



January 31, 2017

Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, D.C. 20426

Re: *New York Independent System Operator, Inc. and PJM Interconnection, L.L.C.*,
Docket No. ER17-____-000;
Proposed Revisions to Joint Operating Agreement Addressing Interchange
Scheduling and Market-to-Market Coordination on the ABC Interface and JK
Interface After the 1,000 MW Wheel Concludes

Dear Ms. Bose:

Pursuant to Section 205 of the Federal Power Act,¹ the New York Independent System Operator, Inc., (“NYISO”) and PJM Interconnection, L.L.C. (“PJM”) (collectively the “RTOs”) submit, in electronic format, proposed revisions to the Joint Operating Agreement (“JOA”) between NYISO and PJM that is set forth in Attachment CC (Section 35) to the NYISO’s Open Access Transmission Tariff (“NYISO OATT”).² In addition, the NYISO submits proposed revisions to one section of its Market Administration and Control Area Services Tariff (“NYISO Services Tariff”). The revisions proposed in this filing primarily address interchange scheduling and the implementation of Market-to-Market (“M2M”) coordination at the ABC Interface and JK Interface on the border of Southeastern New York and Northern New Jersey. These interfaces are currently utilized to wheel 1,000 MW of power from New York to New Jersey over the JK Interface and from New Jersey into New York City over the ABC Interface. However, this unique arrangement (referred to as the “1,000 MW Wheel”) will terminate on April 30, 2017. Accordingly, the RTOs propose to more fully incorporate the facilities that have been used to effectuate the 1,000 MW Wheel into their interchange scheduling and M2M practices. Without

¹ 16 U.S.C. §824d.

² Order No. 714, *Electronic Tariff Filings*, ¶ 31,276 (2008), and Section 35.1 of the Commission’s regulations, 18 C.F.R. § 35.1(a), allow multiple public utilities that are parties to the same tariff (e.g., a joint tariff such as the JOA) to designate one of the public utilities as the designated filer of the joint tariff. The designated filer submits a single tariff filing for inclusion in its database that reflects the joint tariff, along with the requisite certificates of concurrence from the other parties to the joint tariff. NYISO is the designated filing party for the JOA. Therefore, NYISO is submitting the JOA modifications in the instant filing along with PJM’s Certificate of Concurrence. The designation of the NYISO as the designated filer for the JOA is for administrative convenience and in no way shall limit PJM’s filing rights under the Federal Power Act as they relate to the JOA.

these proposed revisions, the RTOs will have no tariff provisions governing the operation of the ABC Interface and JK Interface facilities.

I. Background

A. History of the 1,000 MW Wheel

The NYISO and PJM currently implement an Operating Protocol³ to facilitate the planning, operation, control, and scheduling of energy between the NYISO and PJM associated with two Long-term Firm Point-to-Point Transmission Service Agreements (“2008 TSAs”) entered into by Consolidated Edison Company of New York (“Con Edison”) and PJM, dated April 18, 2008.⁴ The 2008 TSAs⁵ were executed in connection with the rollover of two grandfathered contracts dated May 22, 1975 (as amended May 9, 1978) and May 8, 1978 between Con Edison and Public Service Electric and Gas Company (“PSEG”).

On April 22, 2008, PJM filed the 2008 TSAs along with Operating Protocol in Docket No. ER08-858-000,⁶ and on April 23, 2008, NYISO filed the Operating Protocol for informational purposes in Docket No. ER08-867-000.⁷ Various parties filed protests and comments in these proceedings, objecting to the non-conforming provisions of the 2008 TSAs and the Operating Protocol. The Commission accepted and suspended, subject to refund, the 2008 TSAs and Operating Protocol, consolidated the two dockets and set them for hearing and settlement procedures.⁸ After extensive negotiations, the parties filed a settlement agreement on February 23, 2009.⁹ The Commission approved the settlement agreement, and found the settlement agreement and the 2008 TSAs and Operating Protocol (revised by the settlement) just and reasonable, on September 16, 2010.¹⁰

The two 2008 TSAs, based on the rollover of the grandfathered contracts, currently provide for Con Edison to deliver 1,000 MW of power to PJM in northern New Jersey, over the

³ See Schedule C to the JOA (NYISO OATT Section 35.22).

⁴ While the 2008 TSAs were dated and filed in 2008, they became effective on May 1, 2012.

⁵ The 2008 TSAs consist of a firm point-to-point service agreement for 400 MW designated as Original Service Agreement No. 1874 and a firm point-to-point service agreement for 600 MW designated as Original Service Agreement No. 1873.

⁶ *Submission of PJM Interconnection, L.L.C.*, Docket No. ER08-858-000 (April 22, 2008).

⁷ *Submission of NYISO, for Informational Purposes, of a New Schedule C to the Joint Operating Agreement Among and Between New York Independent System Operator, Inc. and PJM Interconnection, L.L.C.*, Docket No. ER08-867-000 (April 23, 2008).

⁸ *PJM Interconnection, L.L.C.*, 124 FERC ¶ 61,184, at P 1 (2008).

⁹ *Settlement and Offer of Settlement*, Docket Nos. ER08-858-000, ER08-867-000 and EL02-23-000 (Feb. 23, 2009). The Settling Parties were PJM, the NYISO, Con Edison, PSEG, PSEG Energy Resources & Trade LLC and the New Jersey Board of Public Utilities.

¹⁰ *PJM Interconnection, L.L.C. v. Pub. Serv. Elec. & Gas Co.*, 132 FERC ¶ 61,221, at P 1 (2010), *order on reh'g*, 135 FERC ¶ 61,018 (2011), *aff'd*, *NRG Power Mktg., LLC v. FERC*, 718 F.3d 947 (D.C. Cir. 2013).

JK Interface,¹¹ and for PJM to redeliver the same amount of power to Con Edison in New York City, over the ABC Interface,¹² *i.e.*, the 1,000 MW Wheel.¹³ The terms of the 2008 TSAs are from May 1, 2012 to April 30, 2017. On April 28, 2016, Con Edison informed PJM that it was choosing not to exercise its rollover rights pursuant to sections 2.2 and 2.3 of the PJM Open Access Transmission Tariff and, therefore, the 2008 TSAs would terminate by their own terms on April 30, 2017.¹⁴ Thus, the 1,000 MW Wheel arrangement will come to an end and the Operating Protocols will become obsolete.

