initiatives, the software to implement both projects was developed as a single, integrated set of code for deployment purposes. Such joint software development allows for increased efficiency and reliability of the software associated with both initiatives, as well as better management of the costs and resources needed for development and deployment.

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[6] Docket No. ER16-425-001, *supra*, Comments of the New York Transmission Owners at 2-3 (April 19, 2016). The New York Transmission Owners are Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York Power Authority, New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation d/b/a National Grid, Orange and Rockland Utilities, Inc., Power Supply Long Island and Rochester Gas and Electric Corporation.

[7] *Id*. at 3.

[8] Comprehensive Scarcity Pricing Filing at 16-17.

Accordingly, the deployment and activation of this software package provides for the simultaneous implementation of both Comprehensive Scarcity Pricing and the revisions necessary to ensure compliance with the NERC BES requirements.

In light of the Data Request and the concern it raised regarding the potential for a delayed issuance of an order in response to the March 29 Compliance Filing, the NYISO has assessed the feasibility of developing new software that would independently address Comprehensive Scarcity Pricing and compliance with NERC's BES requirements. Such independent software would, if feasible, allow the NYISO to delay implementation of the Comprehensive Scarcity Pricing project pending issuance of a Commission order in response to the March 29 Compliance Filing, while allowing the NYISO to proceed with implementing the software necessary to timely comply with the BES requirements.

This assessment has indicated that there is insufficient time available to develop and test new, independent software for the Comprehensive Scarcity Pricing and BES projects, while ensuring that the NYISO is able to comply with the BES requirements on July 1, 2016, as required by NERC. A time frame of at least three to four months would be required in order to reasonably complete development and testing of such independent software. Even if sufficient time were available, the NYISO estimates that such unplanned software development would require it to incur significant, additional expense.

To ensure the NYISO's ability to remain compliant with NERC reliability requirements, the NYISO must proceed with implementing the Comprehensive Scarcity Pricing design approved by the March 1 Order in June 2016.[9] Absent implementation of these enhancements, the NYISO would become out-of-compliance with certain NERC requirements beginning on July 1, 2016.

Based on the foregoing, the NYISO is maintaining its initially contemplated schedule for implementing Comprehensive Scarcity Pricing. The NYISO intends to submit the two week notice required by the March 1 Order in the near future. This notice will specify the date in June on which the NYISO intends to implement the proposed tariff revisions accepted by the March 1 Order.

[9] The software to implement Comprehensive Scarcity Pricing replaces the NYISO's existing scarcity pricing logic. Therefore, once activated, the NYISO will only be able to effectuate scarcity pricing consistent with the design reflected in the tariff revisions accepted by the March 1 Order.

II. Response to Data Request

Question No. 1

Although section 15.4.7(i) of the Services Tariff applies to Total 30-Minute Reserves, the new proposed language seems to establish pricing for scarcity events where NYISO has activated the EDRP or SCR program in part but not all of the New York Control Area. In addition, sections 15.4.7(j), (k), and (l) apply to scarcity events in certain zones. Please explain under what circumstances NYISO expects to apply each of its 30-Minute Reserves provisions (sections 15.4.7(i), (j), (k), and (l)). To the extent useful, please include examples, flow-charts, or tables.

Response

As described in the Comprehensive Scarcity Pricing Filing, the NYISO's proposed enhancements to its scarcity pricing logic are designed to incorporate scarcity pricing into the real-time optimization.[10] This will be accomplished by establishing supplemental 30-minute reserve requirements in real-time during the periods when the NYISO has called upon EDRP resources and/or SCRs to provide load reduction ("scarcity reserves"). To address pricing of these scarcity reserve requirements, the NYISO established certain alternative Operating Reserve Demand Curves, as well as a new scarcity reserve demand curve which may be utilized during real-time intervals in which an activation of the EDRP and/or SCR program occurs.[11] This construct extends the NYISO's current shortage pricing logic to scarcity periods and the supplemental 30-minute reserves to be established during these periods.

A. Periods without EDRP or SCR Program Activations

For the Day-Ahead Market and all real-time intervals in which the NYISO has not activated the EDRP and/or SCR program, the standard Operating Reserve Demand Curves for 30-Minute Reserves will be applicable.[12] The descriptions of these Operating Reserve Demand Curves are set forth in the first paragraph of each of the relevant tariff sections (*i.e.*, Sections

[10] *Id*. at 3-9.

