



December 30, 2011

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.*,
Docket No.ER08-1281-____;
New York Independent System Operator, Inc. and PJM Interconnection, L.L.C.,
Docket No. ER12-____ - 000
Jointly Submitted Market-to Market Coordination Compliance Filing

Dear Ms. Bose:

Pursuant to the Federal Energy Regulatory Commission's ("Commission") December 30, 2010 *Order on Rehearing and Compliance* issued in this proceeding ("December Order")¹ and the Commission's July 1, 2011 *Order on Rehearing* ("July Order"),² the New York Independent System Operator, Inc., ("NYISO") and PJM Interconnection, L.L.C. ("PJM") (collectively the "RTOs") submit, in electronic format, revisions to the Joint Operating Agreement ("JOA") between NYISO and PJM that is set forth in Attachment CC to the NYISO's Open Access

¹ *New York Independent System Operator, Inc.*, 133 FERC ¶ 61,276 (2010).

² *New York Independent System Operator, Inc.*, 136 FERC ¶ 61,011 (2011).

Transmission Tariff (“NYISO OATT”).³ The NYISO also proposes revisions to its Market Administration and Control Area Services Tariff (“NYISO Services Tariff”) to remove a congestion management pilot program that will be superseded when M2M takes effect.⁴ In future filings the RTOs will request permission to terminate their Unscheduled Transmission Service (“UTS”) Agreement that the Commission accepted for filing in 2002,⁵ when the Market-to-Market Coordination Process (“M2M”) takes effect at the end of 2012. The RTOs propose to implement an improved UTS process as a component of M2M.⁶

The RTOs request a flexible effective date for the JOA and other tariff revisions proposed herein. The RTOs will use best efforts to deploy and be prepared to implement M2M by the end of 2012. In no event will implementation occur later than January 15, 2013.⁷

I. Background

In compliance with the Commission’s directives, the RTOs and their stakeholders have worked together for the past year to develop mutually agreeable M2M provisions for the JOA.

³ 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.

⁴ PJM will submit to FERC a separate eTariff filing to remove from the PJM OATT the *Interregional Congestion Pilot Program*. PJM will submit such filing at least 60 days prior to the effective date of the proposed JOA modifications.

⁵ The UTS Agreement was accepted for filing in a Letter Order that was issued pursuant to delegated authority in Docket Nos. ER01-1115-000, 001 and 002 on March 6, 2002.

⁶ The RTOs will submit such filings at least 60 days prior to the effective date of the proposed JOA modifications.

⁷ The RTOs recognize that an extension of time or waiver would be needed to permit implementation after December 31, 2012.

The attached JOA revisions including a new M2M Schedule D represent the culmination of those efforts.

A. Description of M2M

The fundamental philosophy behind the M2M transmission congestion coordination process that is set forth in the RTOs' proposed JOA revisions is to allow transmission constraints that are significantly impacted by generation dispatch changes in both the NYISO and PJM markets or by the operation of the Ramapo PARs to be jointly managed in the real-time security-constrained economic dispatch models of both RTOs. This joint real-time management of transmission constraints near the market borders will provide a more efficient and lower cost transmission congestion management solution, and facilitate price convergence at the market boundaries.

M2M focuses on real-time market coordination to manage transmission limitations that occur on designated M2M Flowgates in a more cost effective manner. Coordination between the RTOs will include not only joint redispatch, but will also incorporate coordinated operation of the Ramapo PARs that are located at the NYISO – PJM interface. This real-time coordination will result in a more efficient economic dispatch solution across both markets to manage the real-time transmission constraints that impact both markets, focusing on the actual flows in real-time to manage constraints.

M2M Entitlements are the equivalent of financial rights that will be granted to PJM and to the NYISO to use each other's transmission system within the confines of the M2M process. A crucial element of M2M is developing an equitable set of entitlements for both PJM and NYISO so that benefits are expected to be derived by both parties. Whatever level of M2M Entitlements are agreed to will be used as a baseline to provide compensation to either PJM or the NYISO

depending on how the actual level of each others' Market Flows compares to the level of M2M Entitlements.

Given the direct impact that M2M Entitlements can have on interregional settlement outcomes, developing a sound approach for determining M2M Entitlements is imperative. Because M2M Entitlements are rights to use the stakeholder-owned transmission system and M2M Entitlements result in settlement obligations that the Parties' stakeholders are directly responsible for, stakeholder vetting is a prerequisite to the Parties reaching agreement on an approach for determining M2M Entitlements. Before M2M is implemented, both the method of determining M2M Entitlements and the initial M2M Entitlements must be verified by both Parties and vetted with stakeholders.

B. Scope of M2M

The first market-to-market coordination process was implemented by PJM and the Midwest Independent Transmission System Operator, Inc. ("MISO"). PJM and MISO operate contiguous, intertwined, control areas with sinuous borders that are hundreds of miles long. The PJM and MISO transmission systems are largely synchronously interconnected via alternating current ("A/C") facilities. There are few phase angle regulators ("PARs"), direct current ("D/C") interfaces, or other transmission facilities designed specifically to regulate or control power flows located at the PJM/MISO borders.

The border between the NYISO and PJM is quite different from the MISO/PJM border. The NYISO/PJM border is limited to the Southern, and a bit of the Western boundary of New York State (on the NYISO side) and to the Northern boundaries of Pennsylvania and New Jersey (on the PJM side). The eight 230 kV and above transmission facilities interconnecting New York and New Jersey are all PAR-controlled, or are separately scheduled and operate using D/C or

other advanced control technologies. Only four major (230 kV and above) interconnection facilities are completely free-flowing. They are located along the border between Western New York and Pennsylvania.

Because there are PAR controls at the NYISO/PJM border that can (and do) provide a significant, cost effective regional congestion management resource, the expected operation of the PARs at the PJM/NYISO border needs to be incorporated into the RTOs' implementation of M2M. Failure to incorporate PAR operations into M2M could (a) result in PAR actions that would be inconsistent with and negate the expected benefit of M2M redispatch, or (b) result in M2M redispatch actions that would be inconsistent with PAR schedules, or (c) preclude the utilization of available, cost effective congestion management resources. In other words, failure to incorporate PAR operations into M2M could produce inefficient results that could increase system costs and reduce or eliminate the benefits that M2M can provide.

To the extent the operation of PARs at the PJM/NYISO border is governed by existing agreements, the RTOs have endeavored to ensure that M2M will not prevent the implementation of those existing agreements. There are two existing agreements that the RTOs paid careful attention to when developing M2M—the UTS Agreement and the *Operating Protocol for the Implementation of Con Ed – PJM Transmission Service Agreements* (“ConEd Wheel Agreement”).⁸

The UTS Agreement addresses unscheduled transmission service and the operation of the Ramapo PARs to minimize regional transmission congestion. The Ramapo PARs connect the NYISO and PJM bulk transmission systems together at the New York/New Jersey border. The Ramapo PARs are utilized to (i) facilitate scheduled interchange transfers between PJM and

⁸ The ConEd Wheel Agreement is Schedule C to the RTOs' JOA. Schedule C to the JOA replaces Attachment M-1 to the NYISO's Services Tariff effective May 1, 2012.

NYISO, (ii) ensure other transmission facilities between PJM and NYISO can meet their schedules, and (iii) reduce congestion caused by heavy west to east system dispatch.

The use of Ramapo PARs to minimize congestion is governed by the UTS Agreement. The UTS Agreement allows PJM or NYISO to recover part of the costs of unscheduled transmission service caused by mismatches between the actual and scheduled flows on the 5018 interconnection, across the Ramapo PARs. The existing UTS settlement is limited to times when a few select constraints are active, and limits the recovery to the delta of the prices at two surrogate locations.

The proposed M2M Real-Time Ramapo PAR Coordination process will improve upon the existing UTS Agreement by (a) expanding the permitted cost recovery to include any and all congestion on agreed upon M2M Flowgates caused by one RTO's "overuse" of the other RTO's transmission system, and (b) using the actual congestion cost calculated at the Ramapo PARs to determine the settlement instead of approximating the cost using prices from designated surrogate locations. These two improvements will lead to more efficient use of the Ramapo PARs and to better convergence of transmission congestion costs at the RTOs' common border.

The M2M rules that NYISO and PJM propose also differ from PJM's implementation of market-to-market with MISO because the RTOs can draw upon PJM's experience in implementing market-to-market with MISO. For example, the RTOs do not propose to include the yet-to-be-used Day-Ahead market-to-market pre-coordination process that exists in PJM's agreement with MISO.

C. Stakeholder Involvement

The M2M rules proposed in this filing are the product of extensive discussions between the RTOs and they reflect input from the RTOs' market participants. The RTOs held M2M Joint Stakeholder Meetings on July 21, 2011 and November 3, 2011.

In addition to the Joint Stakeholder Meetings, the NYISO has formally presented on and discussed M2M with its stakeholders on at least eight occasions. These occasions include presentations at the NYISO Market Issues Working Group meetings held on March 31, May 26, September 16, September 26, October 19 and October 27, 2011, and presentations to the NYISO's Business Issue Committee ("BIC") on October 12 and November 9, 2011. In addition to the formal BIC presentations listed above, M2M was addressed in the Market Seams Reports that were presented and discussed at almost every BIC meeting held in 2011.

PJM also formally presented on and discussed M2M coordination with the NYISO with its stakeholders at its Market Implementation Committee ("MIC") meetings held on January 11, February 8, March 17, April 12, May 10, June 14, July 12, August 9, September 13, October 6, November 1, and December 13, 2011. Similar presentations were also provided to PJM Stakeholders at its Markets and Reliability Committee ("MRC") meetings held on January 19, February 16, March 16, April 27, June 22, August 17, September 15, October 12, November 16, and December 21, as well as the PJM Members Committee ("MC") on November 22, 2011.

During the meetings, the RTOs have explained key M2M concepts and, in some cases, presented and discussed the proposed JOA revisions, proposed M2M Schedule, and other proposed Tariff revisions with their stakeholders. The RTOs received feedback from their stakeholders and incorporated stakeholder-requested changes that ranged from conceptual proposals to specific edits into the M2M Tariff revisions that are submitted with this filing letter.

The NYISO's stakeholders have requested, but have not yet been presented with information addressing expected M2M Entitlement values. Because M2M Entitlements are the equivalent of financial rights to use the stakeholder-owned transmission system and result in interregional settlement obligations that stakeholders are directly responsible for, the RTOs agree that further stakeholder review of both the method of developing M2M Entitlements and the calculation of M2M Entitlements are warranted.

II Communications and Correspondence

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III. Description of Proposed Tariff Revisions

As discussed in detail below, the vast majority of the revisions submitted in this compliance filing are to the RTOs' JOA. In particular, the RTOs propose to add a new Schedule D to the JOA that will specify the rules for implementing M2M. The revisions that the NYISO proposes to its Market Services Tariff are limited to removing an interregional congestion management

pilot program that the NYISO and PJM put in place back in 2002,⁹ but that the RTOs have not attempted to implement in several years.¹⁰

A. Proposed Revisions to the Body of the JOA

The RTOs propose to revise Section 35.1 of the JOA to update the overall purpose and goal of the JOA. In addition, Section 35.2—Abbreviations, Acronyms and Definitions—is revised by moving all abbreviations and acronyms contained in the existing Section 35.2.1, Abbreviations and Acronyms, into a comprehensive list of all abbreviations, acronyms and definitions and to remove the standalone Section 35.2.1. NYISO also proposes to add a number of “standard” defined terms to the JOA.

NYISO also propose to add the following definitions to the JOA:

- **“CIM”** refers to a Common Infrastructure Model.
- **“Generator to Load Distribution Factor”** refers to a generator’s impact on a Flowgate while serving load in that generator’s market footprint.
- **“M2M”** refers to the transmission congestion coordination process that is set forth in the proposed Schedule D to the JOA.
- **“M2M Entitlement”** refers to the share of the Monitoring RTO’s M2M Flowgate’s capability allocated to the Non-Monitoring RTO.
- **“M2M Event”** refers to the period when both the RTOs are operating under the M2M coordination process contained in Schedule D to this Agreement.
- **“M2M Flowgate”** refers to the Flowgates where Constraints are jointly monitored and coordinated by the Monitoring and Non-Monitoring RTOs throughout a M2M Event.
- **“Market Flows”** refers to the calculated energy flows on a specified Flowgate resulting from dispatch of generating resources serving load within an RTO’s market.

⁹ The NYISO’s Tariff revisions to implement the interregional congestion management pilot program were submitted in Docket No. ER02-194-000 and ultimately accepted (following the NYISO’s submission of compliance revisions) in a Letter Order dated February 27, 2002.

¹⁰ PJM will submit to FERC a separate eTariff filing to remove from the PJM OATT the *Interregional Congestion Pilot Program*. PJM will submit such filing at least 60 days prior to the effective date of the proposed JOA modifications.

- **“Monitoring RTO”** refers to the Party that has operational control of a M2M Flowgate.
- **“Non-Monitoring RTO”** refers to the Party that does not have operational control of a M2M Flowgate.
- **“PAR OTDF”**, also known as PAR shift factor, shall mean the ratio of a change in flow on a Flowgate, up to 1, due to a change in PAR active power transfer.
- **“RTO”** means Regional Transmission Organization. For ease of reference, the New York Independent System Operator, Inc., is referred to as an RTO in this Agreement and the NYISO and PJM are referred to collectively as the “RTOs” or the “participating RTOs.”
- **“Shadow Price”** means the marginal value of relieving a constraint which is determined by the reduction in production cost that would result from an incremental relaxation of that constraint.
- **“Target Value”** shall be determined for each Ramapo PAR by a formula based on the net interchange schedule between the NYISO and PJM plus the deviation of actual flows from desired flows across the ABC and JK interfaces.

In Section 35.3—Overview, Administration, and Relationship with Other Agreements—the RTOs propose to include M2M coordination as a fundamental purpose of the JOA and to revise the Coordination Committee’s responsibilities. The proposed revisions clarify the Coordination Committee’s duty to implement the intent of the JOA, not to execute the real-time aspects of the JOA. The Coordination Committee cannot be responsible for all aspects of the JOA due to the immediacy of certain real-time functions, such as M2M coordination.

In Section 35.7—Exchange of Information—the RTOs propose to specifically identify additional information that they may need to exchange to implement M2M. Such information includes the following: (i) modeling data; (ii) actual M2M Flowgate Flows; (iii) actual limits for M2M Flowgates; (iv) *ex ante* Shadow Prices on constrained M2M Flowgates; (v) requested relief during a M2M Event; (vi) Market Flow calculation data; (vii) Market Flows on M2M Flowgates; and (viii) binding constraint thresholds.

Section 35.8—Confidential Information—the RTOs propose to more clearly define the basis, treatment and protection of confidential information within NYISO and PJM.

Section 35.12—M2M Coordination Process—the RTOs propose to add a new Section to the body of the JOA that briefly summarizes the M2M process.

For Section 35.15—Dispute Resolution Procedures—the RTOs propose to revise the procedures that will be utilized for resolution of M2M coordination disputes, in addition to disputes that arise under other provisions of the JOA. The proposed additional provisions will allow: (i) the RTOs' senior officers to agree to continue to work together to resolving disputes; (ii) the RTOs to request FERC's Dispute Resolution Service to mediate a dispute; or (iii) either RTO to seek formal resolution by initiating a proceeding before the Commission.

Section 35.19—Effective Date, Implementation, Term and Termination—the RTOs propose to remove the ten year term and provide that the JOA shall continue in full force and effect unless terminated. The RTOs also propose to revise Section 35.19.4, to require that Confidential Information be protected for a period of seven years following termination of the JOA.

In Section 35.20—Additional Provisions—the RTOs propose a number of additions including: (i) a Limitation on Claims Section; (ii) General Billing and Payment Rules; and (iii) Billing and Payment rules for the M2M Coordination Process.

- The proposed Limitation on Claims Section specifies that no claim seeking an adjustment in the billing for any service, transaction, or charge under this JOA may be asserted with respect to a week or month, if more than one year has elapsed.
- The proposed General Billing and Payment Rules provide a more structured process for billing and payment, than the current JOA, for any charges arising outside of the M2M process.

- The proposed Billing and Payment provisions that apply to the M2M Coordination Process require: (a) the NYISO to provide invoice and settlement information to PJM; (b) all amounts due be paid pursuant to the relevant RTO's tariffs, respectively; (c) that each RTO assume responsibility for satisfying the M2M payment obligations; and (d) that interest on unpaid balances be calculated in accordance with the methodology specified for interest on refunds in the Commission's regulations.

In addition to the revisions to the body of the JOA that are described above, the RTOs propose several types of ministerial revisions that appear throughout the JOA.

B. Proposed Revisions to Schedule A to the JOA

The RTOs propose to delete a reference to the UTS Agreement from Schedule A to the JOA because the RTOs propose to implement an improved set of UTS rules as a component of M2M.

C. Proposed Addition of Schedule D to the JOA

Proposed Schedule D to the JOA is entirely new. Schedule D sets forth the RTOs' proposed rules for implementing M2M.

Section 1 of proposed Schedule D introduces the M2M concept and explains that M2M includes both generator redispatch and PAR control actions. The proposed M2M process focuses on real-time market coordination to manage congestion that occurs on M2M Flowgates in a more effective manner.

Section 2 introduces the concept of M2M Flowgates and explains how they will be developed. Only a subset of the transmission constraints that may exist in New York or PJM will be eligible for coordinated congestion management. M2M Flowgates are Flowgates where

constraints will be jointly monitored and coordinated by the RTOs. All M2M Flowgates will be eligible for coordination using the Ramapo PARs. A smaller subset of M2M Flowgates will also be eligible for generator redispatch coordination. NYISO and PJM will each publicly post a list of the M2M Flowgates in their respective control areas on their web sites.

Section 3 explains the study process that will be used to determine which constraints should be jointly coordinated as M2M Flowgates. The studies determine if a generator located in the Non-Monitoring RTO, or if the Ramapo PARs, have a significant impact on a studied constraint located in the Monitoring RTO. The RTOs must mutually agree to the introduction of each M2M Flowgate, and may mutually agree to add a M2M Flowgate that does not meet the specified study criteria.

Section 4 sets forth the proposed rules for removing previously established M2M Flowgates.

Section 5 sets forth the proposed rules for determining M2M Market Flows. M2M Market Flows are used in the M2M redispatch coordination process and to determine the resulting settlement. M2M Market Flows are defined in the body of the JOA as “the calculated energy flows on a specified Flowgate as a result of dispatch of generating resources serving load within an RTO’s market.” The determination of M2M Market Flows is a data intensive process. The details of how M2M Market Flows are determined are described below.

Section 5.1—Determine Shift Factors for M2M Flowgates—the first step in determining M2M Market Flows is calculating generator, load and PAR shift factors for the each M2M Flowgate. For real-time M2M coordination, the shift factors will be based on the real-time transmission system topology.

Section 5.2—Compute RTO Load Served by RTO Generation—compute the RTO load served by RTO generation, in MWs, by summing the load and losses for each load zone to determine the total zonal load for each RTO load zone and subtracting out the load that is served by imports in each RTO load zone.