B. Current Interchange Scheduling Process

With the 1,000 MW Wheel in place, the NYISO and PJM currently implement interchange between NYISO and PJM by reviewing offers and scheduling transactions over the PJM-NY AC Proxy Bus. The scheduled interchange between NYISO and PJM is expected to flow according to the pre-set distribution of 61% over the PAR-controlled 5018 line (also referred to as the Ramapo Interface)¹⁵ and 39% over the Western ties (which are geographically located on New York's border with Pennsylvania). This distribution is explicitly modeled in the NYISO's Day-Ahead Market and Real-Time Market. The NYISO's market models assume that for every MW of total interchange injected at the proxy bus in the Day-Ahead Market, and for every MW of incremental change in interchange injected at the Proxy Bus in the Real-Time Market, 0.61 MW is directed over the 5018 line, and the remainder is directed to flow over the Western ties. There are some limited circumstances where scheduled interchange may occur over the ABC Interface and JK Interface when the 5018 line is at its capacity.¹⁶

II. Discussion

A. Overview

The RTOs have worked together to develop a revised set of JOA rules to schedule interchange and implement market-to-market coordination on the ABC Interface and JK Interface after termination of the 1,000 MW Wheel TSAs. The ABC Interface and JK Interface will be combined with the 5018 line¹⁷ and the Western ties¹⁸ into an aggregate PJM-NY AC

¹¹ The transfer path comprised of the JK Ramapo-South Mahwah-Waldwick tie lines between PJM and NYISO.

¹² The transfer path comprised of the A2253 Linden-Goethals, B3402 Hudson-Farragut and C3403 Marion-Farragut tie lines between PJM and NYISO.

¹³ To facilitate the 1,000 MW Wheel, NYISO and PJM model the 1,000 MW as flowing from NYISO to PJM over the JK Interface, and from PJM back to NYISO over the ABC Interface. The MW schedule is based on the daily MW election by Con Edison, which is communicated to the NYISO and PJM for scheduling and operation. *See* Schedule C to the JOA at Appendix 6 (NYISO OATT Section 35.22 at Appendix 6).

¹⁴ *Letter to Andrew Ott from Milovan Blair* dated April 28, 2016 attached hereto as Attachment VI.

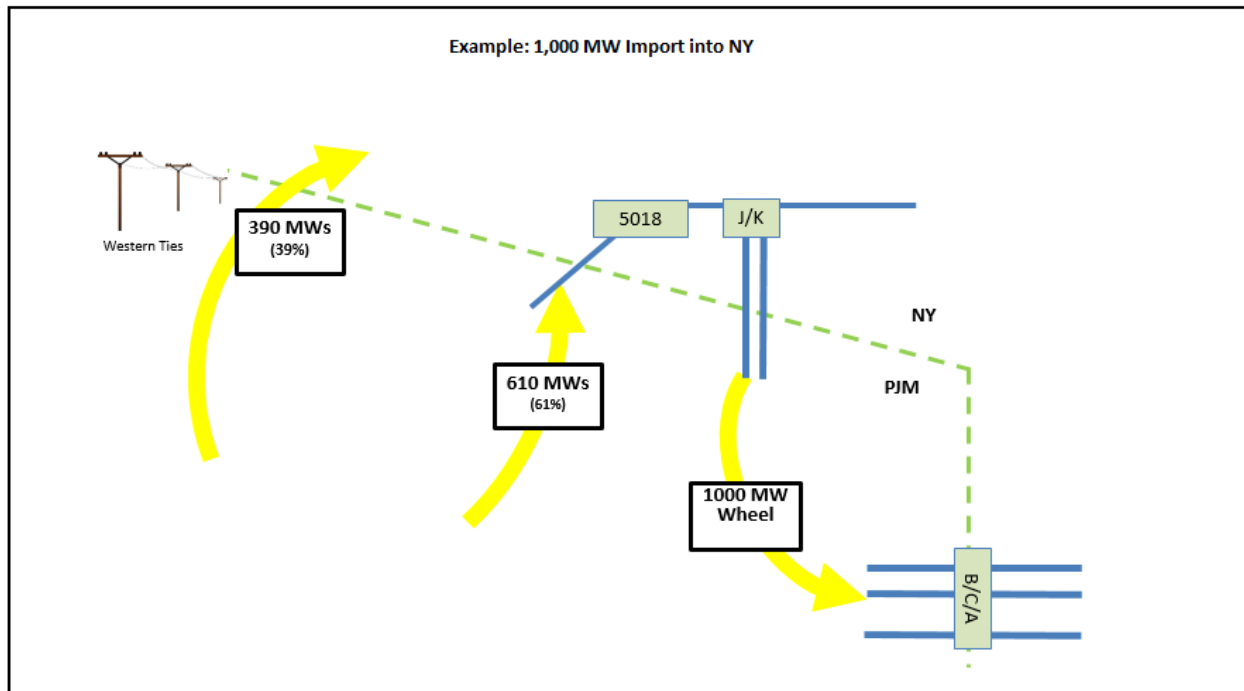
¹⁵ *See* Section 7.2.1 of Schedule D to the JOA (currently, 61% of the net interchange schedule between PJM and NYISO is expected to flow across the Ramapo PARs when both PARs are in service. If one Ramapo PAR is out of service, but not both, 46% of the net interchange schedule is expected to flow across the Ramapo Interface).

¹⁶ *See* Schedule C to the JOA at Appendix 3 (NYISO OATT Section 35.22 at Appendix 3).

¹⁷ This is the Hopatcong (PJM) – Ramapo (NYISO) 500 kV PAR controlled facility between PJM and NYISO.

Proxy Bus. Employing a single PJM-NY AC Proxy Bus presents several advantages. First, the redefined proxy bus leverages existing interchange scheduling constructs in both the NYISO and PJM markets and can be implemented in a timeframe that accommodates the required May 1, 2017 effective date. Second, the existing PAR technology and associated devices currently installed at the ABC Interface and JK Interface can support implementation of the proposed redefined proxy bus on May 1, 2017. The existing PARs are capable of facilitating an aggregate PJM-NY AC Proxy Bus interchange schedule across the ABC Interface, JK Interface, 5018 line, and the Western ties.¹⁹ In the event of under- or over-deliveries across one of the interfaces that comprise the proxy bus, the difference can be balanced across the other interfaces. The three figures below show the current protocol (including interchange scheduling and the 1,000 MW Wheel) and the proposed protocol with the ABC Interface and JK Interface included in interchange scheduling. The proposed protocol is discussed in detail below.