[11] The scarcity reserve requirement for a Load Zone or set of Load Zones in which the NYISO has activated EDRP resources and/or SCRs for the same activation reason is set at an amount equal to the expected load reduction to be provided by the activated EDRP resources and/or SCRs (as determined by the NYISO based on historical resource performance), less the amount of energy production capability that could be provided by available resources in greater than 30 minutes, but less than or equal to 60 minutes within the same Load Zone(s) as the activated demand response resources. The Load Zone or set of Load Zones in which the NYISO has activated EDRP resources and/or SCRs for the same activation reason is referred to as a scarcity reserve region. *Id*. at 3-8 and 9-15.

[12] The 30-minute reserve demand curves are specified in the following sections of the Services Tariff: (i) Section 15.4.7(i) for New York Control Area ("NYCA") 30-Minute Reserves; (ii) Section 15.4.7(j) for Eastern 30-Minute Reserves; (iii) Section 15.4.7(k) for Southeastern New York ("SENY") 30-Minute Reserves and (iv) Section 15.4.7(l) for Long Island 30-Minute Reserves.

15.4.7(i), 15.4.7(j), 15.4.7(k) and 15.4.7(l)), as reflected in the tariff sections filed with the March 29 Compliance Filing.

Table 1 below provides the 30-minute reserve demand curves that would be effective during all periods in which the NYISO has not activated the EDRP or SCR program.

Table 1. 30-Minute Reserve Demand Curves with No EDRP or SCR Program Activations

				30-Minute Reserve Demand Curves							
Reserve Region	Locational 30-Minute Reserve Requirement	Scarcity Reserve Requirement	Total 30-Minute Reserve Requirement	MW1[13]	Value1	MW2	Value2	MW3	Value3	MW4	Value4
NYCA	2620	0	2620	≤2620 and >955	$750	≤955 and >655	$200	≤655 and >300	$100	≤300 and >0	$25
EAST	1200	0	1200	≤1200 and >0	$25	N/A	N/A	N/A	N/A	N/A	N/A
SENY	1300	0	1300	≤1300 and >0	$500	N/A	N/A	N/A	N/A	N/A	N/A
LI	270-540[14]	0	270-540	≤270-540 and >0	$25	N/A	N/A	N/A	N/A	N/A	N/A

B. EDRP and/or SCR Program Activations Matching the Load Zones Encompassed by a Locational Reserve Region

In cases where the Load Zone(s) in which the NYISO has activated EDRP resources and/or SCRs for the same activation reason are identical to the Load Zone(s) included in a locational reserve region, the NYISO will utilize a revised Operating Reserve Demand Curve for 30-Minute Reserves in the affected locational reserve region.[15] The revised 30-minute reserve demand curves: (i) account for the scarcity reserve requirement; and (ii) apply a value of $500 per MWh to any shortages of the scarcity reserve requirement. These revised Operating Reserve Demand Curves are described in the second paragraph of each of the relevant tariff sections (*i.e.*, Sections 15.4.7(i), 15.4.7(j), 15.4.7(k) and 15.4.7(l)), as reflected in the tariff sections filed with the March 29 Compliance Filing.

[13] The MW amounts listed in each table represent a given level of shortage in meeting the applicable 30-minute reserve requirement, together with the value assigned to that shortage level.

[14] The 30-minute reserve requirement for Long Island varies between 270 MW and 540 MW depending on the hour. For purposes of Table 2 through Table 8, the Long Island 30-minute reserve requirement is assumed to be 540 MW for all real-time intervals encompassed by each hypothetical EDRP and/or SCR program activation.

[15] The NYISO currently establishes Operating Reserves requirements for four locational reserve regions: (i) NYCA (*i.e.*, all Load Zones; Load Zones A, B, C, D, E, F, G, H, I, J and K); (ii) East of Central-East (*i.e.*, Load Zones F, G, H, I, J and K); (iii) Southeastern New York (*i.e.*, Load Zones G, H, I, J and K); and (iv) Long Island (*i.e.*, Load Zone K).

If the NYISO were to activate EDRP resources and/or SCRs in all Load Zones (*i.e.*, Load Zones A, B, C, D, E, F, G, H, I, J and K) for the same activation reason on a given day, the NYISO would apply the Operating Reserve Demand Curve described in the second paragraph of Section 15.4.7(i) during only the real-time intervals encompassed by the EDRP and/or SCR program activation.