Section 5.3—Compute RTO Generation Serving RTO Load—using real-time generation output in MWs, sum the output of RTO generation within each load zone after subtracting out generation serving export schedules to compute the RTO generation serving RTO load.

Section 5.4—Compute RTO Generation-to-Load for all M2M Flowgates—determine the impact that the Non-Monitoring RTO’s Generation that is serving the Non-Monitoring RTO’s Load has on each M2M Flowgate in the Monitoring RTO.

Section 5.5—Compute the RTO Interchange Scheduling Impacts for all M2M Flowgates—compute the impact of the Non-Monitoring RTO’s scheduled interchange on each M2M Flowgate in the Monitoring RTO. Interchange scheduled directly between PJM and NYISO is assigned to the Monitoring RTO.

Section 5.6—Compute the PAR Effects on M2M Flowgates—this section identifies two classes of PARs, Common and Non-Common. Common PARs are located at the NYISO/PJM border. The Non-Common PARs are the St. Lawrence PARs at the New York/Ontario border. The Non-Monitoring RTO incorporates the impact of the Common PARs operation when determining the impacts of its M2M Market Flow on the Monitoring RTO’s M2M Flowgates. The NYISO is responsible for incorporating the impacts of the Non-Common PARs on the M2M Market Flows affecting both participating RTOs M2M Flowgates.

Section 5.7—Compute the RTO Aggregate Market Flow for all M2M Flowgates—calculates the Non-Monitoring RTO’s M2M Market Flow impact on each of the Monitoring RTO’s M2M Flowgates, taking into account all of the adjustments described above.

Section 6 provides a preliminary explanation of how the RTOs anticipate M2M Entitlements will be determined. M2M Entitlements are rights granted to the Non-Monitoring RTO to use the Monitoring RTO’s M2M Flowgates. When a M2M Flowgate is congested, the Monitoring RTO pays the Non-Monitoring RTO if its M2M Market Flow over the congested M2M Flowgate is less than the Non-Monitoring RTO’s M2M Entitlement. The Non-Monitoring RTO pays the Monitoring RTO if its M2M Market Flow over the congested M2M Flowgate exceeds the Non-Monitoring RTO’s M2M Entitlement.

The RTOs worked together to develop a preliminary M2M Entitlement determination method. The RTOs are utilizing prototype market flow calculator systems in order to produce indicative values of what the M2M Entitlements would be in production. The RTOs continue to evaluate these systems and investigate market flow results on a subset of flowgates that are higher than the RTOs expected. The RTOs agree that further review of both the method of developing M2M Entitlements and the calculation of M2M Entitlements are warranted. A crucial element of M2M is developing an equitable set of M2M Entitlements so that both PJM and New York derive benefits from M2M. The RTOs expectations, given the PAR controlled nature of the interfaces between the two markets, is that the M2M Entitlements will be small on both systems. Given the direct impact that M2M Entitlements have on interregional settlement outcomes, developing a sound approach for determining M2M Entitlements is imperative.

For the reasons explained above, the RTOs have not included in the proposed M2M Schedule the specific formulas used to calculate M2M Entitlements. The RTOs expect to be

able to complete these evaluations in approximately four months; at which time the RTOs expect to file additional revisions to Section 6 of proposed Schedule D of the JOA.

There are two other M2M Entitlement-related issues that the RTOs may propose to revise Section 6 of Schedule D to address in approximately four months time. They are: (a) the modeling of external capacity resources for purposes of developing M2M Entitlements; and (b) agreeing on appropriate criteria to determine when the Ontario/Michigan PARs will be reflected in the M2M Entitlement calculations as holding flow.

Should anomalous M2M Market Flow or M2M Entitlement results occur after M2M is implemented, the parties to the JOA will have the ability to utilize Schedule D, Section 10.1.7 to suspend M2M coordination until a equitable resolution is achieved.

Section 7 sets forth the proposed rules for coordinating real-time dispatch. The M2M coordination tools available in real-time are redispatch coordination and Ramapo PAR coordination. Coordinated operation of the Ramapo PARs will permit the RTOs to use the PARs to redirect energy to reduce the overall cost of managing transmission congestion and to converge the RTOs' cost of managing transmission congestion.

When a M2M redispatch coordination Flowgate binds in the Monitoring RTOs real-time security constrained economic dispatch, the Monitoring RTO will notify the Non-Monitoring RTO of the transmission constraint and will identify the M2M Flowgate that may benefit from redispatch assistance. The Monitoring and Non-Monitoring RTOs will each provide the economic value of the M2M Flowgate constraint (*i.e.*, the Shadow Price) as calculated by their respective dispatch models and the security-constrained economic dispatch of the Non-Monitoring RTO will include the M2M Flowgate constraint. The Monitoring RTO will evaluate the actual loading of the M2M Flowgate constraint and request that the Non-Monitoring RTO

modify its Market Flow via redispatch if it can do so more efficiently than the Monitoring RTO can. The iterative process of evaluating both participants' Shadow Prices to relieve the active M2M Flowgate will continue until the RTOs Shadow Prices converge and an efficient redispatch solution is achieved.

Section 7.1 provides a step-by-step explanation of how the RTOs will carry out the real-time redispatch coordination process.

Section 7.2 recognizes the multiple purposes that the Ramapo PARs serve (facilitating scheduled interchange between the NYISO and PJM, supporting the ConEd Wheel Agreement,¹¹ and participating in M2M congestion relief) and explains how the Ramapo PARs may be operated to minimize regional congestion. Sections 7.2 (including all sub-sections) and 8.3 of proposed Schedule D replace the UTS Agreement.

Section 7.2.1 sets the target value that each of the Ramapo PARs will operate to. Ordinarily, the Ramapo PARs are expected to direct 61% of the net interchange between New York and PJM that is scheduled at the Keystone Proxy Generator Bus over the 5018 A/C transmission line. Consistent with the terms of the UTS Agreement (which the RTOs propose to retire and replace with this Schedule D to their JOA), the 5018 line is also expected to carry 72% of any imbalance in the ConEd Wheel Agreement schedule. Additionally, the Parties have agreed to include the remaining 28% of any imbalance in the ConEd Wheel Agreement schedule when calculating the Ramapo target value. Provisions of the ConEd Wheel Agreement, including the Auto Correction Factor that may apply if the ConEd Wheel is not delivered consistent with ConEd's election, are also reflected in Section 7.2.1 of Schedule D. The RTOs have incorporated certain ConEd Wheel Agreement terms and conditions into the M2M rules

¹¹ Again, the ConEd Wheel Agreement is Schedule C to the RTOs' JOA. Schedule C to the JOA replaces Attachment M-1 to the NYISO's Services Tariff effective May 1, 2012.

that address the operation of the Ramapo PARs to ensure that the RTOs' implementation of M2M will occur in a manner that is consistent with their preexisting regulatory obligations.

The RTOs are discussing whether, and under what circumstances, it may be appropriate to limit M2M obligations and settlements based on the physical capabilities (*e.g.*, thermal rating) of the 5018 transmission line. The RTOs expect to be able to complete their evaluations and all necessary stakeholder discussions in approximately four months; at which time the RTOs may file additional revisions to Section 7 of proposed Schedule D of the JOA.

Section 7.2.2 sets forth the method for calculating NYISO and PJM's respective congestion costs at the Ramapo PARs. The RTOs' respective congestion costs are compared to determine when the Ramapo PARs can provide cost-effective congestion relief. In some circumstances, significant congestion relief may be provided to New York or PJM by permitting the Ramapo PARs to deviate from their expected schedule.

Section 7.2.3 explains how the RTOs may operate the Ramapo PARs when a comparison of the congestion costs developed in accordance with Section 7.2.2 indicates that permitting power flows over the 5018 line to deviate from the 61% of scheduled interchange expectation is likely to provide valuable congestion relief. Section 8.3 of Schedule D sets forth settlement rules that apply whenever the Ramapo PARs are off-schedule.

Section 8 of Schedule D to the JOA describes the rules for financially settling the M2M coordination process. This section breaks the settlement into two distinct components, settlement of redispatch coordination and settlement of Ramapo coordination, and then combines the two components into a single real-time settlement for all M2M coordination that was underway for a particular day, hour, or portion of an hour. All settlements will be computed by the NYISO for invoicing.

Section 8.1 explains that the M2M settlement calculations require *ex-ante* Shadow Prices, Market Flows, and Ramapo PAR impacts for each M2M Flowgate, as well as, the actual real-time flow and target flow of each Ramapo PAR.

Section 8.2 explains the determination of the real-time redispatch settlement, including how the M2M Entitlement for each M2M Flowgate is used to determine whether the Monitoring RTO pays the Non-Monitoring RTO for the relief provided, or whether the Non-Monitoring RTO owes the Monitoring RTO for contributing to the Monitoring RTO's M2M Flowgate congestion. These calculations will be performed on an interval (normally five minutes long) basis by the NYISO based on the M2M Flowgate *ex-ante* Shadow Price times the difference between the M2M Entitlement and the Non-Monitoring RTO's Market Flow.

Section 8.3 explains the determination of the Ramapo PARs settlement. Comparison of the actual real-time Ramapo PAR flow and Ramapo PAR target flow will determine which RTO is overtaking MWs across the Ramapo PARs/5018 transmission line. The RTO that is delivering MWs across Ramapo in excess of its scheduled value will compensate the other RTO based on the difference between the actual and target flows times the transmission congestion costs of the other RTO.

Section 8.4 describes how the two settlements in Sections 8.2 and 8.3 will be combined and rolled up to an hourly settlement.

Section 9 addresses how the shadow price to resolve a constraint on a M2M Flowgate will be determined when one of the RTOs does not have sufficient redispatch capability available to resolve the constraint. The proposed solution should improve the RTOs' shadow price convergence.

Section 10 addresses when M2M settlements will, or will not, apply. Sections 10.1.1 through 10.1.3 describe the circumstances under which M2M will apply.

Section 10.1.4 effectively states that when the Monitoring RTO has multiple constrained M2M Flowgates, the M2M process will ordinarily be applied to the most limiting of the M2M Flowgates.

Sections 10.1.5 and 10.1.6 address abnormal or transient operating conditions under which an RTO may briefly delay implementation of M2M.

Section 10.1.7 provides a “circuit breaker” that permits an RTO that has received an M2M charge in excess of \$500,000 for a market-day to temporarily suspend the M2M process (for a specific M2M Flowgate, or overall) while the RTOs perform a review to make sure that the M2M process is being implemented appropriately and is producing just and reasonable results. If, following their review, the RTOs agree that there is no problem (the charge was justified), then M2M shall be re-initiated as quickly as possible. Otherwise, M2M may be partially or wholly suspended until the RTOs resolve their concerns.

Section 10.1.8 excuses payment for Ramapo PAR overuse charges when the RTO that is overusing the other RTO’s transmission system requested that PAR taps be taken to reduce or eliminate such overuse, but the request for PAR taps to prevent overuse was denied.

Section 10.2 permits either RTO to request an after-the-fact review of M2M coordination to determine if M2M was invoked consistent with the proposed Schedule D rules. Settlements may be adjusted if the results of the review indicate that the M2M process should not have been invoked.

Section 10.3 guarantees each of the RTOs access to sufficient data to verify the calculations that determine M2M settlement. The body of the JOA also includes new provisions that grant the RTOs access to data that is necessary to implement M2M.

Section 11 of the JOA provides for review when either RTO proposes to change a process that it uses to implement M2M. Notice of a proposed change and an opportunity to request modifications to or dispute a proposed change are required.

D. M2M Issues that Still Need to Be Resolved

There are several topics that the RTOs continue to discuss which may result in subsequent filings to amend Schedule D of the JOA. As discussed above, the RTOs may propose revisions to: (1) the method of calculating M2M Entitlements; (2) the modeling of external capacity resources for purposes of developing M2M Entitlements; (3) set appropriate criteria to determine when the Ontario/Michigan PARs will be reflected in the M2M Entitlement calculations as holding flow (*i.e.*, modeled as regulating the power flow across the interface); (4) determine whether and when it is appropriate to limit M2M obligations and settlements based on the physical capabilities (*e.g.*, thermal rating) of the 5018 transmission line; and (5) determine how to reflect PJM's service to its Rockland Electric Company ("RECo") load in the M2M Market Flow and M2M Entitlements processes.

The RTOs anticipate that they will be able to identify any changes to proposed Schedule D that may be needed to resolve the first four concerns in approximately four months; at which time the RTOs may propose additional revisions to Schedule D of the JOA. On the fifth concern, in order to permit timely implementation of M2M, the RTOs have agreed on how they will initially model RECo for purposes of M2M Market Flow and M2M Entitlements. The

RTOs, in concert with other parties, will work toward a final agreement addressing RECo. When an agreement is reached, the RTOs will file it for the Commission's consideration.

E. Proposed Deletion of Interregional Congestion Management Pilot Program from NYISO's Services Tariff

The NYISO proposes to delete the text of Section 5.1.2, and the entirety of Sections 5.1.2.1 through 5.1.2.5 of the Services Tariff because they are components of an Interregional Congestion Management Pilot Program between the RTOs that the RTOs have not activated in the past several years. The NYISO proposes to replace the pilot program with M2M.

Section 5.1.2.6 of the Services Tariff is not related to the Interregional Congestion Management Pilot Program. The NYISO proposes to move the text of current Section 5.1.2.6 into Section 5.1.2.

IV. Request for Flexible Effective Date

The RTOs request a flexible effective date for the JOA and other tariff revisions proposed herein. Consistent with the Commission's July Order, which authorized the NYISO to implement M2M in the fourth quarter of 2012, the RTOs will use best efforts to deploy and be prepared to implement M2M by the end of 2012.¹² In no event will implementation occur later than January 15, 2013.¹³

The RTOs request that the Commission permit the JOA and other tariff revisions proposed herein to take effect on a date to be mutually determined by the RTOs. The RTOs will not be able to propose a precise effective date until the software changes needed to implement the proposed tariff revisions are ready for deployment and testing is complete. The RTOs

¹² July Order at PP 13, 15.

¹³ The RTOs recognize that an extension of time or waiver would be needed to permit implementation after December 31, 2012.

therefore propose to establish a final effective date based on assessment of each region's readiness as they complete their M2M testing procedures.

The effective date will not occur until: (i) the Commission has issued an order accepting proposed JOA and other tariff revisions; (ii) at least two weeks after the RTOs have notified the Commission and their stakeholders that the revisions are ready for implementation; and (iii) notice of the effective date has been posted on the NYISO and PJM websites for at least five days. The Commission has previously permitted the NYISO to use flexible effective dates for tariff revisions that require complex software enhancements to implement.¹⁴ The nature and complexity of the M2M changes make it appropriate to take the same approach here.

V. Documents Enclosed

The RTOs enclose with this transmittal letter:

1. A certificate of service in Docket No. ER08-1281;
2. A clean version of the Applicants' proposed revisions to their JOA, which is on-file with the Commission as Attachment CC to the NYISO's OATT, including the proposed new Schedule D to the JOA (Attachment I);
3. A blacklined version of the Applicants' proposed revisions to their JOA, which is on-file with the Commission as Attachment CC to the NYISO's OATT, including the proposed new Schedule D to the JOA (Attachment II);
4. PJM's concurrence letter, concurring with the proposed revisions to the JOA (Attachment III);
5. A clean version of the proposed revisions to the NYISO's Services Tariff deleting the interregional congestion management pilot program (Attachment IV); and
6. A blacklined version of the proposed revisions to the NYISO's Services Tariff deleting the interregional congestion management pilot program (Attachment V).

¹⁴ *New York System Operator, Inc.*, 106 FERC ¶ 61,111 at PP 5, 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."); *New York Independent System Operator, Inc.*, Letter Order, Docket No. ER11-2544-000 (Feb. 10, 2011).

VI. Service

A. NYISO Service

This filing will be posted on the NYISO's website at www.nyiso.com. In addition, the NYISO will e-mail an electronic link to this filing to the official representative of each party to this proceeding, 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,¹⁵ 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-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 Region¹⁶ 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.

¹⁵ See 18C.F.R §§ 35.2(e) and 385.2010(f)(3).

¹⁶ PJM already maintains, updates and regularly uses e-mail lists for all PJM Members and affected state commissions.

VII. Conclusion

Wherefore, for the foregoing reasons, the RTOs respectfully requests that the Commission accept the attached JOA and other tariff revisions for filing in compliance with the Commission's directives in the December Order and July Order.

Respectfully submitted,

/s/ Alex M. Schnell

Robert E. Fernandez, General Counsel
Alex M. Schnell
James Sweeney, Attorney
New York Independent System Operator, Inc.

/s/ Steven Pincus

Steven Pincus, Assistant General Counsel
James Burlew, Counsel
PJM Interconnection, L.L.C.

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 30th day of December, 2011.

/s/ Joy A. Zimmerlin

Joy A. Zimmerlin
New York Independent System Operator, Inc
10 Krey Blvd.
Rensselaer, NY 12114
(518) 356-6207

Attachment I

Joint Operating Agreement Among and
Between NYISO and PJM – clean version

35.1 Recitals

- 35.1.1 PJM is the regional transmission organization that provides operating and reliability functions in portions of the mid-Atlantic and Midwest States. PJM also administers an open access tariff for transmission and related services on its grid, and independently operates markets for day-ahead, real-time energy, capacity, ancillary services and financially firm transmission rights;
- 35.1.2 NYISO is a not-for-profit corporation established pursuant to the ISO Agreement, responsible for providing transmission service, maintaining the reliability of the electric power system and facilitating efficient markets for capacity, energy and ancillary services in the New York Control Area in accordance with its filed Tariffs;
- 35.1.3 In accordance with good utility practice, the Parties seek to establish or confirm other arrangements and protocols in furtherance of the reliability of their systems and efficient market operations, as provided under the terms and conditions of this Agreement;

NOW, THEREFORE, for good and valuable consideration including the Parties' mutual reliance upon the covenants contained herein, the Parties agree as follows:

35.2 Abbreviations, Acronyms, Definitions and Rules of Construction

In this Agreement, the following words and terms shall have the meanings (such meanings to be equally applicable to both the singular and plural forms) ascribed to them in this Section 35.2. Any undefined, capitalized terms used in this Agreement shall have the meaning given under industry custom and, where applicable, in accordance with Good Utility Practices or the meaning given to those terms in the tariffs of PJM and NYISO on file at FERC.

Schedule C to this Agreement contains the Operating Protocol for the Implementation of Con Ed – PJM Transmission Service Agreements. Schedule C was accepted by FERC as a multi-party settlement to a long-running dispute. To the extent Schedule C contains definitions that differ from those set forth below (*see, e.g.*, Appendix 8 to Schedule C), the definitions contained in Schedule C shall supersede the definitions set forth below, for purposes of interpreting Schedule C (including all of the appendices thereto), but shall not be used to interpret any other part of this Agreement.

35.2.1 Abbreviations, Acronyms and Definitions

“AC” shall mean alternating current.

“Affected Party” shall mean the electric system of the Party other than the Party to which a request for interconnection or long-term firm delivery service is made and that may be affected by the proposed service.