Figure 1: Current Protocol – Example of Flows over the ABC Interface, JK Interface, 5018 line and the Western ties



¹⁸ The non-PAR controlled free flowing AC ties between NYISO and PJM that are geographically located on the New York to Pennsylvania border. This interface consists of 345 kV, 230 kV and 115 kV transmission facilities.

¹⁹ The existing PARs installed at the ABC Interface and JK Interface generally provide control for NYISO and PJM operators to manage interface flows within a tolerance but cannot adequately effectuate individual interchange schedules at each interface. In order to establish effective market signals, the actual flows need to align with interchange schedules. The current equipment does not allow schedules to be effectively aligned with actual flows on an individual interface basis, potentially creating financial gaming opportunities.

Figure 2: Proposed Protocol – Example of Flows over the ABC Interface, JK Interface, 5018 line and the Western ties

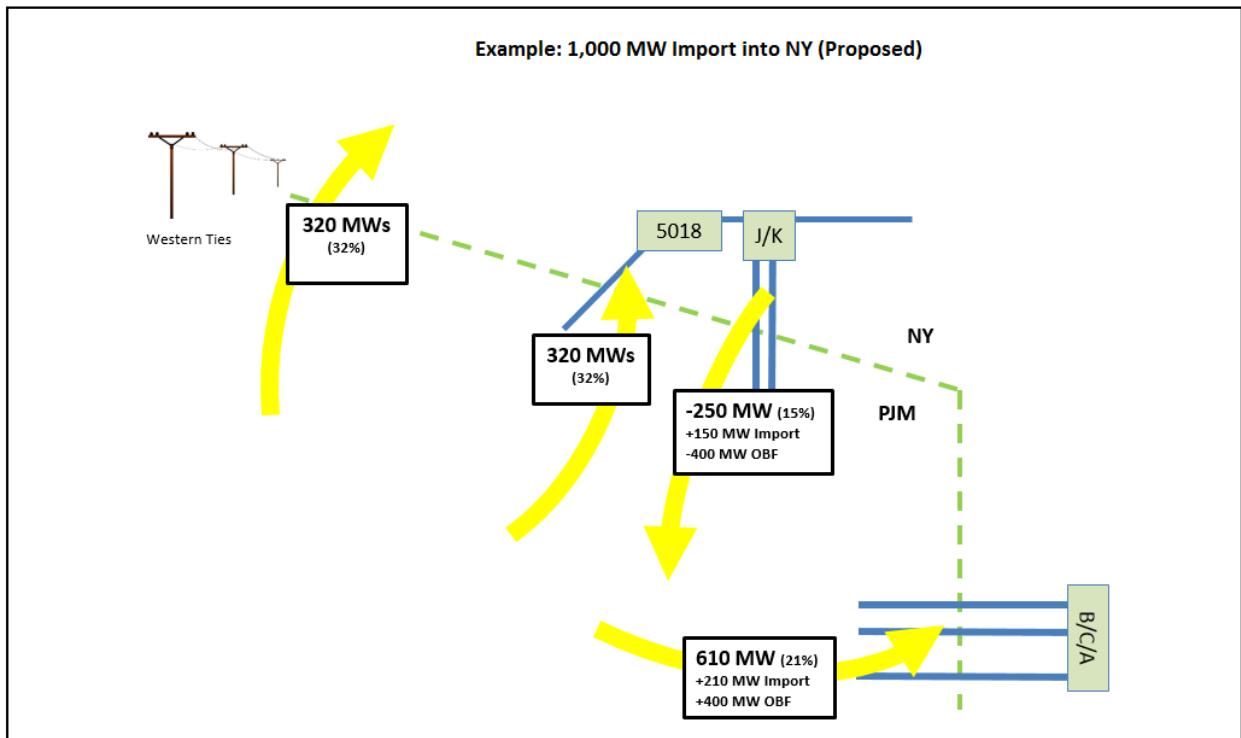
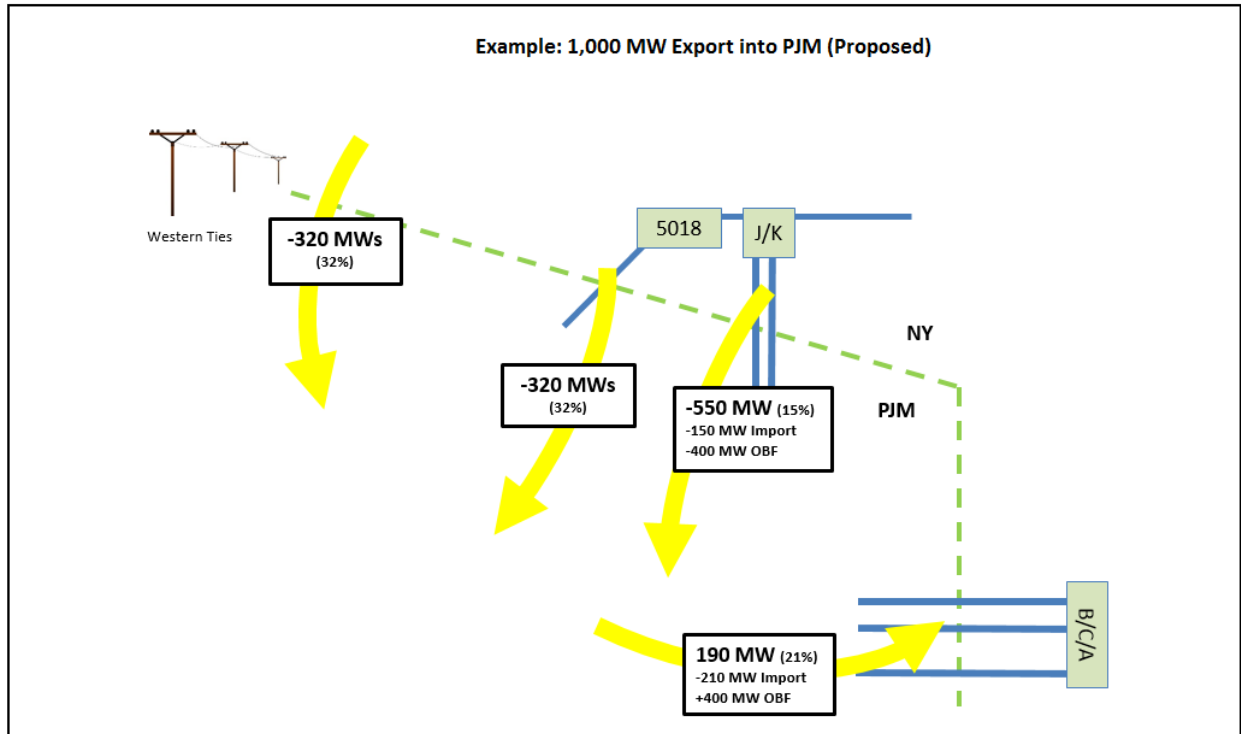