Table 2 below provides the 30-minute reserve demand curves that would be effective during real-time intervals in which the NYISO has activated EDRP resources and/or SCRs in all Load Zones for the same activation reason.[16]

Table 2. 30-Minute Reserve Demand Curves during Real-Time Intervals with an EDRP and/or SCR Program Activation in All Load Zones for the Same Activation Reason

				30-Minute Reserve Demand Curves			
Reserve Region	**Locational 30-Minute Reserve Requirement**	**Scarcity Reserve Requirement**	**Total 30-Minute Reserve Requirement**	**MW1**	**Value1**	**MW2**	**Value2**
NYCA	2620	100	2720	≤2720 and >1055	$750	≤1055 and >0	$500
EAST	1200	0	1200	≤1200 and >0	$25	N/A	N/A
SENY	1300	0	1300	≤1300 and >0	$500	N/A	N/A
LI	540	0	540	≤540 and >0	$25	N/A	N/A

If the NYISO were to activate EDRP resources and/or SCRs in all East of Central-East Load Zones (*i.e.*, Load Zones F, G, H, I, J and K) for the same activation reason on a given day, the NYISO would apply the Operating Reserve Demand Curve described in the second paragraph of Section 15.4.7(j) during only the real-time intervals encompassed by the EDRP and/or SCR program activation.[17]

Table 3 below provides the 30-minute reserve demand curves that would be effective during real-time intervals in which the NYISO has activated EDRP resources and/or SCRs in all East of Central-East Load Zones for the same activation reason.

[16] For the purposes of the simplified examples that are set forth in Table 2 through Table 8, it is assumed that each case results in a scarcity reserve requirement of 100 MW for all real-time intervals during the period covered by each hypothetical EDRP and/or SCR program activation.

[17] As described in Part D of the response to Question No. 1, the NYISO would also utilize the 30-minute reserve demand curve described in the third paragraph of Section 15.4.7(i) for purposes of NYCA 30-Minute Reserves during only the real-time intervals encompassed by the EDRP and/or SCR program activation.

Table 3. 30-Minute Reserve Demand Curves during Real-Time Intervals with an EDRP and/or SCR Program Activation in Load Zones F, G, H, I, J and K for the Same Activation Reason

				30-Minute Reserve Demand Curves			
Reserve Region	**Locational 30-Minute Reserve Requirement**	**Scarcity Reserve Requirement**	**Total 30-Minute Reserve Requirement**	**MW1**	**Value1**	**MW2**	**Value2**
NYCA	2620	0	2720 (2620+100)[18]	≤2720 and >955	$750	≤955 and >0	$500
EAST	1200	100	1300	≤1300 and >1200	$500	≤1200 and >0	$25
SENY	1300	0	1300	≤1300 and >0	$500	N/A	N/A
LI	540	0	540	≤540 and >0	$25	N/A	N/A

If the NYISO were to activate EDRP resources and/or SCRs in all SENY Load Zones (*i.e.*, Load Zones G, H, I, J and K) for the same activation reason on a given day, the NYISO would apply the Operating Reserve Demand Curve described in the second paragraph of Section 15.4.7(k) during only the real-time intervals encompassed by the EDRP and/or SCR program activation.[19]

Table 4 below provides the 30-minute reserve demand curves that would be effective during real-time intervals in which the NYISO has activated EDRP resources and/or SCRs in all Southeastern New York Load Zones for the same activation reason.

[18] The parenthetical indicates adjustment of the 30-minute reserve requirement for the upstream locational reserve region(s) to which all the Load Zone(s) included in the scarcity reserve region belong. This adjustment accounts for the MW amount of the scarcity reserve requirement as part of the 30-minute reserve requirement for each affected upstream location reserve region(s), as described in Part D of the response to Question No. 1.

[19] As described in Part D of the response to Question No. 1, the NYISO would also utilize the 30-minute reserve demand curves described in the third paragraph of each of Sections 15.4.7(j) and 15.4.7(i) for purposes of Eastern and NYCA 30-Minute Reserves during only the real-time intervals encompassed by the EDRP and/or SCR program activation.