“Agreement” shall mean this document, as amended from time to time, including all attachments, appendices, and schedules.

“Area Control Error” or **“ACE”** shall mean the instantaneous difference between a Balancing Authority’s net actual and scheduled interchange, taking into account the effects of Frequency Bias and correction for meter error.

“Available Flowgate Capability” or **“AFC”** shall mean the rating of the applicable Flowgate less the projected loading across the applicable Flowgate less TRM and CBM. The firm AFC is calculated with only the appropriate Firm Transmission Service reservations (or interchange

schedules) in the model, including recognition of all roll-over Transmission Service rights. Non-firm AFC is determined with appropriate firm and non-firm reservations (or interchange schedules) modeled.

“Available Transfer Capability” or **“ATC”** shall mean a measure of the transfer capability remaining in the physical transmission network for further commercial activity over and above already committed uses.

“Balancing Authority” or **“BA”** shall mean the responsible entity that integrates resource plans ahead of time, maintains load-interchange-generation balance within a Balancing Authority Area, and supports interconnection frequency in real-time.

“Balancing Authority Area” or **“BAA”** shall mean the collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area..

“Bulk Electric System” shall have the meaning provided for in the NERC Glossary of Terms used in Reliability Standards, as it may be amended, supplemented, or restated from time to time.

“Capacity Benefit Margin” or **“CBM”** shall mean the amount of firm transmission transfer capability preserved by the transmission provider for Load-Serving Entities (“LSEs”), whose loads are located on that Transmission Service Provider’s system, to enable access by the LSEs to generation from interconnected systems to meet generation reliability requirements. Preservation of CBM for an LSE allows that entity to reduce its installed generating capacity below that which may otherwise have been necessary without interconnections to meet its generation reliability requirements. The transmission transfer capability preserved as CBM is intended to be used by the LSE only in times of emergency generation deficiencies.

“CIM” shall mean Common Infrastructure Model.

“Confidential Information” shall have the meaning stated in Section 35.8.1.

“Control Area(s)” shall mean an electric power system or combination of electric power systems to which a common automatic generation control scheme is applied.

“Control Performance Standard” or **“CPS”** shall mean the reliability standard that sets the limits of a Balancing Authority’s Area Control Error over a specified time period.

“Coordination Committee” shall mean the jointly constituted PJM and NYISO committee established to administer the terms and provisions of this Agreement pursuant to Section 35.3.2.

“Delivery Point” shall mean each of the points of direct Interconnection between PJM and the NYISO Balancing Authority Areas. Such Delivery Point(s) shall include the Interconnection Facilities between the PJM and the New York Balancing Authority Areas.

“DC” shall mean direct current.

“Disclosing Party” shall have the meaning stated in Section 35.8.7.

“Dispute” shall have the meaning stated in Section 35.15.

“Disturbance Control Standard” or **“DCS”** shall mean the reliability standard that sets the time limit following a disturbance within which a balancing authority must return its Area Control Error to within a specified range.

“Economic Dispatch” shall mean the sending of dispatch instructions to generation units to minimize the cost of reliably meeting load demands.

“Effective Date” shall have the meaning stated in Section 35.19.1.

“Emergency” shall mean any abnormal system condition that requires remedial action to prevent or limit loss of transmission or generation facilities that could adversely affect the reliability of the electricity system.

“Emergency Energy” shall mean energy supplied from Operating Reserve or electrical generation available for sale in New York or PJM or available from another Balancing Authority Area. Emergency Energy may be provided in cases of sudden and unforeseen outages of generating units, transmission lines or other equipment, or to meet other sudden and unforeseen circumstances such as forecast errors, or to provide sufficient Operating Reserve. Emergency Energy is provided pursuant to this Agreement and the Inter Control Area Transactions Agreement dated May 1, 2000 and priced according to Section 35.6.4 of this agreement and said Inter Control Area Transactions Agreement.

“EMS” shall mean the respective Energy Management Systems utilized by the Parties to manage the flow of energy within their Regions.

“FERC” or **“Commission”** shall mean the Federal Energy Regulatory Commission or any successor agency thereto.

“Flowgate” shall mean a representative modeling of facilities or groups of facilities that may act as potential constraint points.

“Force Majeure” shall mean an event of *force majeure* as described in Section 35. 20.1.

“Generator to Load Distribution Factor” or **“GLDF”** shall mean a generator’s impact on a Flowgate while serving load in that generator’s Balancing Authority Area.

“Good Utility Practice” shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the North American electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted by NERC.

“Governmental Authority” shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power.

“ICCP”, “ISN” and “ICCP/ISN” shall mean those common communication protocols adopted to standardize information exchange.

“IDC” shall mean the NERC Interchange Distribution Calculator used for identifying and requesting congestion management relief.

“Indemnifying Party” shall have the meaning stated in Section 35.20.3.

“Indemnitee” shall have the meaning stated in Section 35.20.3

“Intellectual Property” shall mean (i) ideas, designs, concepts, techniques, inventions, discoveries, or improvements, regardless of patentability, but including without limitation patents, patent applications, mask works, trade secrets, and know-how; (ii) works of authorship, regardless of copyright ability, including copyrights and any moral rights recognized by law; and (iii) any other similar rights, in each case on a worldwide basis.

“Intentional Wrongdoing” shall mean an act or omission taken or omitted by a Party with knowledge or intent that injury or damage could reasonably be expected to result.

“Interconnected Reliability Operating Limit” or **“IROL”** shall mean the value (such as MW, MVAR, Amperes, Frequency, or Volts) derived from, or a subset of, the System Operating Limits, which if exceeded, could expose a widespread area of the bulk electrical system to instability, uncontrolled separation(s) or cascading outages.

“Interconnection” shall mean a connection between two or more individual Transmission Systems that normally operate in synchronism and have interconnecting intertie(s).

“Interconnection Facilities” shall mean the Interconnection facilities described in Schedule A.

“ISO” shall mean Independent System Operator.

“kV” shall mean kilovolt of electric potential.

“Locational Marginal Price” or **“LMP”** shall mean the market clearing price for energy at a given location in a Party’s RC Area, and **“Locational Marginal Pricing”** shall mean the processes related to the determination of the LMP.

“Losses” shall have the meaning stated in Section 35.20.3.

“M2M” shall mean the market-to-market coordination process set forth in Schedule D to this Agreement.

“M2M Entitlement” shall mean a Non-Monitoring RTO’s share of a M2M Flowgate’s total capability to be used for settlement purposes that is calculated pursuant to Section 6 of Schedule D to this Agreement.

“M2M Event” shall mean the period when both Parties are operating under M2M as defined and set forth in Schedule D to this Agreement.

“M2M Flowgate” shall mean Flowgates where constraints are jointly monitored and coordinated as defined and set forth in Schedule D to this Agreement.

“Market Flows” shall mean the calculated energy flows on a specified Flowgate as a result of dispatch of generating resources serving load within an RTO’s market.

“Market Participant” shall mean an entity that, for its own account, produces, transmits, sells, and/or purchases for its own consumption or resale capacity, energy, energy derivatives and ancillary services in the wholesale power markets. Market Participants include transmission service customers, power exchanges, Transmission Owners, load serving entities, loads, holders of energy derivatives, generators and other power suppliers and their designated agents.

“Metered Quantity” shall mean apparent power, reactive power, active power, with associated time tagging and any other quantity that may be measured by a Party’s Metering Equipment and that is reasonably required by either Party for Security reasons or revenue requirements.

“Metering Equipment” shall mean the potential transformers, current transformers, meters, interconnecting wiring and recorders used to meter any Metered Quantity.

“Monitoring RTO” shall mean the Party that has operational control of a M2M Flowgate.

“Multiregional Modeling Working Group” or **“MMWG”** shall mean the NERC working group that is charged with multi-regional modeling.

“Mutual Benefits” shall mean the transient and steady-state support that the integrated generation and Transmission Systems in PJM and New York provide to each other inherently by virtue of being interconnected as described in Section 35.4 of this Agreement.

“MVAR” shall mean megavolt ampere of reactive power.

“MW” shall mean megawatt of capacity.

“NAESB” shall mean North American Energy Standards Board or its successor organization.

“NERC” shall mean the North American Electricity Reliability Corporation or its successor organization.

“Network Resource” shall have the meaning as provided in the NYISO OATT, for such resources located in New York, and the meaning as provided in the PJM OATT, for such resources located in PJM.

“Non-Monitoring RTO” shall mean the Party that does not have operational control of a M2M Flowgate.

“Notice” shall have the meaning stated in Section 35. 20.22.

“NPCC” shall mean the Northeast Power Coordinating Council, Inc., including the NPCC Cross Border Regional Entity (“CBRE”), or their successor organizations.

“NYISO” shall have the meaning stated in the preamble of this Agreement.

“NYISO Code of Conduct” shall mean the rules, procedures and restrictions concerning the conduct of the ISO directors and employees, contained in Attachment F to the NYISO OATT.

“NYISO Market Monitoring Plan” shall refer to Attachment O to the NYISO Services Tariff.

“NYISO Tariffs” shall mean the NYISO OATT and the NYISO Market Administration and Control Area Services Tariff (“Services Tariff”), collectively.

“NYSRC” shall mean the New York State Reliability Council.

“NYSRC Reliability Rules” shall mean the rules applicable to the operation of the New York Transmission System. These rules are based on Reliability Standards adopted by NERC and

NPCC, but also include more specific and more stringent rules to reflect the particular requirements of the New York Transmission System.

“**OASIS**” shall mean the Open Access Same-Time Information System required by FERC for the posting of market and transmission data on the Internet websites of PJM and NYISO.

“**OATT**” shall mean the applicable Open Access Transmission Tariffs on file with FERC for PJM and NYISO.

“**Operating Entity**” shall mean an entity that operates and controls a portion of the bulk transmission system with the goal of ensuring reliable energy interchange between generators, loads, and other operating entities.

“**Operating Instructions**” shall mean the operating procedures, steps, and instructions for the operation of the Interconnection Facilities established from time to time by the Coordination Committee or the PJM and NYISO individual procedures and processes and includes changes from time to time by the Coordination Committee to such established procedures, steps and instructions exclusive of the individual procedures.

“**Operating Reserve**” shall mean generation capacity or load reduction capacity which can be called upon on short notice by either Party to replace scheduled energy supply which is unavailable as a result of an unexpected outage or to augment scheduled energy as a result of unexpected demand or other contingencies.

“**Operational Control**” shall mean Security monitoring, adjustment of generation and transmission resources, coordinating and approval of changes in transmission status for maintenance, determination of changes in transmission status for reliability, coordination with other Balancing Authority Areas and Reliability Coordinators, voltage reductions and load shedding, except that each legal owner of generation and transmission resources continues to physically operate and maintain its own facilities.

“**OTDF**” shall mean the electric PTFDF with one or more system facilities removed from service (*i.e.*, outaged) in the post-contingency configuration of a system under study.

“**Outages**” shall mean the planned unavailability of transmission and/or generation facilities dispatched by PJM or the NYISO, as described in Section 35.9 of this Agreement.

“**PAR**” shall mean phase angle regulator.

“**PAR OTDF**”, also known as PAR shift factor, shall mean the ratio of a change in flow on a Flowgate, up to 1, due to a change in PAR active power transfer.

“**Party**” or “**Parties**” refers to each party to this Agreement or both, as applicable.

“**PJM**” has the meaning stated in the preamble of this Agreement.

“**PJM Code of Conduct**” shall mean the code of ethical standards, guidelines and expectations for PJM’s employees, officers and Board Members in their transactions and business dealings on behalf of PJM as posted on the PJM website and as may be amended from time to time.

“**PJM Tariffs**” shall mean the PJM OATT and the PJM Amended and Restated Operating Agreement, collectively.

“**Power Transfer Distribution Factor**” or “**PTDF**” shall mean a measure of the responsiveness or change in electrical loadings on Transmission Facilities due to a change in electric power transfer from one area to another, expressed in percent (up to 100%) of the change in power transfer in the pre-contingency configuration of a system under study.

“**Region**” shall mean the Control Areas and Transmission Facilities with respect to which a Party serves as RTO or Reliability Coordinator under NERC policies and procedures.

“**Regulatory Body**” shall have the meaning stated in Section 35.20.21.

“**Reliability Coordinator**” or “**RC**” shall mean the entity that is the highest level of authority who is responsible for the reliable operation of the Bulk Electric System, has the wide area view of the Bulk Electric System, and has the operating tools, processes and procedures, including the authority to prevent or mitigate emergency operating situations in both next day analysis and real-time operations. The Reliability Coordinator has the purview that is broad enough to enable the calculation of Interconnection Reliability Operating Limits, which may be based on the operating parameters of transmission systems beyond any Transmission Operator’s vision.

“**Reliability Coordinator Area**” shall mean that portion of the Bulk Electric System under the purview of the Reliability Coordinator.

“**Reliability Standards**” shall mean the criteria, standards, rules and requirements relating to reliability established by a Standards Authority.

“**RFC**” shall mean ReliabilityFirst Corporation.

“**RTO**” shall mean Regional Transmission Organization. For ease of reference, the New York Independent System Operator, Inc., may be referred to as an RTO in this Agreement and the NYISO and PJM may be referred to collectively as the “RTOs” or the “participating RTOs.”

“**Schedule**” shall mean a schedule attached to this Agreement and all amendments, supplements, replacements and additions hereto.

“**SDX System**” shall mean the system used by NERC to exchange system data.

“Security” shall mean the ability of the electric system to withstand sudden disturbances including, without limitation, electric short circuits or unanticipated loss of system elements.

“Security Limits” shall mean operating electricity system voltage limits, stability limits and thermal ratings.

“SERC” shall mean SERC Reliability Corporation or its successor organization.

“Shadow Price” shall mean the marginal value of relieving a particular constraint which is determined by the reduction in system cost that would result from an incremental relaxation of that constraint.

“Standards Authority” shall mean NERC, and the NERC regional entities with governance over PJM and NYISO, any successor thereof, or any other agency with authority over the Parties regarding standards or criteria to either Party relating to the reliability of Transmission Systems.

“Standards Authority Standards” shall have the meaning stated in Section 35.5.2.

“State Estimator” shall mean a computer model that computes the state (voltage magnitudes and angles) of the Transmission System using the network model and real-time measurements. Line flows, transformer flows, and injections at the busses are calculated from the known state and the transmission line parameters. The State Estimator has the capability to detect and identify bad measurements.

“Supplying Party” shall have the meaning stated in Section 35.8.2.

“System Operating Limit” or **“SOL”** shall mean the value (such as MW, MVAR, Amperes, Frequency, or Volts) that satisfies the most limiting of the prescribed operating criteria for a specified system configuration to ensure operation within acceptable reliability criteria.

“Target Value” shall have the meaning stated in Section 7.2 of Schedule D to this Agreement.

“Third Party” refers to any entity other than a Party to this Agreement.

“TLR” shall mean the NERC Transmission Loading Relief Procedures used in the Eastern Interconnection as specified in NERC Operating Policies.

“Transmission Operator” shall mean the entity responsible for the reliability of its “local” Transmission System, and that operates or directs the operations of the Transmission Facilities.

“Transmission Owner” shall mean an entity that owns Transmission Facilities.

“Transmission System” shall mean the facilities controlled or operated by PJM or NYISO as designated by each in their respective OATTs.

“Transmission Facility” shall mean a facility for transmitting electricity, and includes any structures, equipment or other facilities used for that purpose as defined in the Parties respective OATTs.

“Transmission Reliability Margin” or **“TRM”** shall mean the amount of transmission transfer capability necessary to provide reasonable assurance that the interconnected transmission network will be secure. TRM accounts for the inherent uncertainty in system conditions and the need for operating flexibility to ensure reliable system operation as system conditions change.

“Total Transfer Capability” or **“TTC”** shall mean the amount of electric power that can be moved or transferred reliably from one area to another area of the interconnected Transmission Systems by way of all transmission lines (or paths) between those areas under specified system conditions.

“Voltage and Reactive Power Coordination Procedures” are the procedures under Section 35.11 for coordination of voltage control and reactive power requirements.

35.2. 2 Rules of Construction.

35.2. 2.1 No Interpretation Against Drafter.

In addition to their roles as RTOs/ISOs and Reliability Coordinators, and the functions and responsibilities associated therewith, the Parties agree that each Party participated in the drafting of this Agreement and was represented therein by competent legal counsel. No rule of construction or interpretation against the drafter shall be applied to the construction or in the interpretation of this Agreement.

35.2. 2.2 Incorporation of Preamble and Recitals.

The Preamble and Recitals of this Agreement are incorporated into the terms and conditions of this Agreement and made a part thereof.

35.2. 2.3 Meanings of Certain Common Words.

The word “including” shall be understood to mean “including, but not limited to.” The word “Section” refers to the applicable section of this Agreement and, unless otherwise stated, includes all subsections thereof. The word “Article” refers to articles of this Agreement.

35.2. 2.4 Standards Authority Standards, Policies, and Procedures.

All activities under this Agreement will meet or exceed the applicable Standards Authority standards, policies, or procedures as revised from time to time.

35.2. 2.5 Scope of Application.

Each Party will perform this Agreement in accordance with its terms and conditions with respect to each Control Area for which it serves as ISO or RTO and, in addition, each Control Area for which it serves as Reliability Coordinator.

35.3 Overview, Administration, and Relationship With Other Agreements

35.3.1 Purpose of This Agreement

This Agreement provides for the reliable operation of the interconnected PJM and NYISO Transmission Systems in accordance with the requirements of the Standards Authority and efficient market operations through M2M coordination. This Agreement establishes a structure and framework for the following functions related to the reliability of interconnected operations between the Parties and efficient joint market operations:

- 35.3.1.1 Developing and issuing Operating Instructions and Security Limits;
- 35.3.1.2 Coordinating operation of their respective Transmission Systems;
- 35.3.1.3 Developing and adopting operating criteria and standards;
- 35.3.1.4 Conducting operating performance reviews of the Interconnection Facilities;
- 35.3.1.5 Implementing each Party's respective Standards Authority requirements with regard to the PJM and NYISO Transmission Systems;
- 35.3.1.6 Exchanging information and coordination regarding system planning;
- 35.3.1.7 Providing mutual assistance in an Emergency and during system restoration;
- 35.3.1.9 Performance of certain other arrangements among the Parties for coordination of their systems, including, but not limited to performance consistent with the arrangements set forth in the existing agreements listed in Section 35.21 and the M2M transmission congestion coordination process that is set forth in the attached Market-to-Market Coordination Schedule and Section 35.12 below;
and
- 35.3.1.9 Performance of certain other arrangements among the Parties for administration of this Agreement.

The Parties shall, consistent with Standards Authority requirements and the Parties' respective tariffs, rules and standards, including with respect to the NYISO, the NYSRC Reliability Rules, to the maximum extent consistent with the safe and proper operation of their respective Reliability Coordinator Area and Balancing Authority Area and necessary coordination with other interconnected systems, operate their systems in accordance with the procedures and principles set forth in this Agreement.