Figure 3: Proposed Protocol – Example of Flows over the ABC Interface, JK Interface, 5018 line and the Western ties



The RTOs also propose to utilize the PARs at the ABC Interface and JK Interface for Market-to-Market (“M2M”) PAR coordination to minimize congestion across both NYISO and PJM regions. NYISO and PJM already use the Ramapo PARs²⁰ for M2M PAR coordination and propose to introduce the same type of PAR coordination using the ABC PARs²¹ and Waldwick PARs²² commencing on May 1, 2017. By combining M2M PAR coordination with the aggregate scheduling of the ABC Interface, JK Interface and 5018 line, the NYISO and PJM can effectuate aggregate interchange schedules across the PJM-NY AC Proxy Bus in a manner that also permits the RTOs to manage regional congestion with the full set of available PARs (referred to as the “NY-NJ PARs”).²³

The proposed protocol incorporates the ABC Interface and JK Interface into interchange scheduling and M2M PAR coordination between NYISO and PJM to replace the current non-conforming 1,000 MW Wheel. There are no impacts to procedures or applications (such as Coordinated Transaction Scheduling) other than the proposed changes in this filing.

B. Proposed Interchange Scheduling Process

The RTOs propose to implement interchange by reviewing offers and scheduling transactions over the redefined PJM-NY AC Proxy Bus. The process will remain substantially similar to today; however, the ABC Interface and JK Interface facilities will be specifically included in the proxy bus definition.²⁴

1. Proposed Interchange Distribution

Based on the result of power flow studies jointly performed by PJM and NYISO, scheduled interchange will be distributed across the interface facilities based on a static expected interchange distribution of 32% over the Ramapo Interface, 15% over the JK Interface, 21% over the ABC Interface, and 32% over the Western ties. The interchange percentages will then be further broken down to each PAR-controlled facility. On the 5018 line, each Ramapo PAR will be assigned 16% of interchange. On the JK Interface, each Waldwick PAR will be assigned 5% of interchange. On the ABC Interface, each ABC PAR will be assigned 7% of interchange. If any of the PARs on these interfaces are out of service, the percentage of interchange normally assumed to flow over that PAR will instead be assumed to flow over the Western ties. The proposal allows the RTOs to leverage existing market and modeling concepts over the expanded distribution of expected PJM-NY AC interchange.

²⁰ “Ramapo PARs” refers to the 3500 PAR and 4500 PAR that control flow on the Ramapo Interface.

²¹ “ABC PARs” refers to the A PAR, B PAR and C PAR that control flow on the ABC Interface.

²² “Waldwick PARs” refers to the E PAR, F PAR and O PAR that control flow on the JK Interface.

²³ The NY-NJ PARs consist of the Ramapo PARs, ABC PARs, and the Waldwick PARs.

²⁴ The proposal outlined in this filing is based on the current technology that exists at the ABC Interface and JK Interface. The NYISO and PJM could revisit this design to determine if interfaces can be individually scheduled if the technology is upgraded or replaced.

The Locational Based Marginal Prices (“LBMPs”) developed for NYISO’s PJM Keystone Proxy Bus²⁵ and the Locational Marginal Prices (“LMPs”) developed for PJM’s NYIS Proxy Bus²⁶ will be weighted to include the impacts of imports/exports over the ABC Interface and JK Interface, much like the weighting that occurs today to include the impacts of imports/exports over the Ramapo Interface. These proxy buses will be modeled in the NYISO and PJM markets with the objective that for every MW of total interchange injected at the PJM-NY AC Proxy Bus in the Day-Ahead Market, and for every MW of incremental change in interchange injected at the Proxy Bus in the Real-Time Market, 0.21 MW is directed over the ABC Interface, 0.15 MW is directed over the JK Interface, 0.32 MW is directed over the 5018 line, and the remainder is distributed across the Western ties. The impacts of imports and exports on the NYISO and PJM transmission systems will be reflected in the proxy bus LBMPs/LMPs, weighted by the same power flow distribution percentages applied to the interchange in the market models.

Market Participants will continue to bid in the same manner as they do today in both PJM’s and NYISO’s energy markets. Specifically, there will continue to be a single bidding point for PJM-NY AC Interchange. In the NYISO Day-Ahead Market and Real-Time Market, this will continue to be at the PJM Keystone Proxy Bus. In the PJM Day-ahead and Real-time Energy Markets, this will continue to be at the NYIS Proxy bus. While the bidding location for PJM-NY AC interchange will not change, the scheduling and pricing of the proxy bus will change to include the ABC Interface and JK Interface, as discussed above.

The NYISO and PJM studied several scenarios, with different distribution percentages, prior to arriving at the proposed distribution. These scenario analyses identified reliability issues²⁷ in Northern New Jersey as well as delivery limitations when exporting from PJM to the NYISO on the JK Interface and when exporting from NYISO to PJM on the ABC Interface. The results identified the potential for severe thermal violations in Northern New Jersey under the high load and high transfer to New York Summer OATF case, demonstrated a shifting of flows from the 230 kV system to the 345 kV system, and demonstrated that PAR tap adjustments could be exhausted prior to achieving the desired flow.²⁸ The results also demonstrated a lack of operational flexibility under extreme system conditions as phase angle limitations on the Waldwick PARs did not allow for flows to be adjusted to meet scheduled targets when high levels of exports into NYISO are assumed. NYISO analyses identified delivery limitations when exporting to PJM over the ABC Interface after securing for N-1-1 on the NYISO system, and then attempting further deliveries.