Table 4. 30-Minute Reserve Demand Curves during Real-Time Intervals with an EDRP and/or SCR Program Activation in Load Zones G, H, I, J and K for the Same Activation Reason

				30-Minute Reserve Demand Curves			
Reserve Region	**Locational 30-Minute Reserve Requirement**	**Scarcity Reserve Requirement**	**Total 30-Minute Reserve Requirement**	**MW1**	**Value1**	**MW2**	**Value2**
NYCA	2620	0	2720 (2620+100)	≤2720 and >955	$750	≤955 and >0	$500
EAST	1200	0	1300 (1200+100)	≤1300 and >0	$25	N/A	N/A
SENY	1300	100	1400	≤1400 and >0	$500	N/A	N/A
LI	540	0	540	≤540 and >0	$25	N/A	N/A

If the NYISO were to activate EDRP resources and/or SCRs on Long Island only (*i.e.*, Load Zone K) on a given day, the NYISO would apply the Operating Reserve Demand Curve described in the second paragraph of Section 15.4.7(l) during only the real-time intervals encompassed by the EDRP and/or SCR program activation.[20]

Table 5 below provides the 30-minute reserve demand curves that would be effective during real-time intervals in which the NYISO has activated EDRP resources and/or SCRs only on Long Island.

Table 5. 30-Minute Reserve Demand Curves during Real-Time Intervals with an EDRP and/or SCR Program Activation in Only Load Zone K

				30-Minute Reserve Demand Curves			
Reserve Region	**Locational 30-Minute Reserve Requirement**	**Scarcity Reserve Requirement**	**Total 30-Minute Reserve Requirement**	**MW1**	**Value1**	**MW2**	**Value2**
NYCA	2620	0	2720 (2620+100)	≤2720 and >955	$750	≤955 and >0	$500
EAST	1200	0	1300 (1200+100)	≤1300 and >0	$25	N/A	N/A
SENY	1300	0	1400 (1300+100)	≤1400 and >0	$500	N/A	N/A
LI	540	100	640	≤640 and >540	$500	≤540 and >0	$25

[20] As described in Part D of the response to Question No. 1, the NYISO would also utilize the 30-minute reserve demand curves described in the third paragraph of each of Sections 15.4.7(k), 15.4.7(j) and 15.4.7(i) for purposes of SENY, Eastern and NYCA 30-Minute Reserves during only the real-time intervals encompassed by the EDRP and/or SCR program activation.

C. EDRP and/or SCR Program Activations that Do Not Match the Load Zones Encompassed by a Locational Reserve Region

In cases where the Load Zone(s) included in a scarcity reserve region are not identical to the Load Zones included in a locational reserve region, the NYISO will utilize a scarcity reserve demand curve for the scarcity reserve region. The scarcity reserve demand curve establishes a value of $500 per MWh for any shortage in meeting the scarcity reserve requirement. The scarcity reserve demand curve is described in the paragraph that immediately follows Section 15.4.7(l), as reflected in the tariff sections filed with the March 29 Compliance Filing.

If, for example, the NYISO were to activate EDRP resources and/or SCRs in New York City and Long Island (*i.e.*, Load Zones J and K) for the same activation reason on a given day, the NYISO would apply a scarcity reserve demand curve during only the real-time intervals encompassed by the EDRP and/or SCR program activation.[21] This scarcity reserve demand curve would apply only to Load Zones J and K (*i.e.*, the scarcity reserve region associated with the EDRP and/or SCR program activation) with a 30-minute reserve requirement equal to the scarcity reserve requirement for Load Zones J and K. Any shortage of the scarcity reserve requirement would be valued at $500 per MWh.

Table 6 below provides the 30-minute reserve demand curves that would be effective during real-time intervals in which the NYISO has activated EDRP resources and/or SCRs in Load Zones J and K for the same activation reason.

[21] As described in Part D of the response to Question No. 1, the NYISO would also utilize the 30-minute reserve demand curves described in the third paragraph of each of Sections 15.4.7(k), 15.4.7(j) and 15.4.7(i) for purposes of SENY, Eastern and NYCA 30-Minute Reserves during only the real-time intervals encompassed by the EDRP and/or SCR program activation.