35.3.2 Establishment and Functions of Coordination Committee

To administer the arrangements under this Agreement, the Parties shall establish a Coordination Committee. The Coordination Committee shall undertake to jointly develop and authorize Operating Instructions to implement the intent of this Agreement with respect to reliable Transmission System operations.

35.3.2.1 The Coordination Committee shall have the following duties and responsibilities:

35.3.2.1.1 Determine the date(s) for implementing the various parts of this Agreement and undertake to jointly develop and authorize Operating Instructions to implement the intent of this Agreement;

35.3.2.1.2 Meet periodically to address any issues associated with this Agreement that a Party may raise and to determine whether any changes to this Agreement, or procedures employed under this Agreement, would enhance reliability, efficiency or economy;

35.3.2.1.3 The matters to be addressed at all meetings shall be specified in an agenda, which shall contain items specified by either Party in advance of the meeting

and sent to the representatives of the other Party. All decisions of the Coordination Committee must be unanimous;

35.3.2.1.4 Conduct additional meetings upon Notice given by any Party, provided that the Notice specifies the reason(s) for requesting the meeting;

35.3.2.1.5 Initiate process reviews at the request of any Party for activities undertaken in the performance of this Agreement; and

35.3.2.1.6 In its discretion, take other actions, including the establishment of subcommittees and/or task forces, to address any issues that the Coordination Committee deems necessary consistent with this Agreement.

35.3.2.2 Coordination Committee Representatives

Within 30 days of the Effective Date, each Party shall designate a primary and alternate representative to the Coordination Committee and shall inform the other Parties of its designated representatives by Notice. A Party may change its designated Coordination Committee representatives at any time, provided that timely Notice is given to the other Parties. Each designated Coordination Committee representative shall have the authority to make decisions on issues that arise during the performance of this Agreement. The costs and expenses associated with each Party's designated Coordination Committee representatives shall be the responsibility of the designating Party.

35.3.2.3 Limitations Upon Authority of Coordination Committee

The Coordination Committee is not authorized to modify or amend any of the terms of this Agreement. The Coordination Committee is also not authorized to excuse any obligations under this Agreement or waive any rights pertaining to this Agreement. The Coordination

Committee has no authority to commit either Party to any expenditure that is beyond those expenses described in this Agreement.

35.3.3 Ongoing Review and Revisions

As set forth in Section 35.7, the Parties have agreed to the coordination and exchange of data and information under this Agreement to enhance system reliability and efficient market operations as systems exist and are contemplated as of the Effective Date. The Parties expect that these systems and the technology applicable to these systems and to the collection and exchange of data will change from time to time throughout the term of this Agreement. The Parties agree that the objectives of this Agreement can be fulfilled efficiently and economically only if the Parties, from time to time, review and, as appropriate, revise the requirements stated herein in response to such changes, including deleting, adding, or revising requirements and protocols. Each Party will negotiate in good faith in response to such revisions the other Party may propose from time to time. Nothing in this Agreement, however, shall require any Party to reach agreement with respect to any such changes, or to purchase, install, or otherwise implement new equipment, software, or devices, or functions, except as required to perform this Agreement.

35.5 Interconnected Operation

35.5.1 Obligation to Remain Interconnected

The Parties shall at all times during the term of this Agreement operate or direct the operation of their respective Transmission Systems so that they remain interconnected except:

35.5.1.1 During the occurrence of an event of Force Majeure which renders a Party unable to remain interconnected;

35.5.1.2 When an Interconnection is opened in accordance with the terms of an Operating Instruction or, if the Operating Instruction does not anticipate a particular circumstance where there is an imminent risk of equipment failure, or of danger to personnel or the public, or a risk to the environment, or a risk to system Security or reliability of a Transmission System, which cannot be avoided through Good Utility Practice; or

35.5.1.3 During planned maintenance where notice has been given in accordance with outage procedures as implemented by the Coordination Committee.

35.5.2 Adherence to Standards Authority Standards, Policies and Procedures

The Parties are participants in multiple Standards Authorities and are required to comply with specified standards, criteria, guides and procedures (“Standards Authority Standards”).

Such Standards Authority Standards detail the many coordinating functions carried out by the parties, and this Agreement is intended to enhance those arrangements. Such Standards

Authority Standards include, and the Parties agree to, the provision of “maximum reasonable assistance” to a neighboring Balancing Authority Area. Such maximum reasonable assistance will not normally require the shedding of firm load.

35.5.3 Notification of Circumstances

In the event that an Interconnection Facility is opened or if the Interconnection Facility transfer capability is changed, or if a Party plans to initiate the opening of an Interconnection Facility, or to change the transfer capability of the Interconnection Facilities, such Party shall immediately provide the other Party with notification indicating the circumstances of the opening or transfer capability change and expected restoration time, in accordance with procedures implemented by the Coordination Committee.

35.5.4 Compliance with Decisions of the Coordination Committee Direction

PJM shall direct the operation of the PJM Transmission System and the NYISO shall direct the operation of the NYISO Transmission System in accordance with the obligations of their respective tariffs, rules and standards and applicable directions of the Coordination Committee that conform with their respective tariffs, rules and standards, except where prevented by Force Majeure. The Coordination Committee's scope includes making decisions and jointly developing and approving Operating Instructions for many expected circumstances within the provisions of the Parties' respective tariffs, rules and standards. If decisions of the Coordination Committee do not anticipate a particular circumstance, the Parties shall act in accordance with Good Utility Practice.

35.5.5 Control and Monitoring

Each Party shall provide or arrange for 24-hour control and monitoring of their portion of the Interconnection Facilities.

35.5.6 Reactive Transfer and Voltage Control

The Parties agree to determine reactive transfers and control voltages in accordance with the provisions of their respective Standards Authority Standards. Real and reactive power will be transferred over the Interconnection Facilities as described in Section 35.11.

35.5.7 Inadvertent Exchanges

Inadvertent power transfers on all Interconnection Facilities shall be controlled and accounted for in accordance with the standards and procedures developed by the Standards Authorities and the system operators of each Party to this Agreement.

35.5.8 Adoption of Standards

The Parties hereby agree to adopt, enforce and comply with all applicable requirements and standards that will safeguard the reliability of the interconnected Transmission Systems.

Such reliability requirements and Reliability Standards shall be:

- 35.5.8.1 Adopted and enforced for the purpose of providing reliable service;
- 35.5.8.2 Not unduly discriminatory in substance or application;
- 35.5.8.3 Applied consistently to both Parties with the exception of subsection 35.5.8.5 below;
- 35.5.8.4 Consistent with the Parties' respective obligations to applicable Standards Authorities including, without limitation, any relevant requirements or guidelines from each of NERC, or its Regional Councils' or any other Standards Authority or regional transmission group to which either of the Parties is required to adhere; and
- 35.5.8.5 With respect to the NYISO, consistent with the NYSRC Reliability Rules.

35.5.9 New York - PJM IROL Interface

The Parties share a joint IROL related to transfers related to the interconnecting transmission lines between their respective Reliability Coordinator Areas and Balancing Authority Areas. This IROL is adhered to in order to maintain acceptable steady-state and transient performance of the NYISO and PJM Transmission Systems. Both Parties will monitor this limit in accordance with this Agreement and independently determine the applicable import and export transfer limits. Both Parties agree to operate the interface to the most conservative limits developed in real-time and the day-ahead planning process. These operating limits shall be determined in accordance with Standards Authority Standards. Both Parties will take coordinated corrective actions to avoid a violation of the IROL. If a violation occurs, actions will be taken to clear the violation as soon as possible, and in accordance with Standards Authority Standards.

35.5.10 Coordination and Exchange of Information Regarding System Planning

The Parties shall exchange information and coordinate regarding system planning and inter-regional planning activities in a manner consistent with Standards Authority Standards and consistent with the requirements of confidentiality agreements or rules binding upon either of the Parties.

35.6 Emergency Assistance

35.6.1 Emergency Assistance

Both Parties shall exercise due diligence to avoid or mitigate an Emergency to the extent practical in accordance with applicable requirements imposed by the Standards Authority or contained in the PJM Tariffs and NYISO Tariffs. In avoiding or mitigating an Emergency, both Parties shall strive to allow for commercial remedies, but if commercial remedies are not successful or practical, the Parties agree to be the suppliers of last resort to maintain reliability on the system. For each hour during which Emergency conditions exist in a Party's Balancing Authority Area, that Party (while still ensuring operations within applicable Reliability Standards) shall determine what commercial remedies are available and make use of those that are practical and needed to avoid or mitigate the Emergency before any Emergency Energy is scheduled in that hour.

35.6.2 Emergency Operating Guides

The Parties agree to jointly develop, maintain, and share operating guides to address credible Emergency conditions.

35.6.3 Emergency Energy

Each Party shall, to the maximum extent it deems consistent with the safe and proper operation of its respective Transmission System, provide Emergency Energy to the other Party in accordance with the provisions of the Inter Control Area Transactions Agreement.

35.6.4 Costs of Compliance

Each Party shall bear its own costs of compliance with this Article except that the cost of Emergency Energy purchased by one Party at the request of the other Party shall be reimbursed

in accordance with the Inter Control Area Transaction Agreement. Nothing in this Agreement shall require a Party to purchase Emergency Energy if the Party cannot recover the costs under an OATT or other agreement or lawful arrangement.

35.7 Exchange of Information

35.7.1 Exchange of Operating Data

PJM and NYISO agree to exchange and share such information as may be required from time to time for the Parties to perform their duties and fulfill their obligations under this Agreement, subject to the requirements of existing confidentiality agreements or rules binding upon either of the Parties, including the NYISO Code of Conduct as set forth in Attachment F to the NYISO OATT, Article 6 of the NYISO Services Tariff, the PJM Code of Conduct and PJM Data Confidentiality Regional Stakeholder Group. Such information may consist of the following:

- 35.7.1.1 Information required to develop Operating Instructions;
- 35.7.1.2 Transmission System facility specifications and modeling data required to perform Security analysis;
 - 35.7.1.2.1 The Parties will exchange their detailed EMS models in CIM format or another mutually agreed upon electronic format, and include the ICCP/ISN mapping files, identification of individual bus loads, seasonal equipment ratings and one-line drawings to expedite the model conversion process, upon request. The Parties will also exchange updates that represent the incremental changes that have occurred to the EMS model since the most recent update in an agreed upon electronic format;
- 35.7.1.3 Functional descriptions and schematic diagrams of Transmission System protective devices and communication facilities;
- 35.7.1.4 Ratings data and associated ratings methodologies for the Interconnection Facilities;

- 35.7.1.5 Telemetry points, equipment alarms and status points required for real-time monitoring of Security dispatch;
- 35.7.1.6 Data required to reconcile accounts for inadvertent energy, and for Emergency Energy transactions;
- 35.7.1.7 Transmission System information that is consistent with the information sharing requirements imposed by the Standards Authority;
- 35.7.1.8 Such other information as may be required for the Parties to maintain the reliable operation of their interconnected Transmission Systems and fulfill their obligations under this Agreement and to any Standards Authority of which either Party is a member, provided, however, that this other information will be exchanged only if that can be done in accordance with applicable restrictions on the disclosure of information to any Market Participant; and
- 35.7.1.9 Additional information required for the Parties to administer the M2M coordination process set forth in Schedule D to this Agreement, including:
 - a. actual flows on M2M Flowgates;
 - b. actual limits for M2M Flowgates;
 - c. *ex ante* Shadow Prices on constrained M2M Flowgates;
 - d. requested relief during a M2M Event;
 - e. Market Flow calculation data (generator shift factors, load shift factors, interchange PTDFs, phase angle regulator OTDFs, generator output, load, net interchange);
 - f. Market Flows on M2M Flowgates; and

- g. binding constraint thresholds (the shift factor thresholds used to identify the resource(s) available to relieve a transmission constraint).

35.7.2 Confidentiality

The Party receiving information pursuant to this Section 35.7 shall treat such information as confidential subject to the terms and conditions of set forth in Section 35.8 of this Agreement. The obligation of each Party under this Section 35.7.2 continues and survives the termination of this Agreement by seven (7) years.

35.7.3 Data Exchange Contact

To facilitate the exchange of all such data, each Party will designate to the other Party's Vice President of Operations a contact to be available twenty-four (24) hours each day, seven (7) days per week, and an alternate contact to act in the absence or unavailability of the primary contact, to respond to any inquiries. With respect to each contact and alternate, each Party shall provide the name, telephone number, e-mail address, and fax number. Each Party may change a designee from time to time by Notice to the other Party's Vice President of Operations.

The Parties agree to exchange data in a timely manner consistent with existing defined formats or such other formats to which the Parties may agree. Each Party shall provide notification to the other Party thirty (30) days prior to modifying an established data exchange format.

35.7.4 Cost of Data and Information Exchange

Each Party shall bear its own cost of providing information to the other Party.

35.7.5 Other Data

The Parties may share other data not listed in this Section 35.7 as mutually agreed upon by the Parties.

35.8 Confidential Information

35.8.1 Definition

The term “Confidential Information” shall mean: (a) all information, whether furnished before or after the mutual execution of this Agreement, whether oral, written or recorded/electronic, and regardless of the manner in which it is furnished, that is marked “confidential” or “proprietary” or which under all of the circumstances should be treated as confidential or proprietary; (b) any data or information deemed confidential under some other form of confidentiality agreement or tariff provided to a Party by a generator; (c) all reports, summaries, compilations, analyses, notes or other information of a Party hereto which are based on, contain or reflect any Confidential Information; (d) applicable material deemed Confidential Information pursuant to the PJM Data Confidentiality Regional Stakeholder Group, the PJM Code of Conduct, the NYISO Code of Conduct, or Article 6 of the NYISO’s Services Tariff; (e) Protected Information under the NYISO Market Monitoring Plan; and (f) any information which, if disclosed by a transmission function employee of a utility regulated by the FERC to a market function employee of the same utility system, other than by public posting, would violate the FERC’s Standards of Conduct set forth in 18 C.F.R. § 37 et. seq. and the Parties’ Standards of Conduct on file with the FERC.

35.8.2 Protection

During the course of the Parties’ performance under this Agreement, a Party may receive or become exposed to Confidential Information. Except as set forth herein, the Parties agree to keep in confidence and not to copy, disclose, or distribute any Confidential Information or any part thereof, without the prior written permission of the Party supplying such Confidential Information (“Supplying Party”). In addition, each Party shall require that its employees, its

subcontractors and its subcontractors' employees and agents to whom Confidential Information is exposed agree to be bound by the terms and conditions contained herein. Each Party shall be responsible for any breach of this section by its employees, its subcontractors and its subcontractors' employees and agents.

35.8.3 Treatment of Confidential Information

The Party receiving the Confidential Information shall treat the information in the same confidential manner as its governing documents require it to treat the confidential information of its own members and Market Participants.

35.8.4 Statute of Limitations

The receiving Party shall not release the Supplying Party's Confidential Information until expiration of the time period controlling the Supplying Party's disclosure of the same information, as such period is described in the Supplying Party's governing documents from time to time. As of the Effective Date, this period is three (3) months with respect to bid or pricing data and seven (7) calendar days for transmission data after the event ends. The obligation of each Party under this Section 35.8 continues and survives the termination of this Agreement by seven (7) years.

35.8.5 Scope

This obligation of confidentiality shall not extend to data and information that, at no fault of a recipient Party, is or was: (a) in the public domain or generally available or known to the public; (b) disclosed to a recipient by a non-Party who had a legal right to do so; (c) independently developed by a Party or known to such Party prior to its disclosure hereunder; and

(d) which is required to be disclosed by subpoena, law, or other directive of a Governmental Authority.

35.8.6 Standard of Care

Each Party shall protect Confidential Information from disclosure, dissemination, or publication. Each Party agrees to restrict access to all Confidential Information to only those persons authorized to view such information: (a) by the FERC's Standards of Conduct, (b) OASIS posting requirements in 18 C.F.R. § § 37.1-37.8 and, (c) if more restrictive, by such Party's board resolutions, tariff provisions, or other internal policies governing access to, and the sharing of, energy market or Transmission System information.

35.8.7 Required Disclosure

If a Governmental Authority requests or requires a Party to disclose any Confidential Information ("Disclosing Party"), such Disclosing Party shall provide the Supplying Party with prompt written notice of such request or requirement and will assist any efforts by the Supplying Party to contest disclosure, or seek an appropriate protective order or other appropriate remedy. The Supplying Party may also choose to waive compliance with the provisions of this Agreement. Notwithstanding the presence or absence of a protective order or a waiver, a Disclosing Party shall disclose only such Confidential Information as it is legally required to disclose. Each Party shall use reasonable efforts to obtain reliable assurances that confidential treatment will be accorded to Confidential Information required to be disclosed.

If a Disclosing Party is required to disclose any Confidential Information under this section, a Supplying Party shall have the right to immediately suspend supplying such Confidential Information to the Disclosing Party. In that event, the Parties shall meet as soon as practicable in an effort to resolve any and all issues associated with the required disclosure of

such Confidential Information, and the likelihood of additional disclosures of such Confidential Information.

35.8.8 Return of Confidential Information

All Confidential Information provided by the Supplying Party shall be returned by the receiving Party to the Supplying Party promptly upon request. Upon termination or expiration of this Agreement, a Party shall use reasonable efforts to destroy, erase, delete or return to the Supplying Party any and all written or electronic Confidential Information. In no event shall a receiving Party retain copies of any Confidential Information provided by a Supplying Party.

35.8.9 Equitable Relief

Each Party acknowledges that remedies at law are inadequate to protect against breach of the covenants and agreements in this Article, and hereby in advance agrees, without prejudice to any rights to judicial relief that it may otherwise have, to the granting of equitable relief, including injunction, in the Supplying Party's favor without proof of actual damages. In addition to the equitable relief referred to in this section, a Supplying Party shall only be entitled to recover from a receiving Party any and all gains wrongfully acquired, directly or indirectly, from a receiving Party's unauthorized disclosure of Confidential Information.

35.8.10 Existing Confidential Information Obligations

Notwithstanding anything to the contrary in this Agreement, the parties shall have no obligation to disclose Confidential Information or data to the extent such disclosure of information or data would be a violation of or inconsistent with the terms and conditions of the PJM or NYISO Amended and Restated Operating Agreement, either Party's OATT, any other

agreement, or applicable state or federal regulation or law. The obligation of each Party under this section continues and survives the termination of this Agreement by seven (7) years.

35.9 Coordination of Scheduled Outages

35.9.1 Coordinating Outages Operating Protocols

The Parties will jointly develop protocols for coordinating transmission and generation Outages to maintain reliability. The Parties agree to the following with respect to transmission and generation Outage coordination.

35.9.1.1 Exchange of Transmission and Generation Outage Schedule Data

Upon a Party's request, the projected status of generation and transmission availability will be communicated between the Parties, subject to data confidentiality agreements. The Parties shall exchange the most current information on proposed Outage information and provide a timely response on potential impacts of proposed Outages. The Parties shall select a mutually agreeable common format for the exchange of this information.

35.9.1.2 Evaluation and Coordination of Transmission and Generation Outages

The Parties analyze planned critical facility maintenance to determine its effects on the reliability of the Transmission System. The Parties will work together to resolve Outage conflicts and work with the facility owner(s), as necessary, to provide remedial steps.