²⁵ “Keystone Proxy Bus” is the name used in the NYISO software to identify the PJM-NY AC Proxy Bus.

²⁶ “NYIS Proxy Bus” is the name used in the PJM software to identify the PJM-NY AC Proxy Bus.

²⁷ See PJM OC presentation: <http://www.pjm.com/~media/committees-groups/committees/oc/20160913/20160913-item-14-pjm-nyiso-wheel-replacement-overview.ashx>.

²⁸ The results were discussed and presented to stakeholders in a joint white paper from the NYISO and PJM, Con Ed/PSEG Wheel Replacement Proposal, attached hereto as Attachment VII and available at http://www.nyiso.com/public/webdocs/markets_operations/committees/mc/meeting_materials/2016-12-21/FINAL%20ConEd%20PSEG%20Wheel%20Replacement%20Proposal%20Whitepaper.pdf.

After identification of reliability issues in Northern New Jersey under the PJM high export assumption, further studies were performed to identify designs that would allow for continued support of historical Total Transfer Capability (“TTC”) between the two regions. The NYISO and PJM conducted studies focused on natural system flows with zero interchange scheduled between PJM and NYISO and all interface PARs held at neutral tap. Natural system flow was determined by measuring the flow across the system border as a result of the electrical characteristics of the transmission system absent any user controlled PAR adjustments under a balanced generation and load dispatch. The studies focused on summer peak cases and demonstrated a natural system flow from NYISO to PJM over the JK Interface and from PJM to NYISO over the ABC Interface. The existence of this natural tendency is unsurprising, since Con Edison, PSEG, NYISO (including its predecessor, the New York Power Pool) and PJM planned their systems to accommodate the 1,000 MW Wheel for over 30 years. The RTOs, therefore, propose to include a natural system flow offset, referred to as an “Operational Base Flow” or “OBF,” of 400 MW into PJM over the JK Interface and 400 MW into New York on the ABC Interface when scheduling interchange and when determining target flows.

2. Proposed Operational Base Flow

The proposed initial 400 MW OBF is necessary to address the short-term reliability issues in Northern New Jersey described above and to maintain historical interface transfer limits. The RTOs propose to apply an initial OBF of 400 MW in interface flows until transmission upgrades are completed in Northern New Jersey. Absent the OBF, the TTC between the two areas would have to be reduced. The OBF is not a firm transmission service on either the NYISO transmission system or the PJM transmission system. The proposed JOA revisions provide that the OBF will not result in charges from one RTO to the other RTO, or from one RTO to the other RTO’s Market Participants, except for the settlements described in the Real-Time Energy Market Coordination and Settlements provisions set forth in Sections 7 and 8 of Schedule D to the JOA. In particular, the NYISO and its Market Participants will not be subjected to PJM Regional Transmission Expansion Plan (“RTEP”) cost allocations as a result of the RTOs’ implementation of an OBF.²⁹

The initial OBF of 400 MW will be applied over the JK Interface from NYISO to PJM and over the ABC Interface from PJM to NYISO in conjunction with the interchange distribution percentages discussed above. NYISO and PJM have agreed that the initial OBF will be evenly distributed across each of the three PARs at the JK Interface, with the expected flow over each PAR to include one-third of the OBF value. At the ABC Interface, the expected flow over the A PAR will ordinarily include 25% of the OBF value and the expected flows for the B and C PARs will each ordinarily include 37.5% of the OBF value. These distribution percentages for the initial OBF and the interchange distribution percentages were agreed upon by PJM and NYISO based on the current transmission system and PAR angle limitations experienced on the Waldwick PARs and ABC PARs. The proposed JOA revisions also allow the RTOs to mutually agree to modify the OBF MW value or the distribution of the OBF MWs across the PARs.

²⁹ See JOA Section 35.2.1 (proposed definition of OBF).

NYISO and PJM will review the OBF MW value at least annually to determine if modification is appropriate. The NYISO and PJM will each post, on their respective websites, the OBF values, in MW, normally applied to each ABC PAR and Waldwick PAR when all of the ABC PARs and Waldwick PARs are in service. The RTOs will update their website postings if the OBF MW value or the OBF distribution across the PARs is modified. The OBF posting will also specify how the OBF MWs are distributed across the in-service NY-NJ PARs when one or more of the NY-NJ PARs are out of service. The initial OBF value is expected to be reduced to zero MW within five years, when, as discussed below, system conditions permit reduction of the OBF.

The RTOs propose to include provisions in the JOA that will permit either RTO to establish a temporary OBF to address a reliability issue until a long-term solution to the identified reliability issue can be implemented. If one RTO needs to establish a temporary OBF, the OBF value must be set at a level that both RTOs agree they can reliably support. The RTO that establishes the OBF must: (1) explain the reliability need to the other RTO; (2) describe how the OBF addresses the identified reliability need; and (3) identify the expected long-term solution to address the reliability need. The NYISO and PJM also reviewed the proposed initial 400 MW OBF using these three criteria. Through this review, PJM identified the reliability need (discussed above). PJM and NYISO examined how the OBF addresses the reliability need by providing operational flexibility and by allowing the RTOs to utilize higher transfer limits on the JK Interface and ABC Interface to maintain reliability in Northern New Jersey. The OBF improves transfer capability and alleviates thermal violations in Northern New Jersey that arise when distributing interchange across each interface. PJM then identified the Bergen-Linden Corridor project under development in Northern New Jersey that is expected to obviate the reliability need for the OBF in the long-term, *i.e.*, within no more than five years. To implement the initial OBF as well as any future OBF, the facilities on the ABC Interface and JK Interface are to be functional and operational, consistent with good utility practice.

C. Proposed Market-to-Market PAR Coordination Modifications

The RTOs currently engage in M2M PAR coordination using the Ramapo PARs. NYISO and PJM propose to incorporate the ABC PARs and Waldwick PARs into M2M PAR coordination commencing May 1, 2017. The ABC PARs and Waldwick PARs were not previously included in M2M PAR coordination because their primary function was to facilitate delivery of the 1,000 MW Wheel.