Table 6. 30-Minute Reserve Demand Curves during Real-Time Intervals with an EDRP and/or SCR Program Activation in Load Zones J and K for the Same Activation Reason[22]

				30-Minute Reserve Demand Curves			
Reserve Region	**Locational 30-Minute Reserve Requirement**	**Scarcity Reserve Requirement**	**Total 30-Minute Reserve Requirement**	**MW1**	**Value1**	**MW2**	**Value2**
NYCA	2620	0	2720 (2620+100)	≤2720 and >955	$750	≤955 and >0	$500
EAST	1200	0	1300 (1200+100)	≤1300 and >0	$25	N/A	N/A
SENY	1300	0	1400 (1300+100)	≤1400 and >0	$500	N/A	N/A
J&K	0 100	100		≤100 and >0	$500	N/A	N/A
LI	540	0 540		≤540 and >0	$25	N/A	N/A

As an additional example, if the NYISO were to activate EDRP resources and/or SCRs in only Load Zone F on a given day, the NYISO would apply a scarcity reserve demand curve during only the real-time intervals encompassed by the EDRP and/or SCR program activation.[23] This scarcity reserve demand curve would apply only to Load Zone F (*i.e.*, the scarcity reserve region associated with the EDRP and/or SCR program activation) with a 30-minute reserve requirement equal to the scarcity reserve requirement for Load Zone F. Any shortage of the scarcity reserve requirement would be valued at $500 per MWh.

Table 7 below provides the 30-minute reserve demand curves that would be effective during real-time intervals in which the NYISO has activated EDRP resources and/or SCRs in only Load Zone F.

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[22] Activation of EDRP resources and/or SCRs in Load Zones J and K for the same activation reason was selected as an example to demonstrate a scenario in which the NYISO would simultaneously utilize: (i) a scarcity reserve demand curve; and (ii) the 30-minute reserve demand curves described in the third paragraph of each of Sections 15.4.7(i), 15.4.7(j) and 15.4.7(k).

[23] As described in Part D of the response to Question No. 1, the NYISO would also utilize the 30-minute reserve demand curves described in the third paragraph of each of Sections 15.4.7(j) and 15.4.7(i) for purposes of Eastern and NYCA 30-Minute Reserves during only the real-time intervals encompassed by the EDRP and/or SCR program activation.

Table 7. 30-Minute Reserve Demand Curves during Real-Time Intervals with an EDRP and/or SCR Program Activation in Only Load Zone F[24]

				30-Minute Reserve Demand Curves			
Reserve Region	**Locational 30-Minute Reserve Requirement**	**Scarcity Reserve Requirement**	**Total 30-Minute Reserve Requirement**	**MW1**	**Value1**	**MW2**	**Value2**
NYCA	2620	0	2720 (2620+100)	≤2720 and >955	$750	≤955 and >0	$500
EAST	1200	0	1300 (1200+100)	≤1300 and >0	$25	N/A	N/A
F	0	100	100	≤100 and >0	$500	N/A	N/A
SENY	1300	0	1300	≤1300 and >0	$500	N/A	N/A
LI	540	0	540	≤540 and >0	$25	N/A	N/A

Furthermore, if, as a final example, the NYISO were to activate EDRP resources and/or SCRs in Load Zones A, B and C for the same activation reason on a given day, the NYISO would apply a scarcity reserve demand curve during only the real-time intervals encompassed by the EDRP and/or SCR program activation.[25] This scarcity reserve demand curve would apply only to Load Zones A, B and C (*i.e.*, the scarcity reserve region associated with the EDRP and/or SCR program activation) with a 30-minute reserve requirement equal to the scarcity reserve requirement for Load Zones A, B and C. Any shortage of the scarcity reserve requirement would be valued at $500 per MWh.

Table 8 below provides the 30-minute reserve demand curves that would be effective during real-time intervals in which the NYISO has activated EDRP resources and/or SCRs in Load Zones A, B and C for the same activation reason.

[24] Activation of EDRP resources and/or SCRs in only Load Zone F was selected as an example to demonstrate a scenario in which the NYISO would simultaneously utilize: (i) a scarcity reserve demand curve; and (ii) the 30-minute reserve demand curves described in the third paragraph of each of Sections 15.4.7(i) and 15.4.7(j).

[25] As described in Part D of the response to Question No. 1, the NYISO would also utilize the 30-minute reserve demand curve described in the third paragraph of 15.4.7(i) for purposes of NYCA 30-Minute Reserves during only the real-time intervals encompassed by the EDRP and/or SCR program activation.