The Parties will notify each other of emergency maintenance and forced outages as soon as possible after these conditions are known. The Parties will evaluate the impact of emergency and forced outages on the Parties' systems to develop remedial steps as necessary.

Unforeseen changes in scheduled outages may require additional review. Each Party will consider the impact of these changes on the other Party's system reliability in addition to its own. The Parties will contact each other as soon as possible if these changes result in unacceptable system conditions to develop remedial steps as necessary.

35.11 Voltage Control and Reactive Power Coordination

35.11.1 Specific Voltage and Reactive Power Coordination Procedures

The Parties will utilize the following procedures to coordinate the use of voltage control equipment to maintain a reliable bulk power Transmission System voltage profile on their respective systems.

35.11.1.1 Under normal conditions, each Party shall provide for the supply and control of the reactive regulation requirements in its own area, including reactive reserve, so that applicable emergency voltage levels can be maintained following any of the set of contingencies that are observed under normal conditions.

35.11.1.2 Under normal conditions, each Party will anticipate voltage trends and initiate corrective action in advance of critical periods of heavy and light loads.

35.11.1.3 Under an abnormal condition, either Party experiencing rapid voltage decay will immediately implement all possible actions, including the shedding of firm load, to correct the problem until such time that the decay has been corrected.

35.12 M2M Coordination Process

The fundamental philosophy of the M2M transmission congestion coordination process that is set forth in the attached Market-to-Market Coordination Schedule is to allow any transmission constraints that are significantly impacted by generation dispatch changes in both the NYISO and PJM markets or by the operation of the Ramapo PARs to be jointly managed in the real-time security-constrained economic dispatch models of both Parties. This joint real-time management of transmission constraints near the market borders will provide a more efficient and lower cost transmission congestion management solution and coordinated pricing at the market boundaries.

Under normal system operating conditions, the Parties shall utilize the M2M coordination process on all defined M2M Flowgates that experience congestion. The Party that is responsible for monitoring a M2M Flowgate will initiate and terminate the redispatch component of the M2M coordination process. The Party that is responsible for monitoring a M2M Flowgate is expected to bind that Flowgate when it becomes congested, and to initiate market-to-market redispatch to utilize the more cost effective generation between the two markets to manage the congestion. Ramapo PAR coordination need not be formally invoked by either Party. It is ordinarily in effect.

The Market-to-Market coordination process includes a settlement process that applies when M2M coordination is occurring.

35.13 Joint Checkout Procedures

35.13.1 Scheduling Checkout Protocols

- 35.13.1.1 Both Parties shall require all transaction schedules to be tagged in accord with the NERC tagging standard. For reserve sharing and other emergency schedules that are not tagged, the Parties will enter manual schedules after the fact into their respective scheduling systems.
- 35.13.1.2 When there is a transaction scheduling conflict, the Parties will work to modify the schedule as soon as practical.
- 35.13.1.3 The Parties will perform the following types of checkouts. Checkouts will be consistent with 35.13.1.1 and 35.13.1.2.
- (a) Day-ahead checkout shall be performed daily on the day before the transaction is to flow. Day-ahead checkout includes the verification of import and export totals and individual transaction schedules.
 - (b) Real-time checkout shall be performed hourly during the hour before the transaction is to flow. Real-time checkout includes the verification of import and export totals and individual transaction schedules.
 - (c) After-the-fact checkout of transactions shall be performed the next business day following the day of the transactions.
 - (d) After-the-fact reporting of hourly scheduled energy interchanged and hourly actual energy interchanged shall be updated by each Party each day and exchanged with the other Party. Each day, month to date data shall be exchanged. Parties shall resolve discrepancies within ten (10) business days of the end of each month.

35.14 TTC/ATC/AFC Calculations

35.14.1 TTC/ATC/AFC Protocols

In accordance with Section 35.9, the Parties will exchange scheduled Outages of all interconnections and other Transmission Facilities.

35.14.1.1 Scheduled Outages of Transmission Resources

Each Party will provide the projected status of scheduled Outages of Transmission Facilities for a minimum of eighteen (18) months or more if available.

35.14.1.2 Transmission Interchange Schedules

Each Party will make available its interchange schedules to permit accurate calculation of TTC and ATC/AFC values.

35.14.2 Configuration/Facility Changes

Transmission configuration changes and generation additions (or retirements) shall be communicated via the NERC MMWG process.

35.14.3 Transmission System Impacts

35.14.3.1 The Parties shall coordinate with each other as needed and with other Reliability Coordinators, Balancing Authorities, and Generator Operators as needed to develop and implement action plans to mitigate potential or actual SOL, IROL, CPS, or DCS violations.

35.14.3.2 Each Party shall operate to prevent the likelihood that a disturbance, action, or non-action in its area will result in a SOL or IROL violation for the other Party. In instances where there is a difference in derived limits, Parties shall respect the most limiting parameter.

35.14.3.3 A Party who foresees a transmission problem (such as an SOL or IROL violation, loss of reactive reserves, etc.) that impacts the other Party shall issue an alert to the other Party without unreasonable delay.

35.14.3.4 Each Party shall confirm reliability assessment results and determine the effects within its own and the other Party's areas. The Parties shall discuss options to mitigate potential or actual SOL or IROL violations and take actions as necessary to always act in the best interests of the Interconnection at all times.

35.15 Dispute Resolution Procedures

35.15.1 Good Faith Negotiation

The Parties shall attempt in good faith to achieve consensus with respect to all matters arising under this Agreement and to use reasonable efforts through good faith discussion and negotiation to avoid and resolve disputes that could delay or impede a Party from receiving the benefits of this Agreement. These dispute resolution procedures apply to any dispute that arises from either Party's performance of, or failure to perform, in compliance with this Agreement and which the Parties are unable to resolve prior to invocation of these procedures.

35.15.2 Dispute Resolution

In the event of a Dispute arising out of or relating to this Agreement that is not resolved by the representatives of the Parties who have been designated under Section 35.3.2.2 of this Agreement within 7 days of the reference to such representatives of such Dispute, each Party shall, within 14 days' written notice by either Party to the other, designate a senior officer with authority and responsibility to resolve the Dispute and refer the Dispute to them. The senior officer designated by each Party shall have authority to make decisions on its behalf with respect to that Party's rights and obligations under this Agreement. The senior officers, once designated, shall promptly begin discussions in a good faith effort to agree upon a resolution of the Dispute. If the senior officers do not agree upon a resolution of the Dispute within 14 days of its referral to them, or within such longer period as the senior officers mutually agree to in writing, or do not within the same 14 day period agree to refer the matter to some individual or organization for alternate Dispute resolution, then the Parties shall request that FERC's Dispute Resolution Service mediate their efforts to resolve the Dispute. Upon a Party's determination, at any point in the mediation process, that mediation has failed to resolve the Dispute, either Party may seek

formal resolution by initiating a proceeding before the FERC. If the FERC is not willing or able to consider or resolve a Dispute, then either Party shall have the right to pursue any and all remedies available to it at law or in equity.

Neither the giving of notice of a Dispute, nor the pendency of any Dispute resolution process as described in this section shall relieve a Party of its obligations under this Agreement, extend any notice period described in this Agreement or extend any period in which a Party must act as described in this Agreement. Notwithstanding the requirements of this section, either Party may terminate this Agreement in accordance with its provisions, or pursuant to an action at equity. The issue of whether such a termination is proper shall not be considered a Dispute hereunder.

35.16 Interconnection Revenue Metering

35.16.1 Obligation to Provide Inadvertent Energy Accounting Metering

The Parties shall require appropriate electric metering devices to be installed as required to measure electric power quantities for determining Interconnection Facilities inadvertent energy accounting.

35.16.2 Standards for Metering Equipment

The parties shall cause any Metering Equipment used to meter Metered Quantities for inadvertent energy accounting to be designed, verified, sealed and maintained in accordance with the Party's respective metering standards or as otherwise agreed upon by the Coordination Committee.

35.16.3 Meter Compensation to the Point of Interconnection

The metering compensation for transmission line losses to the Interconnection Facilities Delivery Point shall be determined by the Party's respective standards or otherwise agreed to by the Coordination Committee.

35.16.4 Metering Readings

The Parties shall require that integrated meter readings are provided at least once each hour for Interconnection Facilities accounting purposes and meter registers are read at least monthly, as close as practical to the last hour of the month. An appropriate adjustment shall be made to register readings not taken on the last hour of the month.

35.17 Retained Rights of Parties

35.17.1 Parties Entitled to Act Separately

This Agreement does not create or establish, and shall not be construed to create or establish, any partnership or joint venture between or among any of the Parties. This Agreement establishes terms and conditions solely of a contractual relationship, among independent entities, to facilitate the achievement of the joint objectives described in the Agreement. The contractual relationship established hereunder implies no duties or obligations among the Parties except as specified expressly herein.

35.18 Representations

35.18.1 Good Standing

Each Party represents and warrants that it is duly organized, validly existing and in good standing under the laws of the state or province in which it is organized, formed, or incorporated, as applicable.

35.18.2 Authority to enter Into Agreement

Each Party represents and warrants that it has the right, power, and authority to enter into this Agreement, to become a Party hereto and to perform its obligations hereunder. This Agreement is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms.

35.18.3 Organizational Formation Documents

Each Party represents and warrants that the execution, delivery and performance of this Agreement does not violate or conflict with its organizational or formation documents.

35.18.4 Regulatory Authorizations

Each Party represents and warrants that it has, or applied for, all regulatory authorizations necessary for it to perform its obligations under this Agreement.

35.19 Effective Date, Implementation, Term and Termination

35.19.1 Effective Date; Implementation

This Agreement shall become effective as of the date that all of the following have occurred: (i) upon the execution hereof by both Parties, and (ii) acceptance or approval by the Federal Energy Regulatory Commission. Commencing with the Effective Date, the Parties shall commence and continue efforts to implement other provisions of this Agreement on dates determined by the Coordination Committee, which dates shall be the earliest dates reasonably feasible for both Parties.

35.19.2 Term

This Agreement shall continue in full force and effect unless terminated in accordance with the provisions of this Agreement.

35.19.3 Right of a Party to Terminate

35.19.3.1 NYISO may terminate this Agreement at any time upon not less than twelve (12) months' Notice to PJM.

35.19.3.2 PJM may terminate this Agreement at any time upon not less than twelve (12) months' Notice to NYISO.

35.19.3.3 This Agreement may be terminated at anytime by mutual agreement in writing.

35.19.4 Survival

The applicable provisions of this Agreement shall continue in effect after any termination of this Agreement to provide for adjustments and payments under Section 35.15, dispute resolution, determination and enforcement of liability, and indemnification, arising from acts or

events that occurred during the period this Agreement was in effect. In addition, Sections 35.8.4 and 35.8.10 of this Agreement provides that the obligation to safeguard Confidential Information continues in effect for a period of seven years after any termination of this Agreement.

35.19.5 Post-Termination Cooperation

Following any termination of this Agreement, all Parties shall thereafter cooperate fully and work diligently in good faith to achieve an orderly resolution of all matters resulting from such termination.

35.20 Additional Provisions

35.20.1 Force Majeure

A Party shall not be considered to be in default or breach of this Agreement, and shall be excused from performance or liability for damages to any other party, if and to the extent it shall be delayed in or prevented from performing or carrying out any of the provisions of this Agreement, arising out of or from any act, omission, or circumstance by or in consequence of any act of God, labor disturbance, sabotage, failure of suppliers of materials, act of the public enemy, war, invasion, insurrection, riot, fire, storm, flood, ice, earthquake, explosion, epidemic, breakage or accident to machinery or equipment or any other cause or causes beyond such Party's reasonable control, including any curtailment, order, regulation, or restriction imposed by governmental, military or lawfully established civilian authorities, or by making of repairs necessitated by an emergency circumstance not limited to those listed above upon the property or equipment of the Party or property or equipment of others which is deemed under the Operational Control of the Party. A Force Majeure event does not include an act of negligence or Intentional Wrongdoing by a Party. Any Party claiming a Force Majeure event shall use reasonable diligence to remove the condition that prevents performance and shall not be entitled to suspend performance of its obligations in any greater scope or for any longer duration than is required by the Force Majeure event. Each Party shall use its best efforts to mitigate the effects of such Force Majeure event, remedy its inability to perform, and resume full performance of its obligations hereunder.

35.20.2 Force Majeure Notification

A Party suffering a Force Majeure event ("Affected Party") shall notify the other Party ("Non-Affected Party") in writing ("Notice of Force Majeure Event") as soon as reasonably

practicable specifying the cause of the event, the scope of commitments under the Agreement affected by the event, and a good faith estimate of the time required to restore full performance. Except for those commitments identified in the Notice of Force Majeure Event, the Affected Party shall not be relieved of its responsibility to fully perform as to all other commitments in the Agreement. If the Force Majeure Event continues for a period of more than 90 days from the date of the Notice of Force Majeure Event, the Non-Affected Party shall be entitled, at its sole discretion, to terminate the Agreement.

35.20.3 Indemnification

“Indemnifying Party” means a Party who holds an indemnification obligation hereunder. An “Indemnitee” means a Party entitled to receive indemnification under this Agreement as to any Third Party claim. Each Party will defend, indemnify, and hold the other Party harmless from all actual losses, damages, liabilities, claims, expenses, causes of action, and judgments (collectively, “Losses”), brought or obtained by any Third Party against such other Party, only to the extent that such Losses arise directly from:

(a) Gross negligence, recklessness, or willful misconduct of the Indemnifying Party or any of its agents or employees, in the performance of this Agreement, except to the extent the Losses arise (i) from gross negligence, recklessness, willful misconduct or breach of contract or law by the Indemnitee or such Indemnitee’s agents or employees, or (ii) as a consequence of strict liability imposed as a matter of law upon the Indemnitee, or such Indemnitee’s agents or employees;

(b) Any claim arising from the transfer of Intellectual Property in violation of Section 35.20.8; or

- (c) Any claim that such Indemnitee caused bodily injury to an employee of Third Party due to gross negligence, recklessness, or willful conduct of the Indemnifying Party.
- (d) The Indemnitee shall give Notice to the Indemnifying Party as soon as reasonably practicable after the Indemnitee becomes aware of the Indemnifiable Loss or any claim, action or proceeding that may give rise to an indemnification. Such notice shall describe the nature of the loss or proceeding in reasonable detail and shall indicate, if practicable, the estimated amount of the loss that has been sustained by the Indemnitee. A delay or failure of the Indemnitee to provide the required notice shall release the Indemnifying Party (a) from any indemnification obligation to the extent that such delay or failure materially and adversely affects the Indemnifying Party's ability to defend such claim or materially and adversely increases the amount of the Indemnifiable Loss, and (b) from any responsibility for any costs or expenses of the Indemnitee in the defense of the claim during such period of delay or failure.
- (e) The indemnification by either Party shall be limited to the extent that the liability of a Party seeking indemnification would be limited by any applicable law and arises from a claim by a Party acting within the scope of this Agreement as to obligations of the other Party under this Agreement.

35.20.4 Headings

The headings used for the Articles and Sections of this Agreement are for convenience and reference purposes only, and shall not be construed to modify, expand, limit, or restrict the provisions of this Agreement.

35.20.5 Liability to Non-Parties

Nothing in this Agreement, whether express or implied, is intended to confer any rights or remedies under or by reason of this Agreement on any person or entity that is not a Party or a permitted successor or assign.

35.20.6 Liability Between Parties

The Parties' duties and standard of care with respect to each other, and the benefits and rights conferred on each other shall be no greater than as expressly stated herein. Neither Party, its directors, officers, trustees, employees or agents, shall be liable to the other Party for any loss, damage, claim, cost, charge or expense, whether direct, indirect, incidental, punitive, special, exemplary or consequential, arising from the other Party's performance or nonperformance under this Agreement, except to the extent that a Party, is found liable for gross negligence or willful misconduct, in which case the Party responsible shall be liable only for direct and ordinary damages and not for any lost goodwill, incidental, consequential, punitive, special, exemplary or indirect damage.

This section shall not limit amounts required to be paid under this Agreement, including any of the appendices, schedules or attachments to this Agreement. This section shall not apply to adjustments or corrections for errors in invoiced amounts due under this Agreement, including any of the appendices, schedules or attachments to this Agreement.

35.20.7 Limitation on Claims

No claim seeking an adjustment in the billing for any service, transaction, or charge under this Agreement, including any of the appendices, schedules or attachments to this Agreement, may be asserted with respect to a week or month, if more than one year has elapsed (a) since the first date upon which an invoice was rendered for that week or month, or (b) since

the date upon which a changed or modified invoice was rendered for that week or month. The Party responsible for issuing an invoice may not, of its own initiative, issue a changed or modified invoice if more than one year has elapsed since the first date upon which an invoice was rendered for a week or month. A changed or modified invoice may be issued more than one year after the first date upon which an invoice was rendered for a week or month in order to correct for or address a timely-raised claim seeking an adjustment in the billing for any service, transaction, or charge under this Agreement.

35.20.8 Unauthorized Transfer of Third-Party Intellectual Property

In the performance of this Agreement, no party shall transfer to another party any Intellectual Property, the use of which by another Party would constitute an infringement of the rights of any Third Party. In the event such transfer occurs, whether or not inadvertent, the transferring Party shall, promptly upon learning of the transfer, provide Notice to the receiving Party and upon receipt of such Notice the receiving Party shall take reasonable steps to avoid claims and mitigate losses.

35.20.9 Intellectual Property Developed Under This Agreement

If during the term of this Agreement, the Parties mutually develop any new Intellectual Property that is reduced to writing or any tangible form, the Parties shall negotiate in good faith concerning the ownership and licensing of such Intellectual Property.

35.20.10 Governing Law

This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware without giving effect to the State of Delaware's conflict of law principles.

35.20.11 License and Authorization

The agreements and obligations expressed herein are subject to such initial and continuing governmental permission and authorization as may be required. Each Party shall be responsible for securing and paying for any approvals required by it from any regulatory agency of competent jurisdiction relating to its participation in this Agreement and will reasonably cooperate with the other Party in seeking such approvals.

35.20.12 Assignment

This Agreement shall inure to the benefit of, and be binding upon and may be performed by, the successors and assigns of the Parties hereto respectively, but shall not be assignable by either Party without the written consent of the other.

35.20.13 Amendment

35.20.13.1 Authorized Representatives

No amendment of this Agreement shall be effective unless by written instrument duly executed by the Parties' authorized representatives. For the purposes of this section, an authorized person refers to individuals designated as such by Parties in their respective corporate by-laws.

35.20.13.2 Review of Agreement

The terms of this Agreement are subject to review for potential amendment at the request of either Party. If, after such review, the Parties agree that any of the provisions hereof, or the practices or conduct of either Party impose an inequity, hardship or undue burden upon the other Party, or if the Parties agree that any of the provisions of this Agreement have become obsolete or inconsistent with changes related to the Interconnection Facilities, the Parties shall endeavor

in good faith to amend or supplement this Agreement in such a manner as will remove such inequity, hardship or undue burden, or otherwise appropriately address the cause for such change.