M2M PAR coordination is a real-time operations mechanism that signals the PJM and NYISO operators when the PARs can be used to minimize regional congestion. Moving taps on PARs allows the operators to reduce regional congestion by redistributing flows across the various AC interfaces between NYISO and PJM. Today, the JOA includes M2M PAR coordination rules and associated settlement rules that were accepted by the Commission.³⁰ The RTOs propose to modify the JOA by adding the facilities formerly controlled by the wheel protocol and apply the M2M PAR coordination rules to all NY-NJ PARs.³¹

³⁰ See *New York Independent System Operator, Inc.*, 138 FERC ¶ 61,192 (2012).

³¹ See Section 7.2 of Schedule D to the JOA.

The RTOs propose to develop an M2M PAR “target value” for each of the ABC PARs and Waldwick PARs, similar to what is in place today for the Ramapo PARs. The RTOs will determine the target flow over each PAR by combining the applicable static percentage of scheduled interchange, the applicable OBF value, and the applicable percentage of Rockland Electric Company load (“RECo Load”). The proposed JOA revisions specify the percentage of interchange used to calculate the interchange factor for each PAR and the percentage of RECo Load that will be included in the target value calculation for each PAR. The OBF values normally applied to the ABC PARs and Waldwick PARs will be posted on the RTOs’ websites. The formula for deriving the target flow at each PAR can be expressed as follows:

$$\text{Target Flow} = \text{Interchange Factor} + \text{OBF} + \text{RECo Load}$$

For example, if the desired net interchange (based on economic transaction schedules) is 1,300 MW into NYISO, the target flow over the A PAR would be determined as follows: $(1300 * 21\% / 3 + (400 * 25\%) + (0\% * \text{RECo Load})) = 191$ MW into NYISO. Consistent with the existing JOA, 80% of RECo Load is included in the target flow toward the NYISO for the 5018 line PARs. An example of a target flow calculation for a PAR that includes RECo Load could be as follows, if the total net interchange is 1,300 MW into PJM (*i.e.*, -1,300 MW) and RECo load is 450 MW, then the target flow on the 3500 PAR (at the Ramapo Interface) is $([-1300 * 32\%] / 2 + (0) + [450 * 80\%] / 2)$ or -28 MW (*i.e.*, 28 MW into PJM).

The RTOs are not proposing to modify service to RECo Load in this filing. The current construct for serving RECo Load requires PJM to compensate NYISO when serving RECo causes congestion on the New York system. Eighty percent (80%) of telemetered real-time RECo Load will continue to be included in the target flows over the Ramapo PARs. When both Ramapo PARs are in service, 40% of RECo Load will be included in the target value for each Ramapo PAR. If one Ramapo PAR is out of service, 80% of RECo Load will be included in the target value for the in-service Ramapo PAR. To the extent the 5018 line and Ramapo PARs are unable to serve 80% of RECo Load, the power to serve RECo Load will travel from PJM to New York over the Western ties and across the New York Transmission System to the RECo service area. The current treatment of RECo Load was added to the JOA in January 2013.³² NYISO and PJM agree to continue to discuss alternative approaches to serve RECo Load.

M2M PAR settlements between NYISO and PJM currently reflect the effect that the operation of the Ramapo PARs are having on regional congestion. The RTOs propose to revise the settlement rules currently set forth in the JOA to include the full effect of all in-service NY-NJ PARs on regional congestion. Target values, as explained above, are compared to the actual flow values to determine the M2M PAR settlement component associated with each PAR. This M2M settlement component accounts for the different impact each PAR has on congestion for each RTO by multiplying a PAR’s shift factor with the shadow price of each active flowgate. This resultant is then multiplied by the PAR’s deviation from its target flow to arrive at the M2M settlement component. Each PAR’s M2M settlement component could reflect a net relief or net

³² See *New York Independent System Operator, Inc.*, 140 FERC ¶ 61,205 (2012).

harm on system congestion. The M2M PAR settlement component will then be netted for all eight NY-NJ PARs, for each interval, to produce a consolidated settlement value.

D. System Planning

The RTOs do not propose any JOA changes with respect to system planning. PJM and NYISO planning personnel have communicated and will continue to communicate the treatment of interchange and the OBF in future planning cases through their respective stakeholder processes.

NYISO will review all relevant data inputs, including the OBF, to establish study assumptions at the start of each planning study. In general, NYISO planning models representing the bulk power system from May 1, 2017 through May 31, 2021 will incorporate the 400 MW OBF. Planning models representing the bulk power system beyond June 1, 2021 will assume an OBF of zero MW.

The PJM planning models will assume a zero MW OBF for future cases. PJM reviewed the zero MW OBF methodology with PJM stakeholders at several PJM Planning Committee meetings in 2016. Additionally, PJM reiterated the zero MW OBF assumption for the 2017 RTEP at the recent Transmission Expansion Advisory Committee (“TEAC”) assumptions meetings in December 2016 and January 2017. PJM’s System Planning Division will annually review the OBF assumption with the TEAC to confirm no changes are needed.

II. Stakeholder Involvement

The JOA revisions proposed in this filing are the product of extensive discussions between the RTOs.

The NYISO and PJM conducted two joint stakeholder meetings on August 15, 2016 and September 16, 2016.

The NYISO formally presented and discussed the proposed revisions with its stakeholders on numerous occasions prior to the Management Committee (“MC”), in addition to the two joint stakeholder meetings. Presentations were given at the NYISO Market Issues Working Group (“MIWG”) meetings held on June 23, 2016, July 21, 2016, August 29, 2016, September 29, 2016, October 19, 2016 and November 29, 2016. The proposed changes were also discussed with the NYISO’s Business Issues Committee (“BIC”) on December 14, 2016. On December 21, 2016, the NYISO’s MC unanimously supported the proposed revisions, with abstentions.

PJM began discussions with stakeholders in July 2016, and subsequent months, discussed the proposed revisions with them at a high level in November 2016, and also formally presented and discussed the JOA revisions proposed in this filing with its stakeholders at its December 2016 Operating Committee (“OC”), Market Implementation Committee (“MIC”), Planning Committee (“PC”), and Markets and Reliability Committee (“MRC”) meetings.