Table 8. 30-Minute Reserve Demand Curves during Real-Time Intervals with an EDRP and/or SCR Program Activation in Load Zones A, B and C for the Same Activation Reason[26]

				30-Minute Reserve Demand Curves			
Reserve Region	**Locational 30-Minute Reserve Requirement**	**Scarcity Reserve Requirement**	**Total 30-Minute Reserve Requirement**	**MW1**	**Value1**	**MW2**	**Value2**
NYCA	2620	0	2720 (2620+100)	≤2720 and >955	$750	≤955 and >0	$500
A-C	0	100	100	≤100 and >0	$500	N/A	N/A
EAST	1200	0	1200	≤1200 and >0	$25	N/A	N/A
SENY	1300	0	1300	≤1300 and >0	$500	N/A	N/A
LI	540	0	540	≤540 and >0	$25	N/A	N/A

D. Reflection of a Scarcity Reserve Requirement in the 30-Minute Reserve Requirement of "Upstream" Locational Reserve Regions

The locational reserve regions utilized by the NYISO are nested such that Operating Reserves held within a more constrained area simultaneously meet the needs of the larger area(s) within which the more constrained area is nested.[27] Due to the nested nature of the NYISO's locational reserve regions, it is necessary to reflect the MW value of any scarcity reserve requirement established in real-time in the 30-minute reserve requirement of the "upstream" locational reserve region(s) to which all the Loads included in a scarcity reserve region belong. Adjustment of the 30-minute reserve requirement in upstream locational reserve regions is intended to facilitate appropriate pricing outcomes.

The adjustment of the 30-minute reserve requirement for upstream locational reserve regions and the allocation of such requirement across the pricing points of the 30-minute reserve demand curves of such upstream regions is described in the third paragraph of each of Sections 15.4.7(i), 15.4.7(j) and 15.4.7(k). Tables 3 through 8 above demonstrate the application of this adjustment for the applicable upstream locational reserve region(s) for each of the hypothetical EDRP and/or SCR activations.[28] The adjusted reserve requirements in the affected upstream

[26] Activation of EDRP resources and/or SCRs in Load Zones A, B and C for the same activation reason was selected as an example to demonstrate a scenario in which the NYISO would simultaneously utilize a scarcity reserve demand curve and the 30-minute reserve demand curve described in the third paragraph of Section 15.4.7(i).

[27] For example, SENY is nested within both the East of Central-East and NYCA locational reserve regions. Thus, Operating Reserves procured in SENY simultaneously serve to fulfill the applicable requirements in East of Central-East and NYCA.

[28] The application of this adjustment and the resulting 30-minute reserve demand curves for the affected upstream locational reserve region(s) can be identified by review of the column labeled "Total 30-Minute Reserve Requirement" within each table. In cases where this adjustment would apply, the

locational reserve region(s) would apply during only the real-time intervals encompassed by the EDRP and/or SCR program activation at issue.

Question No. 2

> *In addition, NYISO stated in its original filing that the "revised demand curves reflect the addition of the Scarcity Reserve Requirement to the otherwise applicable 30-Minute Reserve requirement for the affected reserve region, with any shortage in meeting the Scarcity Reserve Requirement priced at $500 per MW." [footnote omitted] Please explain how the $750/MW price point is consistent with this statement in the original filing and the tariff revisions proposed in the original filing.*

Response

Scarcity reserves requirements established in real-time as a result of activating the EDRP and/or SCR program are in addition to the locational 30-minute reserve requirements that remain in effect at all times and the shortage pricing associated therewith. The $750 per MWh price point referred to in the question relates solely to a shortage pricing value on the NYCA 30-minute reserve demand curve.

In the case of NYCA, the otherwise applicable locational 30-minute reserve requirement (*i.e.*, 2,620 MW) remains in effect during EDRP and/or SCR program activations, as well as pricing for any shortages in meeting this underlying requirement. Any shortages in excess of 955 MW with respect to meeting the locational 30-minute reserve requirement are valued at $750 per MWh.[29] Retention of the $750 per MWh price point on the NYCA 30-minute reserve demand curve during real-time intervals in which the NYISO has activated the EDRP and/or SCR program is intended to provide for the continued application of this value to certain, significant shortages of the locational 30-minute reserve requirement.

As shown in Table 2, during real-time intervals in which a statewide activation of EDRP resources and/or SCRs occurs, the NYISO will utilize a revised NYCA 30-minute reserve demand curve that extends the MW amount of shortages valued at $500 per MWh to encompass shortages of up to 955 MW, plus the scarcity reserve requirement. Consistent with the statements in the Comprehensive Scarcity Pricing Filing,[30] this provides for valuing any shortage in meeting the scarcity reserve requirement for a statewide demand response activation at $500

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column reflects a parenthetical to indicate the addition of the MW amount of the scarcity reserve requirement to the otherwise applicable locational 30-minute reserve requirement for the affected upstream location reserve region(s).