35.20.13.3 Mutual Agreement

The Parties may amend this Agreement at any time by mutual agreement in accordance with Section 35.20.13.1 above.

35.20.14 Performance

The failure of a Party to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any right held by such Party. Any waiver on any specific occasion by either Party shall not be deemed a continuing waiver of such right, nor shall it be deemed a waiver of any other right under this Agreement.

35.20.15 Rights, Remedies or Benefits

This Agreement is not intended to and does not create any rights, remedies, or benefits of any kind whatsoever in favor of any entities other than the Parties, their principals and, where permitted, their assigns.

35.20.16 Agreement

This Agreement, including all Attachments attached hereto, is the entire agreement between the Parties with respect to the subject matter hereof, and supersedes all prior or contemporaneous understandings or agreements, oral or written, with respect to the subject matter of this Agreement.

35.20.17 Governmental Authorizations

This Agreement, including its future amendments is subject to the initial and continuing governmental authorizations, including approval of the FERC, required to establish, operate and maintain the Interconnection Facilities as herein specified. Each Party shall take all actions necessary and reasonably within its control to maintain all governmental rights and approvals required to perform its respective obligations under this Agreement.

35.20.18 Unenforceable Provisions

If any provision of this Agreement is deemed unenforceable, the rest of the Agreement shall remain in effect and the Parties shall negotiate in good faith and seek to agree upon a substitute provision that will achieve the original intent of the Parties.

35.20.19 Execution

This Agreement may be executed in multiple counterparts, each of which shall be considered an original instrument, but all of which shall be considered one and the same Agreement, and shall become binding when all counterparts have been signed by each of the Parties and delivered to each Party hereto. Delivery of an executed signature page counterpart by telecopier or e-mail shall be as effective as delivery of a manually executed counterpart.

35.20.20 Billing and Payment

35.20.20.1 General Billing and Payment Rules

This Section 35.20.20.1 of the Agreement sets forth the billing and payment rules that apply to all charges arising under this Agreement except for charges resulting from the M2M coordination process set forth in Schedule D to this Agreement.

35.20.20.1.1 Invoicing. When charges arise under this Agreement, the billing RTO shall submit an invoice to the other RTO within five (5) business days after the first day of the month indicating the net amount owed by that RTO for the previous month.

35.20.20.1.2 Payments. Payments under this Agreement will be effected in immediately available funds of the United States of America.

The RTO owing payments on net in the invoice shall make those payments within five (5) business days after the receipt of the invoice.

In the event of a billing and payment dispute between the Parties, the dispute resolution procedures and limitation of the claims section contained in this Agreement shall apply to the review, challenge, and correction of invoices.

35.20.20.1.3 Interest on Unpaid Balances. Interest on any unpaid amount (including amounts placed in escrow) shall be calculated in accordance with the method specified for interest on refunds in the Commission's regulations at 18 C.F.R. § 35.19a (a)(2)(iii). Interest on unpaid amounts shall be calculated from the due date of the bill to the date of payment. Invoices shall be considered as having been paid on the date of receipt of payment.

35.20.20.1.4 RTO Bills and Payments to their Respective Customers. Bills or payments that either RTO is authorized to issue directly to its customer shall be invoiced, paid and/or processed in accordance with the relevant RTO's billing and payment tariff rules.

35.20.20.2 Billing and Payment for the M2M Coordination Process set forth in Schedule D to this Agreement

For the limited purposes of these billing and payment rules that apply to the M2M coordination process, PJM shall be considered a “Customer” as that term is used in Section 7 of the NYISO Services Tariff where the NYISO Services Tariff applies and NYISO shall be considered a “Transmission Customer” as that term is used in Section 7 of the PJM OATT where the PJM OATT applies.

35.20.20.2.1 Invoicing and Settlement Information. NYISO shall provide invoice and settlement information to PJM consistent with Section 7.2.1 (*Invoices and Settlement Information*), 7.2.3.1 (*Weekly Invoice*), and 7.2.3.2 (*Monthly Invoice*) of the NYISO Services Tariff or any successor NYISO Services Tariff provision(s).

NYISO may use estimates for invoicing consistent with Section 7.2.4 (*Use of Estimated Data and Meter Data*) of the NYISO Services Tariff or any successor NYISO Services Tariff provision(s).

35.20.20.2.2 Payments. Unless otherwise indicated in writing by the Parties, all payments due under this Agreement will be effected in immediately available funds of the United States of America.

Payments shall be due and payable in accordance with the terms and conditions set herein and notwithstanding any invoicing disputes. In the event of a billing and payment dispute between the Parties under this Agreement, the dispute resolution procedures and limitation of the claims section contained in this Agreement shall apply to the review, challenge, and correction of invoices.

PJM shall make payments to the NYISO's Clearing Account consistent with Sections 7.2.3.3 (*Payment by the Customer*) and 7.2.5 (*Method of Payment*) of the NYISO Services Tariff or any successor NYISO Services Tariff provision(s).

NYISO shall make payments, from the NYISO's Clearing Account, to PJM consistent with Section 7.1A(a) (*Payments: Monthly Bills*), 7.1A(b) (*Payments: Weekly Bills*), 7.1A(c) (*Payments: Form of Payments*), and 7.1A(e) (*Payments: Payment Calendar*) of the PJM OATT or any successor PJM OATT provision(s).

35.20.20.2.3 Interest on Unpaid Balances. Interest on any unpaid amount whether owed to PJM or to NYISO (including amounts placed in escrow) shall be calculated in accordance with the methodology specified for interest on refunds in the Commission's regulations at 18 C.F.R. § 35.19a (a)(2)(iii). Interest on unpaid amounts shall be calculated from the due date of the bill to the date of payment. Invoices shall be considered as having been paid on the date of receipt of payment.

35.20.20.2.4 Payment Obligation. The RTOs each assume responsibility for ensuring that their respective payment obligations resulting from the M2M coordination process set forth in Schedule D to this Agreement are satisfied without regard for their ability to collect such payments from their respective customers.

35.20.21 Regulatory Authority

If any regulatory authority having jurisdiction (or any successor boards or agencies), a court of competent jurisdiction or other Governmental Authority with the appropriate jurisdiction (collectively, the "Regulatory Body") issues a rule, regulation, law or order that has the effect of cancelling, changing or superseding any term or provision of this Agreement (the "Regulatory

Requirement"), then this Agreement will be deemed modified to the extent necessary to comply with the Regulatory Requirement. Notwithstanding the foregoing, if a Regulatory Body materially modifies the terms and conditions of this Agreement and such modification(s) materially affect the benefits flowing to one or both of the Parties, as determined by either of the Parties within twenty (20) business days of the receipt of the Agreement as materially modified, the Parties agree to attempt in good faith to negotiate an amendment or amendments to this Agreement or take other appropriate action(s) so as to put each Party in effectively the same position in which the Parties would have been had such modification not been made. In the event that, within sixty (60) days or some other time period mutually agreed upon by the Parties after such modification has been made, the Parties are unable to reach agreement as to what, if any, amendments are necessary and fail to take other appropriate action to put each Party in effectively the same position in which the Parties would have been had such modification not been made, then either Party shall have the right to unilaterally terminate this Agreement forthwith.

35.20.22 Notices

Except as otherwise agreed from time to time, any Notice, invoice or other communication which is required by this Agreement to be given in writing, shall be sufficiently given at the earlier of the time of receipt or deemed time of receipt if delivered personally to a senior official of the Party for whom it is intended or electronically transferred or sent by registered mail, addressed as follows:

PJM: Terry Boston
President & CEO
PJM Interconnection L.L.C.
955 Jefferson Avenue
Valley Forge Corporate Center
Norristown, PA 19403-4501
Tel: (610) 666-8263

NYISO: New York System Operator
10 Krey Boulevard
Rensselaer, New York 12144
Attention: Vice President Operations & Reliability

or delivered to such other person or electronically transferred or sent by registered mail to such other address as either Party may designate for itself by Notice given in accordance with this section or delivered by any other means agreed to by the Parties hereto.

Any Notice, or communication so mailed shall be deemed to have been received on the third business day following the day of mailing, or if electronically transferred shall be deemed to have been received on the same business day as the date of the electronic transfer, or if delivered personally shall be deemed to have been received on the date of delivery or if delivered by some other means shall be deemed to have been received as agreed to by the Parties hereto.

The use of a signed facsimile of future Notices and correspondence between the Parties related to this Agreement shall be accepted as proof of the matters therein set out. Follow-up with hard copy by mail will not be required unless agreed to by the Coordination Committee.

A Party may change its designated recipient of Notices, or its address, from time to time by giving Notice of such change.

IN WITNESS WHEREOF, the signatories hereto have caused this Agreement to be executed by their duly authorized officers.

PJM INTERCONNECTION, L.L.C.

By: Michael J. Kormos, Senior VP – Reliability Services

Date: _____

NEW YORK INDEPENDENT SYSTEM OPERATOR, INC.

By: Stephen G. Whitley, President and CEO

Date: _____

35.21 Schedules A and B

Schedule A - Description Of Interconnection Facilities

The NYISO – PJM Coordination Agreement covers the PJM – NYISO *Interconnection Facilities* under the *Operational Control* of the NYISO and PJM. For *Operational Control* purposes, the point of demarcation for each of the *Interconnection Facilities* listed below is the point at which each *Interconnection Facility* crosses the PJM-New York State boundary, except as noted below.

The PJM-NYISO *Interconnection* contains twenty-three (23) alternating current (“AC”) *Interconnection Facilities*, seven (7) of which form one (1) AC pseudo-tie¹; and further contains one (1) HVDC *Interconnection Facility* as well as one (1) *Variable Frequency Transformer (VFT)*. These are tabulated below:

NY/PJM AC *Interconnection Facilities*:

PJM	NYISO	Designated	(kV)	Common Meter Point
Branchburg	Ramapo	5018	500	Ramapo
Cresskill	Sparkill	751	69	Cresskill
E. Sayre	N. Waverly	956	115	E. Sayre
E. Towanda	Hillside	70	230	Hillside
Erie East	South Ripley	69	230	South Ripley
Harings Corners	Burns	702	138	Harings
Harings Corners	Pearl River	45	34	Harings
Harings Corners	W. Nyack	701	69	Harings
Homer City	Watercure	30	345	Homer
Homer City	Stolle Road	37	345	Homer
Hudson	Farragut	C3403	345	Farragut
Hudson	Farragut	B3402	345	Farragut
Linden	Goethals	A2253	230	Goethals
Linden VFT	Linden Cogen	VFT	345	Linden VFT
Montvale	Pearl River	491	69	Montvale
Montvale	Blue Hill	44	69	Montvale
Montvale	Blue Hill	43	69	Montvale
S. Mahwah	Hilburn	65	69	S. Mahwah
S. Mahwah	S. Mahwah	BK 258	138/345	S. Mahwah
S. Mahwah	Ramapo	51	138	S. Mahwah
Waldwick	S. Mahwah	J3410	345	Waldwick
Waldwick	S. Mahwah	K3411	345	Waldwick
Tiffany	Goudey	952	115	Goudey
Warren	Falconer	171	115	Warren
RECO	NYISO	AC Pseudo-Tie	Various	O&R EMS

¹ WEQ-007 “Inadvertent Interchange Payback Standards,” North American Energy Standards Board (NAESB), on-line at www.naesb.org.

Schedule B - Other Existing Agreements:

- 1.0 Lake Erie Emergency Redispatch (LEER)
- 2.0 RAMAPO PHASE ANGLE REGULATOR OPERATING PROCEDURE prepared by the NYPP/PJM Circulation Study Operating Committee.
- 3.0 Operating Protocol for the Implementation of Commission Opinion No. 476, Docket No. EL02-23-000 (Phase II), New York Independent System Operator, Inc., FERC Electric Tariff, Original Vol. No. 2, Attachment M-1.
- 4.0 Northeastern ISO/RTO Coordination of Planning Protocol
- 5.0 Inter Control Area Transaction Agreement.
- 6.0 Procedures to Protect for Loss of Phase II Imports (effective January 16, 2007, pursuant to Order issued January 12, 2007, in FERC Docket No. ER07-231-000).
- 7.0 Joint Emergency Operating Protocol dated September 10, 2009, among PJM Interconnection, L.L.C., New York Independent System Operator, Inc., and Linden VFT, LLC (Filed by PJM on October 1, 2009, in FERC Docket No. ER09-996-000).

35.22 Schedule C - Operating Protocol for the Implementation Of Con Ed – PJM Transmission Service Agreements

- 1.1 This “Operating Protocol” establishes procedures for the planning, operation, control, and scheduling of energy between the New York Independent System Operator, Inc. (“NYISO”) and PJM Interconnection, L.L.C. (“PJM”) (collectively, the “Parties”), associated with two Long-term Firm Point-to-Point Transmission Service Agreements (“TSAs”) entered into by Consolidated Edison Company of New York (“ConEd”) and PJM, dated April 18, 2008, executed in connection with the rollover of contracts dated May 22, 1975 (as amended May 9, 1978) and May 8, 1978 between ConEd and Public Service Electric and Gas Company (“PSE&G”). The TSA designated Original Service Agreement No. 1874 is referred to herein as the 400 MW transaction and the TSA designated Original Service Agreement No. 1873 is referred to as the 600 MW transaction. The two contracts are referred to collectively as the “600/400 MW transactions.”
- 1.1.1 The 400 MW transaction. The 400 MW transaction has the same level of firmness as other firm transactions, except as provided in section 1.3 of this Operating Protocol.
- 1.1.2 The 600 MW transaction. The 600 MW transaction shall have the same level of firmness as other firm transactions.
- 1.2 This Operating Protocol shall be used by the NYISO and PJM in preparing to operate, and operating in real-time, to the hourly flow of energy between them pursuant to the 600/400 MW transactions as established by this Operating Protocol.
- 1.3 During system emergencies, the appropriate emergency procedures of the NYISO and PJM, if necessary, shall take priority over the provisions of this Operating Protocol. The NYISO and PJM shall have the authority to implement their respective emergency procedures in whatever order is required to ensure overall system reliability. Without limiting the foregoing, the order of load relief measures and transaction reductions when there is an emergency in the PJM Mid-Atlantic Area will be:
- Calling of Emergency Load Response
 - Voltage reduction
 - Reduction of the 400 MW transaction

- Pro-rata load shed and reduction of the 600/400 MW transactions¹

In addition, if PJM declares an emergency condition that arises from outages on the PSE&G system, the NYISO and PJM may agree to deliver up to 400 MW to Goethals for re-delivery to Hudson via the NYISO's system. Such emergency re-deliveries shall not be considered in the calculation of the Real-Time Market Desired Flow under Appendices 1 and 3 of this Operating Protocol.

- 1.4 All aspects of this Operating Protocol are subject to the dispute resolution procedures set forth in the Joint Operating Agreement Among and Between New York Independent System Operator, Inc., and PJM Interconnection, L.L.C.
- 1.5 The Parties will review all aspects of this Operating Protocol annually.
- 1.6 Attached and included as part of this Operating Protocol are the following appendices: Appendix 1 – Process Flow, Appendix 2 – Transmission Constraints and Outages Associated with the Contracts, Appendix 3 – The Day-Ahead Market and Real-Time Market Desired Flow Calculation, Appendix 4 – Planning Procedures, Appendix 5 – Operation of the PARs, Appendix 6 – Distribution of Flows Associated with Implementation of Day-Ahead and Real Time Market Desired Flows, Appendix 7 – References, and Appendix 8 – Definitions.

¹ In a maximum generation emergency in the PJM Mid-Atlantic Area where PSE&G load needs to be curtailed, the PSE&G load would be curtailed pro-rata with curtailment of the ConEd requested service (and other firm service on the system). But, if NYISO is not also in a capacity emergency, the desired flow on ABC will be reduced by up to 400 MW to the extent necessary to avoid a PSEG load curtailment. ConEd may upgrade the transmission service for the 400 MW transaction to eliminate the reduction of the 400 MW transaction prior to load shed as described above by requesting such upgraded service and funding all necessary transmission upgrades as required by Part II and Part VI of the PJM OATT. The 600 MW transaction shall be reduced in the same manner as all other firm transactions in PJM.

Schedule C Appendices

Appendix 1- Process Flow

Two Day-ahead Actions:

1. PJM shall post constraint forecast information on its OASIS, or a comparable website, indicating if there is the potential for off-cost operations, two days prior to the operating day by 9 pm (sample at Figure 1 in Appendix 7).
2. PJM shall analyze transmission and generation outages in accordance with Appendix 2B to determine if the 600/400 MW transaction flow is expected to be feasible under a security constrained dispatch in PJM. If any portion of the flow is not expected to be feasible under a security-constrained dispatch, PJM will determine what portion of the flow is expected to be feasible and post that information on the PJM OASIS. This advance notification is not binding on any party.
3. The NYISO shall post transmission outages on its OASIS, or a comparable website, to identify outages that impact the transfer capability of the ISO Secured Transmission System.²

Day Ahead Scheduling:

4. ConEd shall submit a contract election (NY-DAE) in the NYISO's Day-Ahead Market for the 600/400 MW transactions prior to the NYISO Day Ahead Market (DAM) deadline (currently 5:00 a.m.).
5. The NYISO shall establish New York (aggregate ABC interface and aggregate JK interface) Desired Flow (NYDF) schedules for NYISO Day Ahead Market using the NY-DAE identified in (4).
6. The NYISO shall establish the distribution of flows for the NYISO DAM in accordance with Appendix 7.
7. The NYISO shall run the New York Day Ahead Market with NYDF schedules determined in (5 and 6).

² The ISO Secured Transmission System is defined in the NYISO's Transmission and Dispatching Operations Manual.

8. The NYISO shall post DAM results by the deadline established in its market rules (currently prior to 11:00 a.m.). The NYISO shall provide NYDF schedules and post nodal prices for the JK (Ramapo), BC (Farragut) and A (Goethals) pricing points on the NYISO OASIS, or a comparable website (sample at Figure 2 in Appendix 7).
9. ConEd shall submit a transaction election (PJM-DAE) in the PJM Day Ahead Market prior to the PJM Day Ahead Market deadline (currently 12 noon):
 - a) ConEd shall submit a transaction election for the 600 MW transaction.
 - b) ConEd shall submit a transaction election for the 400 MW transaction.
10. PJM shall establish the PJM (aggregate ABC interface and aggregate JK interface) Desired Flow (PJ MDF) schedules for PJM Day Ahead Market using PJM-DAE identified in Appendix 8.
11. PJM shall establish the distribution of flows for the PJM DAM in accordance with Appendix 8.
12. PJM shall run the PJM Day Ahead Market with the PJ MDF schedules determined in (11). The amount of the PJM-DAE which clears will become the PJM Day Ahead Schedule amount (PJM-DAS).
13. PJM Day Ahead results shall be posted by the deadline established in PJM's market rules (currently at 4:00 p.m.), and shall identify the PJM-DAS. The PJM posting will include nodal prices for the JK (Waldwick), BC (Hudson) and A (Linden) pricing points on <https://esuite.pjm.com/mui/index.htm> or a comparable website (sample at Figure 3 in Appendix 7).