III. Description of Proposed Tariff Revisions

A. Proposed Revisions to Section 35.2 of the JOA

The RTOs propose revisions to the definitions section of the JOA and to add several new definitions. Most of the new definitions relate to identifying the facilities on the various AC interfaces between NYISO and PJM. The RTOs propose to define each PAR individually, each interface between the two areas, and the PARs on each interface as a collective group. A set of example definitions is included below for the Ramapo Interface, with similar sets of definitions proposed for the facilities comprising the ABC Interface and JK Interface:

- **“3500 PAR”** shall mean the 3500 phase angle regulator at the Ramapo station connected to the 5018 Hopatcong-Ramapo 500 kV line.
- **“4500 PAR”** shall mean the 4500 phase angle regulator at the Ramapo station connected to the 5018 Hopatcong-Ramapo 500 kV line.
- **“Ramapo Interface”** shall mean the transfer path comprised of the 5018 Hopatcong-Ramapo 500 kV tie line between PJM and NYISO.
- **“Ramapo PARs”** shall mean the 3500 PAR and 4500 PAR that control flow on the Ramapo Interface.

The RTOs also propose a new definition to describe all of the PARs on the border between NYISO and PJM and a definition for Operational Base Flow.

- **“NY-NJ PARs”** shall mean, individually and/or collectively, the ABC PARs, the Ramapo PARs, and the Waldwick PARs, all of which are components of the NYISO – PJM interface.
- **“Operational Base Flow” or “OBF”** shall mean an equal and opposite MW offset of power flows over the Waldwick PARs and ABC PARs to account for natural system flows over the JK Interface and the ABC Interface in order to facilitate the reliable operation of the NYISO and/or PJM transmission systems. The OBF is not a firm transmission service on either the NYISO transmission system or on the PJM transmission system. The OBF shall not result in charges from one Party to the other Party, or from one Party to the other Party’s Market Participants, except for the settlements described in the Real-Time Energy Market Coordination and Settlements provisions set forth in Sections 7 and 8 of Schedule D to this Agreement. In particular, the NYISO and its Market Participants shall not be subjected to PJM Regional Transmission Expansion Plan (“RTEP”) cost allocations as a result of the OBF.

The RTOs propose to remove references to Schedule C to the JOA, which contains the Operating Protocol for the Implementation of ConEd – PJM Transmission Service Agreements. In addition, the RTOs propose several types of ministerial revisions that appear throughout the JOA, including use of new defined terms and improved consistency of internal references to other sections of the JOA.

B. Proposed Revisions to Section 35.6 of the JOA

PJM and NYISO rely on emergency assistance during extreme weather conditions and peak load days, as well as other conservative operating events. The RTOs propose to add a new subsection related to emergency conditions. The new language describes the expectations for PAR operation during emergencies and allows the NYISO and PJM to implement appropriate emergency procedures during system emergencies on either the NYISO or PJM system. This assistance during emergency conditions provides both RTOs with a higher level of reliability, which preserves load and reserve margins during emergency events.

C. Proposed Revisions to Sections 35.12, 35.20, and 35.21 of the JOA

The RTOs propose minor revisions to Sections 35.12, 35.20, and 35.21 of the JOA. Revisions to Section 35.12 include updated references to PARs based on new defined terms and a ministerial revision to use an existing defined term. In Section 35.20, the RTOs propose to update the contact information in the Notices section and to update the signatories named at the end of the section.

JOA Section 35.21 provides a list of the NY/PJM Interconnection Facilities. With this filing, the RTOs propose to add two new interconnection facility descriptions and to update the names of four existing interconnection facilities.

D. Proposed Revisions to Section 35.22 of the JOA

The RTOs propose to delete Section 35.22 of the JOA. This entire section describes the Operating Protocol for the implementation of the 1,000 MW Wheel. Termination of the 1,000 MW Wheel TSAs on April 30, 2017 will make this section obsolete.

E. Proposed Revisions to Section 35.23 of, Schedule D to, the JOA

Section 35.23 of, Schedule D to, the JOA sets forth the RTOs' proposed rules for real-time energy market coordination and M2M PAR coordination. The RTOs propose to revise Schedule D to incorporate the ABC PARs and Waldwick PARs into energy scheduling and M2M.

Throughout Section 35.23, the RTOs propose to update references to PARs based on new defined terms, remove references to Schedule C of the JOA, the Operating Protocol for the Implementation of ConEd – PJM Transmission Service Agreements, and improve consistency of internal references within the JOA.

Section 7.2—the proposed revisions describe operation of the NY-NJ PARs. PJM and NYISO have operational control of the NY-NJ PARs, while PSEG and Con Edison have physical control. PJM and NYISO will make reasonable efforts to minimize movement of the PARs to preserve their long-term availability. The proposed revisions also provide that the

facilities comprising the ABC Interface and JK Interface must be operational to implement M2M PAR coordination and the initial and any future OBF on them.

Section 7.2.1—the proposed revisions define the target value formula for real-time operation and for settlement purposes that will be used for each of the NY-NJ PARs. The target value formula is made up of the following terms: an interchange factor, the Operational Base Flow (or OBF) and RECo Load. The proposed descriptions of the formula terms identify which terms apply to which PARs. The target values for the ABC PARs and Waldwick PARs will include an interchange factor and a portion of the OBF value. The target values for the Ramapo PARs will include an interchange factor and a portion of RECo Load.

The OBF description identifies the initial 400 MW OBF described above and the expectation that the OBF will be reduced to zero MW by June 1, 2021. Inclusion of the initial OBF alleviates thermal violations and improves energy transfers, allowing for continuation of historical interface transfer limits. The OBF description also specifies the process and criteria for the RTOs to establish a temporary OBF to address a reliability issue, the ability for the RTOs to mutually agree to modify the OBF, the obligation for the RTOs to post the OBF values on their websites and the obligation for the RTOs to post the methodology used to reduce the OBF under facility outage conditions. The RTOs will review the OBF MW value at least annually.

The proposed OBF description states that either RTO may establish a temporary OBF to address a reliability issue until a long-term solution to the identified reliability issue can be implemented. Any temporary OBF that is established must be at a level that both RTOs can reliably support. The RTO that establishes the OBF must: (1) explain the reliability need to the other RTO; (2) describe how the OBF addresses the identified reliability need; and (3) identify the expected long-term solution to address the reliability need.

Sections 7.2.2 and 8.1—the proposed revisions apply the existing cost of congestion calculation and information used to calculate M2M settlements provisions to all the NY-NJ PARs, instead of just the Ramapo PARs.