[29] *See* Docket No. ER15-1061-000, *New York Independent System Operator, Inc.*, Proposed Tariff Revisions to Ancillary Service Demand Curves and the Transmission Shortage Cost at 7-9 and 16-17 (February 18, 2015); and *New York Independent System Operator, Inc.*, 151 FERC ¶ 61,057 at P 5 and 19 (April 20, 2015).

[30] Comprehensive Scarcity Pricing Filing at 7 and 14.

per MWh. Shortages in excess of this amount (*i.e.*, 955 MW, plus the scarcity reserve requirement) will continue to be valued at $750 per MWh.

As shown in Tables 3 through 8, during real-time intervals in which the NYISO activates EDRP resources and/or SCRs within a subset of all Load Zones, the NYISO will utilize an adjusted 30-minute reserve requirement for NYCA that accounts for the applicable MW amount of any scarcity reserve requirement.[31] In these cases, shortages of less than 955 MW of the total NYCA 30-minute reserve requirement are valued at $500 per MWh.[32] Shortages in excess of 955 MW continued to be valued at $750 per MWh. Tables 3 through 8 further demonstrate that any shortage in meeting the actual scarcity reserve requirement for the Load Zone(s) in which the NYISO has activated EDRP resources and/or SCRs is valued at $500 per MWh in accordance with the applicable reserve demand curve established for pricing this requirement for the affected scarcity reserve region.

In comments filed in response to the March 29 Compliance Filing, the New York Transmission Owners raised a concern regarding the NYCA 30-minute reserve demand curve that applies during real-time intervals in which the NYISO has activated a subset of all Load Zones.[33] Specifically, the New York Transmission Owners' concern relates to the manner in which the adjusted 30-minute reserve requirement is allocated across the two pricing points of the reserve demand curve.[34] As indicated in New York Transmission Owners' comments, the NYISO has been apprised of this concern. Although this design feature is contemplated in the tariff revisions previously reviewed and approved by stakeholders, filed as part of the Comprehensive Scarcity Pricing Filing and accepted by the March 1 Order, the NYISO has committed to further discuss this concern with its stakeholders to determine whether any additional, future revisions to the Comprehensive Scarcity Pricing logic are warranted. The New York Transmission Owners agree that implementation of Comprehensive Scarcity Pricing for

[31] As described in Part D of the response to Question No. 1, this adjustment to the 30-minute reserve requirement for NYCA is intended to facilitate proper pricing outcomes accounting for the nested nature of the NYISO's locational reserve regions.

[32] During real-time intervals encompassed by any activation of the EDRP and/or SCR program for a subset of all Load Zones, the NYISO will increase the value of all points of the NYCA 30-minute reserve demand curve priced below $500 per MWh to $500 per MWh. Increasing the value of these pricing points is intended to provide that, if activating a subset of all Load Zones assists in avoiding a shortage of statewide reserves, the NYCA Operating Reserves prices will appropriately reflect the value of the EDRP resources and/or SCRs.

[33] Docket No. ER16-425-001, *supra*, Comments of the New York Transmission Owners at 2-3 (April 19, 2016).

[34] *Id*. The New York Transmission Owners contend that the manner in which the adjusted 30-minute reserve requirement is allocated among the pricing points of the reserve demand curve has the potential to result in circumstances in which certain shortages of the underlying locational 30-minute reserve requirement (*i.e.*, 2,620 MW) that would otherwise be valued at $500 per MWh in the absence of activating the EDRP and/or SCR program instead being valued at $750 per MWh. Although theoretically possible, the NYISO believes that a shortage of the magnitude necessary to cause this situation is unlikely to arise.

this summer "should not be delayed pending [the NYISO's further review of the New York Transmission Owners' concern through its stakeholder process]."[35]

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 Public Service Commission, and the New Jersey Board of Public Utilities. In addition, the complete filing will be posted on the NYISO's website at www.nyiso.com.

IV. Conclusion

In light of timing considerations described in Section I above, the New York Independent System Operator, Inc. respectfully requests that the Commission accept the proposed tariff revisions submitted as part of the March 29 Compliance Filing as expeditiously as practicable with an effective date consistent with the effective date to be established for the tariff revisions accepted by the March 1 Order.

Respectfully submitted,

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[35] *Id.* at 3.

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 26th day of May 2016.

/s/ Joy A. Zimberlin

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