If there is congestion in the PJM Day Ahead Market:

14. If there is congestion in PJM that affects the 600/400 MW transaction, PJM shall re-dispatch.

In Day Operations:

15. Aggregate ABC and aggregate JK Real-Time Market Desired Flow (RT MDF) calculations shall be made in real time, continuous throughout the operating day, by the NYISO and PJM.
16. The desired distribution of flows on the A, B, C, J, and K lines for the in-day markets shall be established by PJM and the NYISO in accordance with Appendix 6.

17. Aggregate actual ABC interface flows shall be within +/- 100 MW of the aggregate RTMDF for the ABC interface and aggregate actual JK interface flows shall be within +/- 100 MW of the aggregate RTMDF for the JK interface.³
18. ConEd shall have the option to request a modification in the Real-Time Market from its Day Ahead Market election (NY_DAE and PJM_DAE) for each hour.⁴
 - a) ConEd must request a Real-Time election (RTE) modification through NYISO at least 75 minutes prior to the dispatch hour (or a shorter notice period that is agreed upon by the NYISO and PJM.).
 - b) The NYISO shall notify PJM of the RTE.
 - c) ConEd shall settle with PJM for the balancing market costs for deviations between PJM-DAS and RTE pursuant to the TSAs described in Section 35.1 of this Operating Protocol. ConEd shall settle with the NYISO for balancing market costs for deviations between NY-DAE and RTE. ConEd shall not be responsible for NYISO balancing market costs resulting from NYISO-directed deviations between NY DAE and RTE.

Note - Actions identified in steps 17 and 18 that are taken will be logged, and PSE&G and ConEd will be notified of PAR moves related to these steps.

³ PJM and NYISO will operate in accordance with the bandwidth requirements of Step 17 to the extent practicable (utilizing PARs, curtailment of third party transactions, and re-dispatch, consistent with the other provisions of the Operating Protocol) recognizing relevant operating conditions that are beyond the control of PJM and NYISO or that are not anticipated by this Operating Protocol. Deviations will be accounted for with in-kind payback using the Auto Correction Factor described in Appendix 3 to this Operating Protocol. The Auto Correction Factor shall be the sole and exclusive remedy available to any person or entity for any under- or over-delivery of power pursuant to the 600/400 MW transactions, unless such under- or over-delivery is the result of gross negligence or intentional misconduct.

⁴ At all times, however, the ConEd election under the 600/400 MW transactions must be the same in PJM and NYISO in In-Day Operations. Absent an in-day change in the election by ConEd, the ConEd Real-Time election shall be the PJM-DAS.

Appendix 2 - Transmission Constraints and Outages - Associated with the Contracts

A. Constraints

A list of constraints identified as potential constraints that may result in off-cost operation due to transfers associated with the 600/400 MW transactions will be posted on the PJM and NYISO OASIS or web page. The constraints included in the listing should be considered representative of the kinds of constraints that may exist within PJM or the NYISO. If such transmission constraints are limiting, then the affected ISO/RTO may be subject to off-cost operation due to transfers associated with the 600/400 MW transactions. Other constraints, not listed on the web site, may arise that could cause either ISO/RTO to operate off-cost. The list may be revised by NYISO/PJM to reflect system changes or security monitoring technique changes in their respective Control Areas.

B. Outages

The NYISO and PJM will identify critical outages that may impact redispatch costs incurred for the delivery of energy, under the 600/400 MW transactions. Identified outages may have the following consequences:

The outage of any A, B, C, J, or K facility will result in the NY-DAE, PJM-DAE, and/or RTE (as appropriate) being limited to a value no greater than the remaining thermal capability of the most limiting of the ABC interface or the JK interface. The remaining thermal capability of either the ABC interface or the JK interface may be limited by other facilities directly in series with the A, B, C, J, or K lines.

1. It is not anticipated that one primary facility outage will preclude PJM from providing redispatch for the 600 MW or 400 MW transaction. However, combinations of two or more outages of the facilities, listed on the PJM OASIS or web page, could preclude PJM from accommodating all or part of the delivery, even with redispatch. In this case, PJM will provide notification to NYISO.

PJM will provide notification⁵ of all outages by posting these outages (transmission only) on the PJM OASIS or web site.

NYISO will provide notification of all outages by posting these outages (transmission only) on the NYISO OASIS or web site.

PJM and the NYISO will review and revise, as necessary, the list of primary and secondary facilities on an annual basis.

⁵ PJM can also provide the option of automated email outage notification through the PJM eDart tool.

Appendix 3 - The Day-Ahead Market and Real-Time Market - Desired Flow Calculation

The following shall be the formula for calculating Day-Ahead Market (DAM) and Real-Time Market (RTM) desired flows:

$$NYDF_{ABC} = [NY-DAE] + [A]*[PJM-NYISO \text{ DAM Schedule}] + [B] * [OH-NYISO \text{ DAM Schedule}] + [C] * [West-PJM \text{ DAM Schedule}] + [D]*[DAM \text{ Lake Erie Circulation}]$$

$$NYDF_{JK} = [NY-DAE] - [A]*[PJM-NYISO \text{ DAM Schedule}] - [B] * [OH-NYISO \text{ DAM Schedule}] - [C] * [West-PJM \text{ DAM Schedule}] - [D]*[DAM \text{ Lake Erie Circulation}]$$

$$PJ MDF_{ABC} = [PJM-DAE] + [A]*[PJM-NYISO \text{ DAM Schedule}] + [B] * [OH-NYISO \text{ DAM Schedule}] + [C] * [West-PJM \text{ DAM Schedule}] + [D]*[DAM \text{ Lake Erie Circulation}]$$

$$PJ MDF_{JK} = [PJM-DAE] - [A]*[PJM-NYISO \text{ DAM Schedule}] - [B] * [OH-NYISO \text{ DAM Schedule}] - [C] * [West-PJM \text{ DAM Schedule}] - [D]*[DAM \text{ Lake Erie Circulation}]$$

$$RTMDF_{ABC} = [RTE] + [A]*[PJM-NYISO \text{ RTM Schedule}] + [B] * [OH-NYISO \text{ RTM Schedule}] + [C] * [West-PJM \text{ RTM Schedule}] + [D]*[RTM \text{ Lake Erie Circulation}] + \text{Auto Correction Factor}$$

$$RTMDF_{JK} = [RTE] - [A]*[PJM-NYISO \text{ RTM Schedule}] - [B] * [OH-NYISO \text{ RTM Schedule}] - [C] * [West-PJM \text{ RTM Schedule}] - [D]*[RTM \text{ Lake Erie Circulation}] + \text{Auto Correction Factor}$$

- The DAM and RTM desired flows will be limited to the facility rating.
- The Auto Correction Factor component of the desired flow is the on-peak and off-peak aggregations of MW deviation in a calendar day to be included in a subsequent day's on-peak or off-peak period as applicable and agreed upon by PJM and NYISO. The Auto Correction Factor "pays-back" MW in kind during a subsequent day on-peak or off-peak period as agreed upon by NYISO and PJM. On-peak aggregation shall be paid back in a subsequent day on-peak period. Off-peak aggregation shall be paid back in a subsequent day off-peak period.
- The Auto Correction Factor shall not apply to under-deliveries over the A, B, and C Feeders that occur during the first hour following a thunderstorm alert.
- The Auto Correction Factor shall be the sole and exclusive remedy available to any person or entity for any under- or over-delivery of power pursuant to the 600/400 MW transactions, unless such under- or over-delivery is the result of gross negligence or intentional misconduct.

A 13 % Adjustment for NYISO-PJM Schedule

B 0 % Adjustment for OH-NYISO Schedule

C	0 %	Adjustment for West-PJM Schedules
D	0 %	Adjustment for Lake Erie Circulation

Other impacts will be part of the real time bandwidth operation – not the desired flow calculation. These impacts will be reviewed by PJM and the NYISO on an annual basis.

Except as provided in the last sentence of this paragraph with regard to distribution factor A, the above distribution factors (A, B, C, D) will be used in the calculation unless otherwise agreed by PJM and the NYISO based upon operating analysis conducted in response to major topology changes or outages referenced in Appendix 2. Such modifications will be posted by PJM and the NYISO on the PJM and NY OASIS sites or web sites. Distribution factor A will apply only when steps taken by PJM and NYISO to coordinate tap changes on the PARs to control power flow on transmission lines between New York and New Jersey are unable to maintain the desired flow. If necessary, in order to maintain the desired flow after applying distribution factor A, PJM and NYISO may issue TLRs concerning third-party non-firm transmission service.

Appendix 4 - Planning Procedures

The procedures for identifying and remedying impairments shall be handled on a planning basis. The impairment process is not directly applicable to DAM or RT operations under the 600/400 MW transactions.

EXISTING IMPAIRMENTS

- PJM and the NYISO are not aware of any existing impairments that would preclude provision of transmission service under the 600 MW / 400 MW transaction.

NOTIFICATION PROCEDURES

- ConEd and PSE&G shall notify the NYISO and PJM respectively under their existing ISO/RTO interconnection procedures when interconnecting new generation facilities to their transmission systems.

PROCEDURES FOR DETERMINATION OF FUTURE IMPAIRMENTS

- The procedures to be used by the NYISO and PJM for the determination of future impairments shall be in accordance with:
 - The PJM Regional Transmission Expansion Planning Process, as revised from time to time;
 - The NYISO Comprehensive Reliability Planning Process, as revised from time to time; and
 - The Northeast ISO/RTO Planning Coordination Protocol executed by PJM, the NYISO and ISO-New England Inc., as revised from time to time.
- The Northeast ISO/RTO Planning Coordination Protocol contains provisions for the coordination of interconnection requests received by one ISO/RTO that have the potential to cause impacts on an adjacent ISO/RTO to include the handling of firm transmission service.
- The Northeast ISO/RTO Planning Coordination Protocol has provisions for notification, development of screening procedures, and coordination of the study process between the ISO/RTOs.
- The Northeast ISO/RTO Planning Coordination Protocol also provides that all analyses performed to evaluate cross-border impacts on the system facilities of one of the ISOs/RTOs will be based on the criteria, guidelines, procedures or standards applicable to those facilities.

- Future planning studies by the ISOs/RTOs shall include 1,000 MW⁶ of firm delivery from the NYISO at Waldwick and 1,000 MW of re-delivery from PJM at the Hudson and Linden interface independent of the amount of off-cost operation that is required to meet reliability criteria. For PJM load deliverability planning studies, which simulate a capacity emergency situation, the system shall be planned to include 1,000 MW of firm delivery from the NYISO at Waldwick and 600 MW of re-delivery from PJM at the Hudson and Linden interface.

⁶ 1,000 MW will also be included in the FTR simultaneous feasibility analysis.

Appendix 5 – Operation of the PARs

General

This procedure outlines the steps taken to coordinate tap changes on the PARs in order to control power flow on selected transmission lines between New York and New Jersey. The facilities are used to provide transmission service and to satisfy the 600/400 MW transactions, other third party uses, and to provide emergency assistance as required. These tie-lines are part of the interconnection between the PJM and NYISO. These PAR operations will be coordinated with the operation of other PAR facilities including the 5018 PARs. The 5018 PAR will be operated taking into account this Operating Protocol. The ties are controlled by PARs at the following locations:

- Waldwick (F-2258, E-2257, O-2267)
- Goethals (A-2253)
- Farragut (C-3403, B-3402)

This appendix addresses the operation of the PARs at Waldwick, Goethals, and Farragut as these primarily impact the delivery associated with the 600/400 MW transactions .

PJM and the NYISO will work together to maintain reliable system operation, and to implement the RTMDF within the bandwidths established by this Operating Protocol while endeavoring to minimize the tap changes necessary to implement these contracts.

RTMDF calculations will be made for the ‘ABC Interface’, and the ‘JK Interface’. Desired line flow calculations will be made for A, B, and C lines (initial assumption is balanced each 1/3 of the ABC Interface), and for the J and K lines (initial assumption is balanced each ½ of the JK Interface).

Normal Operations

The desired flow calculation process is a coordinated effort between PJM and the NYISO. PJM and the NYISO have the responsibility to direct the operation of the PARs to ensure compliance with the requirements of the Operating Protocol. However, one of the objectives of this procedure is to minimize the movement of PARs while implementing the 600/400 MW transactions. PJM and the NYISO will employ a +/- 100 MW bandwidth at each of the ABC and JK Interfaces to ensure that actual flows are maintained at acceptable levels.

PJM and the NYISO have operational control of the PARs and direct the operation of the PARs, while PSE&G and ConEd have physical control of the PARs. The ConEd dispatcher sets the PAR taps at Goethals and Farragut at the direction of the NYISO. The PSE&G dispatchers set the PAR taps at Waldwick at the direction of PJM.

Tap movements shall be limited to 400 per month based on 20 operations (per PAR) in a 24-hour period. If, in attempting to maintain the desired bandwidth, tap movements exceed these limits, then the bandwidth shall be increased in 50 MW increments until the tap movements no longer exceed 20 per day, unless PJM and the NYISO agree otherwise.

Emergency Operations

If an emergency condition exists in either the NYISO or PJM, the NYISO dispatcher or PJM dispatcher may request that the ties between New York and New Jersey be adjusted to assist directing power flows in the respective areas to alleviate the emergency situation. The taps on the PARs at Waldwick, Goethals, and Farragut may be moved either in tandem or individually as needed to mitigate the emergency condition. Responding to emergency conditions in either the NYISO or PJM overrides any requirements of this Operating Protocol and the appendices hereto.

PAR Movement Scenarios

Case 1 — Aggregate actual flow on the JK interface (at Waldwick) or the ABC interface (at Farragut and Goethals) is higher or lower than RTMDF, but within the bandwidth.

No action taken. Flows will continue to be monitored, but action will only be taken if the flows get above or below the bandwidth.

Case 2 — Aggregate actual flow on the JK interface (at Waldwick) or the ABC interface (at Farragut and Goethals) is higher or lower than the RTMDF, and outside the bandwidth.

PJM and the NYISO will coordinate the following procedures:

- PJM shall determine the Waldwick PAR tap change(s) that change the aggregate actual flow to be within the bandwidth, considering the impact that the proposed tap changes have on the NYISO. If the PJM analysis indicates that the tap changes can be made without causing an actual or contingency constraint in the NYISO that would result in NYISO off-cost operation, PJM will inform the NYISO of the proposed PAR moves, obtain the NYISO's concurrence, and direct PSE&G to implement the PAR tap changes.
- The NYISO shall determine the Farragut and Goethals PAR tap change(s) that change the aggregate actual flow to be within the bandwidth, considering the impact that the proposed tap changes have on PJM. If the NYISO analysis indicates that the tap changes can be made without an actual or contingency constraint in PJM that would result in PJM off-cost operation, the NYISO will inform PJM of the proposed PAR moves, obtain PJM concurrence, and direct ConEd to implement the PAR tap changes.

- If the ABC actual interface flows cannot be maintained within the interface desired flow range due to the following system conditions: (1) insufficient PAR angle capability resulting from any of the A, B, C, J, or K PARs being at their maximum tap setting, and (2) PJM's inability to redispatch in response to transmission constraints to support ABC deliveries to New York, then PJM and the NYISO shall consider using other available facilities, including the other PARs, to create flow capability to permit the necessary tap changes to bring the actual flow within the tolerances of the desired flow calculation, provided that this can be done without creating additional redispatch costs in either the NYISO or PJM. If after such actions have been taken, including the use of other facilities, and ABC/JK actual interface flows still cannot be maintained within the interface desired flow range, then an adjustment to the desired flow calculation (a desired flow offset, with the amount agreed to by PJM and the NYISO) shall be made such that both the ABC and JK actual interface flows are within +/- 100 MW of the ABC and JK interface RTMDF respectively.
- If the JK actual interface flows cannot be maintained within the interface desired flow range due to the following system conditions: (1) insufficient PAR angle capability resulting from any of the A, B, C, J, or K PARs being at their maximum tap setting, and (2) the NYISO's inability to re-dispatch in response to transmission constraints to support JK deliveries to PJM then PJM and NYISO shall consider using other available facilities, including the other PARs to create flow capability to permit the necessary tap changes to bring the actual flow within the tolerances of the desired flow calculation, provided that this can be done without creating additional redispatch costs in either the NYISO or PJM. If after such actions have been taken, including the use of other facilities, and ABC/JK actual interface flows still cannot be maintained within the interface desired flow range, then an adjustment to the desired flow calculation (a desired flow offset, with the amount agreed to by PJM and NYISO) shall be made such that both the ABC and JK actual interface flows are within +/- 100 MW of the ABC and JK interface RTMDF respectively.

Case 3 — If PJM or NYISO analysis reveals that future system conditions (within the next several hours) may reasonably be expected to require that a PAR will need to change by more than 3 taps in order to remain within the bandwidth, then PJM and NYISO shall consider pre-positioning the system to address these future conditions. Both PJM and the NYISO must agree to any decision to re-position the taps to address expected future conditions.

PJM and the NYISO will coordinate with each other and may mutually agree to position the respective PARs on each system to be within two tap changes in anticipation of changes to

RTMDF for the next several hours to ensure that the PARs are positioned such that they are able to meet the anticipated RTMDF.

Appendix 6 – Distribution of Flows Associated with Implementation of Day-Ahead and Real Time Market Desired Flows

In general, the ability to maintain the ABC / JK actual interface flows at their corresponding ABC/JK Day-Ahead and Real Time Market Desired Flow (RTMDF) values should not be impacted by individual line flow constraints. The Operating Protocol will ordinarily be considered satisfied if the ABC/JK actual interface flows are each equal to the desired flow values plus or minus the 100 MW bandwidth.

The initial estimate of individual line flow distribution for the ABC / JK interfaces shall be based on an equal flow assumption among the lines comprising the interface. Under outage conditions of the A, B, C, J, or K lines, the initial estimate of individual line flow distribution shall be based on an assumption that flows should be equalized among those remaining lines comprising the interface. Further, the ISOs shall adjust (from RTMDF) the flow distribution for ABC (move flow from the A line to the B and C lines) upon the NYISO's request, provided that the adjustment shall not exceed 125 MW if PJM is off-cost or is expected to be off-cost. Con Ed shall not be responsible for balancing charges resulting from changes in the individual line flow distribution between the PJM Day-Ahead and Real-Time Markets.

For example:

If the ABC interface RTMDF is 900 MW, then the initial estimate of line flow on A is $1/3 * 900=300$ MW, B is $1/3 * 900=300$ MW, and C is $1/3 * 900=300$ MW.

If the J, K interface RTMDF is 900 MW, then the initial estimate of line flow on J is $1/2 * 900=450$ MW, K is $1/2 * 900=450$ MW.

However, if the ABC/JK actual interface flows cannot be maintained within the 100 MW bandwidth of desired flows due to the following system conditions: 1) insufficient PAR angle capability and an inability to redispatch in response to transmission constraints in PJM; or 2) upon implementing a NYISO request to adjust the distribution of flow on the A line (move flow from the A line to the B and C lines) in excess of 125 MW as described above, then the actual ABC and/or JK interface flow shall be adjusted to be as close as feasible to the interface desired flow values for each of the JK and ABC interfaces.