Section 8.3—the RTOs propose to revise the M2M PARs settlement calculation to incorporate all of the NY-NJ PARs. Comparison of the actual real-time flow to the target flow will now occur for each NY-NJ PAR. The RTO that is under-delivering MWs across a PAR compared to the target value may be required to compensate the other RTO based on the difference between the actual and target flows times the transmission congestion costs of the RTO receiving the MWs. The M2M PARs settlement will be one net value for each interval, inclusive of all the PARs.

Section 8.3.1—the proposed revisions update references to PARs based on new defined terms, remove references to Schedule C of the JOA, the Operating Protocol for the Implementation of ConEd – PJM Transmission Service Agreements, and clarify that the RTOs are excused from settlements during the first fifteen minutes that a Storm Watch is in effect.

Section 8.4—the proposed revisions clarify that the existing combined M2M settlement will include all the NY-NJ PARs, instead of just the Ramapo PARs.

Section 10.1.8—the proposed revisions update references to PARs based on new defined terms and provide that the PAR settlement component of overall M2M settlements will be suspended when a request for taps on a NY-NJ PAR is refused by the other RTO.

Section 10.1.9—the proposed revisions state that the RTOs will suspend PAR settlements for a NY-NJ PAR that is out of service, bypassed or if the RTOs mutually agree that the PAR is incapable of facilitating interchange.

F. Proposed Revisions to NYISO Services Tariff Section 17.1

The revisions proposed in this section are only offered by the NYISO and are not subject to the enclosed PJM Certificate of Concurrence. The NYISO proposes to update the name of the Hopatcong-Ramapo interconnection, describe the expected flow over the ABC Interface and JK Interface, and remove references to Schedule C of the JOA, the Operating Protocol for the Implementation of ConEd – PJM Transmission Service Agreements, and its associated processes.

IV. Proposed Effective Date

The RTOs respectfully request that the Commission permit the proposed JOA revisions to become effective on May 1, 2017. The NYISO requests that its proposed Services Tariff revisions also become effective on May 1, 2017. The RTOs respectfully request that the Commission issue an order on this filing by April 1, 2017, sixty days from the date of this filing, to permit the orderly implementation of the enclosed revisions on May 1, 2017, or let this filing go into effect pursuant to Section 205 of the Federal Power Act.³³ If the Commission does not issue an order addressing the substance of the revisions proposed in this filing by April 1, then the RTOs are prepared to implement the revisions proposed herein on May 1, 2017.³⁴ Without these revisions, the RTOs would have no tariff authority to implement economic interchange over the ABC Interface and JK Interface or to utilize M2M PAR coordination with the PARs at these interfaces. In the absence of the 1,000 MW Wheel, not utilizing these two interfaces for economic interchange would reduce the exchange of power between the relatively congested Southeastern New York and Northern New Jersey areas. If the ABC Interface and JK Interface are not used to transfer power between the regions, then additional power would be forced over the Western ties and increase congestion on the already congested transmission facilities

³³ The parties note that should the Commission lack a quorum to affirmatively act on this filing by the requested effective date, it is reasonable for the Commission to allow these scheduling protocols to go into effect given the demonstrated benefits detailed in this letter. Because this filing implements a revised scheduling protocol, any future Commission action addressing this protocol, which require changes, could be addressed prospectively by NYISO and PJM. But given the termination of the wheel service by Con Edison, it is reasonable for the Commission to allow this filing to go into effect by operation of law should the Commission lack a quorum to issue an affirmative order in this case.

³⁴ See 16 U.S.C. §824d.

traveling from west to east across New York State, Pennsylvania and New Jersey. The consequences would be both costly and inefficient. The RTOs' further respectfully request that any changes to the proposed revisions the Commission instructs in an order issued after April 1, 2017 take effect on a prospective basis only.

V. Documents Enclosed

The RTOs enclose with this transmittal letter:

1. A clean version of the RTOs' proposed revisions to their JOA (Attachment I);
2. A blacklined version of the RTOs' proposed revisions to their JOA (Attachment II);
3. PJM's concurrence letter, concurring with the proposed revisions to the JOA (Attachment III);
4. A clean version of the NYISO's proposed revisions to its Services Tariff (Attachment IV);
5. A blacklined version of the NYISO's proposed revisions to its Services Tariff (Attachment V);
6. A letter to Andrew Ott from Milovan Blair dated April 28, 2016 (Attachment VI);
and
7. A joint white paper from the NYISO and PJM, Con Ed/PSEG Wheel Replacement Proposal (Attachment VII).

VI. Service

A. NYISO Service

This filing will be posted on the NYISO's website at www.nyiso.com. In addition, the NYISO will email an electronic copy of this filing to 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.

B. PJM Service

PJM has served a copy of this filing on all PJM Members and on all state utility regulatory commissions in the PJM Region by posting this filing electronically. In accordance with the Commission's regulations,³⁵ PJM will post a copy of this filing to the FERC filings section of its internet site, located at the following link: <http://www.pjm.com/documents/ferc->

³⁵ See 18C.F.R §§ 35.2(e) and 385.2010(f)(3).

[manuals/ferc-filings.aspx](#) with a specific link to the newly-filed document, and will send an e-mail on the same date as this filing to all PJM Members and all state utility regulatory commissions in the PJM Region³⁶ alerting them that this filing has been made by PJM and is available by following such link. If the document is not immediately available by using the referenced link, the document will be available through the referenced link within 24 hours of the filing. Also, a copy of this filing will be available on the FERC's eLibrary website located at the following link: <http://www.ferc.gov/docs-filing/elibrary.asp> in accordance with the Commission's regulations and Order No. 714.

VII. Correspondence and Communications

Please send all correspondence and communications regarding this filing to:

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*Persons designated for receipt of service³⁷

³⁶ PJM already maintains, updates and regularly uses e-mail lists for all PJM Members and affected state commissions.

³⁷ The RTOs request a limited waiver of Rule 203(b)(3) of the Commission's Rules of Practice and Procedure to permit each RTO to designate two representatives to receive service in this proceeding.

VIII. Conclusion

The RTOs respectfully request that the Commission accept the attached JOA and tariff revisions for filing with an effective date that is consistent with Section IV of this filing letter.

Respectfully submitted,

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/s/ Jacquelyn Huges
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