For example:

Assume the ABC interface RTMDF = 900 MW, then the initial estimate of line flow on A is $1/3 * 900=300$ MW, B is $1/3 * 900=300$ MW, and C is $1/3 * 900=300$ MW. Further assume that the NYISO requests that the distribution of flow over the A line be limited to 100 MW, then the resulting system conditions are an actual ABC interface flow of 825 MW with individual PAR flows of A=100 MW, B=362.5 MW, C=362.5 MW.

In this example, the actual ABC interface flow is as close as feasible to the ABC RTMDF assuming off-cost operation in the PJM area and the NYISO request that the distribution of flow over the A line be limited to 100 MW, which is in excess of the 125 MW distribution adjustment ($300 \text{ MW} - 100 \text{ MW} = 200 \text{ MW}$). PJM and the NYISO's obligations under this Operating Protocol will be deemed to be satisfied even though the ABC/JK actual interface flows are not equal to the RTMDF plus or minus the 100 MW bandwidth.

Appendix 7 – References

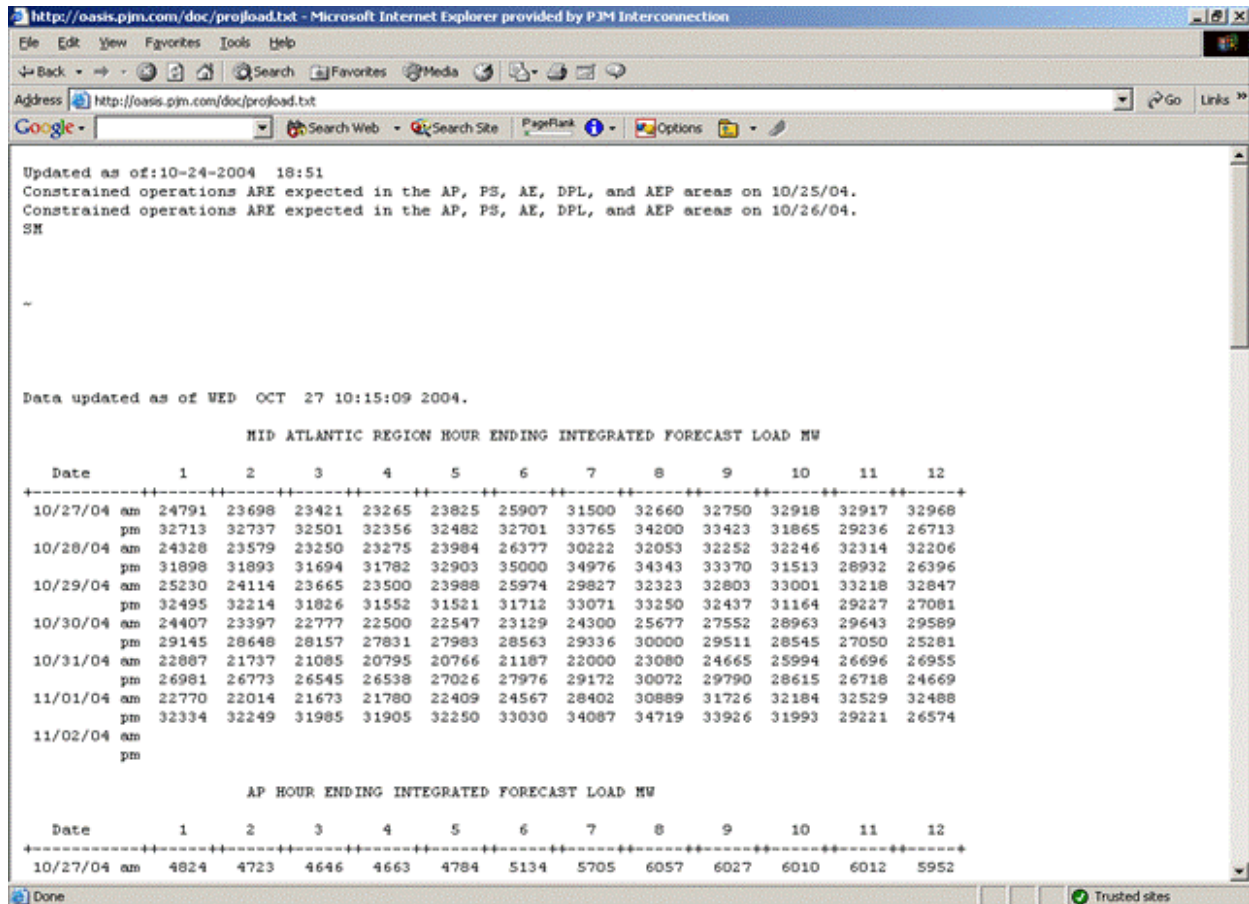


Figure 1 - PJM Constraints

http://www.nyiso.com/oasis/index.html?wp=damlbmpzonal - Microsoft Internet Explorer provided by PJM Interconnection

File Edit View Favorites Tools Help

Address http://www.nyiso.com/oasis/index.html?wp=damlbmpzonal

Google NYISO Search Web Search Site PageRank Options NYISO

NYISO
New York Independent System Operator

ABOUT NYISO LINKS SEARCH CAREERS CONTACT US SITE MAP

NEWSROOM SERVICES **OASIS** THE MARKETS

OASIS (Open Access Same-Time Information System)

Pricing Data Power Grid Data Load Data Reports & Information Zone Maps Graphs Market Applications SMD2

Day-Ahead Market LBMP

- > [Zonal](#)
- > [Generator](#)

Real-Time Market LBMP

- > [Zonal](#)
- > [Generator](#)

Time Weighted Integrated Real-Time LBMP

- > [Zonal](#)
- > [Generator](#)

Balancing Market (Hour-Ahead) Advisory Prices

- > [Zonal](#)
- > [Generator](#)

Ancillary Services

- > [Day-Ahead Market](#)
- > [Hour-Ahead Market](#)
- > [Reference BUS LBMP](#)
- > [Price Correction Logs](#)
- > [TO TSC and NTAC Rates \(revised 10/15/2004\)](#)
- > [RT LBMP Prices on e-Data Services](#)
- > [TSC Calculator](#)

Day Ahead Market LBMP - Zonal

Note 1: Dates with corrected prices are displayed with **green links**. Updates for both missing data and presentation are displayed with an **orange link**.

Note 2: Updated historical LBMPs have been posted in the archived files section. An [explanation of the issues involved](#) and a [list of the intervals](#) that have been updated are available for download.

CSV Files	HTML Files	PDF Files	Last Updated
10-28-2004	10-28-2004	10-28-2004	10/27/04 10:17 EDT
10-27-2004	10-27-2004	10-27-2004	10/26/04 10:21 EDT
10-26-2004	10-26-2004	10-26-2004	10/25/04 10:04 EDT
10-25-2004	10-25-2004	10-25-2004	10/24/04 10:55 EDT
10-24-2004	10-24-2004	10-24-2004	10/23/04 10:05 EDT
10-23-2004	10-23-2004	10-23-2004	10/22/04 10:06 EDT
10-22-2004	10-22-2004	10-22-2004	10/21/04 10:09 EDT

Internet

Figure 2 - NYISO Day Ahead Results

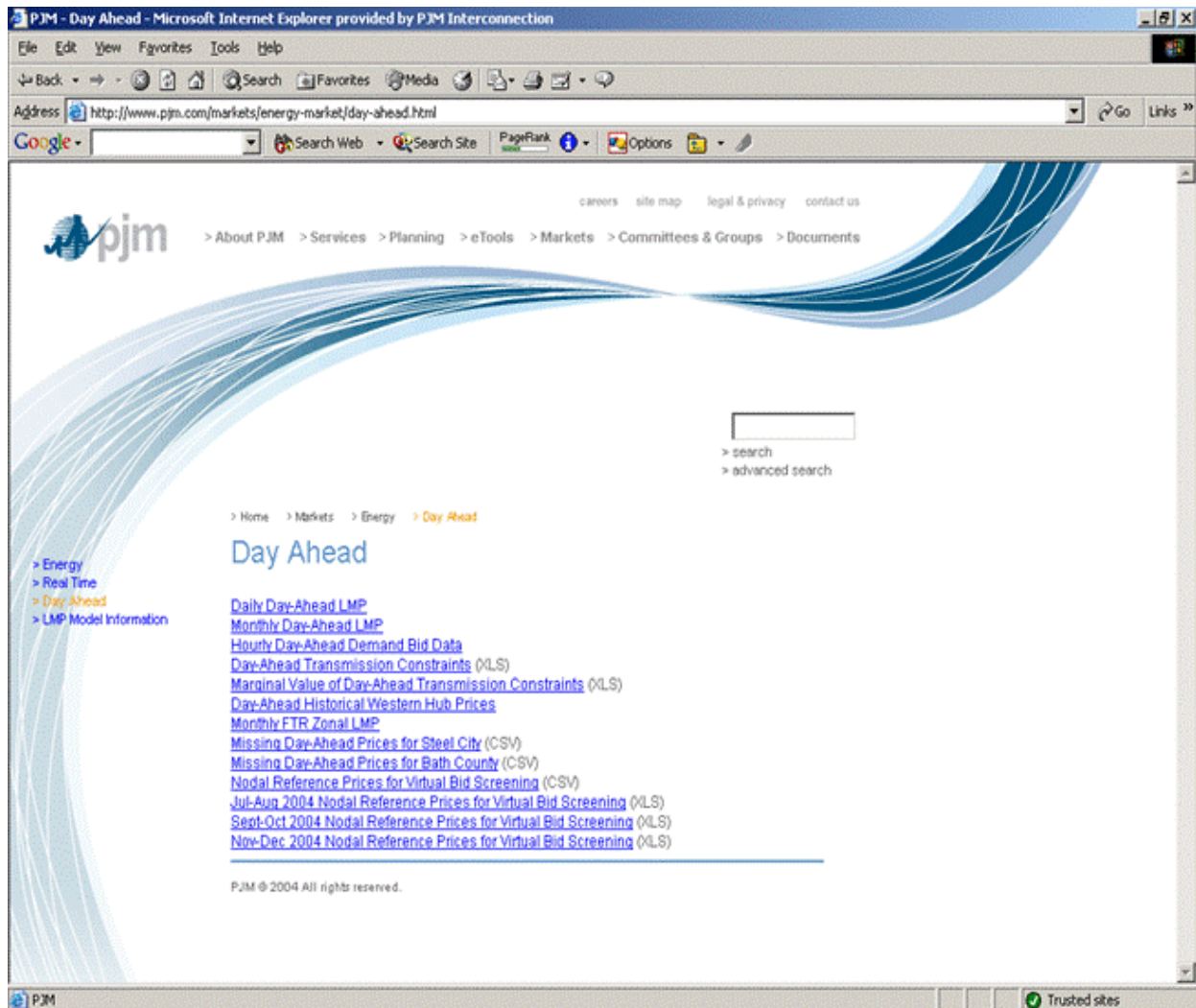


Figure 3 - PJM Day Ahead Market Results

Appendix 8 – Definitions

Off-cost: the weighted LMP of JK is less than the weighted LMP of ABC by more than \$5 and/or the weighted nodal pricing of Ramapo is less than the weighted nodal pricing of the aggregate of Farragut and Goethals by more than \$5 (with a reasonable expectation of the appropriate cost differential continuing for at least two consecutive hours).

Mid-Atlantic Area: Atlantic City Electric Company, Baltimore Gas and Electric Company, Delmarva Power and Light Company, Jersey Central Power and Light Company, Metropolitan Edison Company, PECO Energy Company, PPL Electric Utilities Corporation, Pennsylvania Electric Company, Potomac Electric Power Company, Public Service Electric and Gas Company, and Rockland Electric Company.

New York ISO Day Ahead Election (NY-DAE): election by ConEd – submitted in the NYISO Day-Ahead Market prior to 5 a.m..

NY Desired Flow (NYDF): desired flow calculation by NYISO based on NY-DAE for input to NYISO Day Ahead Market.

PJM Day Ahead Market Election (PJM-DAE): election by the ConEd – submitted in the PJM Day Ahead Market prior to 12 noon.

PJM Desired Flow (PJMDF): desired flow calculation by PJM based on PJM-DAE for input to PJM Day Ahead Market.

ConEd Real-Time election (RTE): option by ConEd to request Real-Time Market modification from its Day Ahead Market election.

Real Time Market Desired Flow (RTMDF): Desired flow for real time operations.

Impairments: Conditions determined during the NYISO's and PJM's respective planning analyses that will cause implementation of the 600/400 MW transactions to result in violations of established reliability criteria.

Emergency Load Response: Emergency Load Response is the reduction of a load by participants in the PJM Emergency Load Response Program in response to a request by PJM for load reduction following the declaration of Maximum Emergency Generation.

Pricing points: aggregate nodal points for the ABC interface and JK interface at the respective locations in both PJM and NYISO regions. These points will be defined and posted.

35.23 Schedule D – Market-to-Market Coordination Process – Version 1.0

NYISO & PJM
Market-to-Market Coordination Schedule
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1 Overview of the Market-to-Market Coordination Process

The purpose of the M2M coordination process is to set forth the rules that apply to M2M coordination between PJM and NYISO and the associated settlements processes.

The fundamental philosophy of the PJM/NYISO M2M coordination process is to set up procedures to allow any transmission constraints that are significantly impacted by generation dispatch changes and/or Phase Angle Regulator (“PAR”) control actions in both markets to be jointly managed in the security-constrained economic dispatch models of both RTOs. This joint management of transmission constraints near the market borders will provide the more efficient and lower cost transmission congestion management solution, while providing coordinated pricing at the market boundaries.

The M2M coordination process focuses on real-time market coordination to manage transmission limitations that occur on the M2M Flowgates in a more cost effective manner. Coordination between NYISO and PJM will include not only joint redispatch, but will also incorporate coordinated operation of the Ramapo PARs that are located at the NYISO – PJM interface. This real-time coordination will result in a more efficient economic dispatch solution across both markets to manage the real-time transmission constraints that impact both markets, focusing on the actual flows in real-time to manage constraints. Under this approach, the flow entitlements on the M2M Flowgates do not impact the physical dispatch; the flow entitlements are used in market settlements to ensure appropriate compensation based on comparison of the actual Market Flows to the flow entitlements.

2 M2M Flowgates

Only a subset of all transmission constraints that exist in either market will require coordinated congestion management. This subset of transmission constraints will be identified as M2M Flowgates. Flowgates eligible for the M2M coordination process are called M2M Flowgates. For the purposes of the M2M coordination process (in addition to the studies described in section 3 below) the following will be used in determining M2M Flowgates.

- 2.1 NYISO and PJM will only be performing the M2M coordination process on M2M Flowgates that are under the operational control of NYISO or PJM. NYISO and PJM will not be performing the M2M coordination process on Flowgates that are owned and controlled by third party entities.
- 2.2 The Parties will make reasonable efforts to lower their generator binding threshold to match the lower generator binding threshold utilized by the other Party. The generator and Ramapo PAR binding thresholds (the shift factor thresholds used to identify the resource(s) available to relieve a transmission constraint), will not be set below 3%, except by mutual consent. This requirement applies to M2M Flowgates. It is not an additional criterion for determination of M2M Flowgates.

- 2.3 For the purpose of determining whether a monitored element Flowgate is eligible for the M2M coordination process, a threshold for determining a significant GLDF or Ramapo PAR OTDF will take into account the number of monitored elements. Implementation of M2M Flowgates will ordinarily occur through mutual agreement.
- 2.4 All Flowgates eligible for M2M coordination will be included in the coordinated operations of the Ramapo PARs. Flowgates with significant GLDF will also be included in joint redispatch.
- 2.5 M2M Flowgates that are eligible for redispatch coordination are also eligible for coordinated operation of the Ramapo PARs. M2M Flowgates that are eligible for coordinated operation of the Ramapo PARs are not necessarily also eligible for redispatch coordination.
- 2.6 The NYISO shall post a list of all of the M2M Flowgates located in the NYCA on its web site. PJM shall post a list of all of the M2M Flowgates located in its Control Area on its web site.

3 M2M Flowgate Studies

To identify M2M Flowgates the Parties will perform an off-line study to determine if the significant GLDF for at least one generator within the Non-Monitoring RTO, or significant PAR OTDF for at least one Ramapo PAR, on a potential M2M Flowgate within the Monitoring RTO is greater than or equal to the thresholds as described below. The study shall be based on an up-to-date, common, power flow model representation of the Eastern Interconnection, with all normally closed Transmission Facilities in-service. The transmission modeling assumptions used in the M2M Flowgate studies will be based on the same assumptions used for determining M2M Entitlements in Section 6 below.

- 3.1 Either Party may propose that a new M2M Flowgate be added at any time. The Parties will work together to perform the necessary studies within a reasonable timeframe.
- 3.2 The GLDF or Ramapo PAR OTDF thresholds for M2M Flowgates with one or more monitored elements are defined as:
 - i. Single monitored element, 5% GLDF/Ramapo PAR OTDF;
 - ii. Two monitored elements, 7.5% GLDF/Ramapo PAR OTDF; and
 - iii. Three or more monitored elements, 10% GLDF/Ramapo PAR OTDF.

3.3 For potential M2M Flowgates that pass the above Ramapo PAR OTDF criteria, the Parties must still mutually agree to add each Flowgate as an M2M Flowgate for coordinated operation of the Ramapo PARs.

3.4 For potential M2M Flowgates that pass the above GLDF criteria, the Parties must still mutually agree to add each Flowgate as an M2M Flowgate for redispatch coordination.

3.5 The Parties can also mutually agree to add a M2M Flowgate that does not satisfy the above criteria.

4 Removal of M2M Flowgates

Removal of M2M Flowgates from the systems may be necessary under certain conditions including the following:

4.1 A M2M Flowgate is no longer valid when (a) a change is implemented that effects either Party's generation impacts causing the Flowgate to no longer pass the M2M Flowgate Studies, or (b) a change is implemented that affects the impacts from coordinated operation of the Ramapo PARs causing the Flowgate to no longer pass the M2M Flowgate Studies. The Parties must still mutually agree to remove a M2M Flowgate, such agreement not to be unreasonably withheld. Once a M2M Flowgate has been removed, it will no longer be eligible for M2M settlement.

4.2 A M2M Flowgate that does not satisfy the criteria set forth in Section 3.2 above, but that is created based on the mutual agreement of the Parties pursuant to Section 3.5 above, shall be removed two weeks after either Party provides a formal notice to the other Party that it withdraws its agreement to the M2M Flowgate, or at a later or earlier date that the Parties mutually agree upon. The formal notice must include an explanation of the reason(s) why the agreement to the M2M Flowgate was withdrawn.

4.3 The Parties can mutually agree to remove a M2M Flowgate from the M2M coordination process whether or not it passes the coordination tests. A M2M Flowgate should be removed when the Parties agree that the M2M coordination process is not, or will not be, an effective mechanism to manage congestion on that Flowgate.

5 Market Flow Determination

Each RTO will independently calculate its Market Flow for all M2M Flowgates using the equations set forth in this section. The Market Flow calculation is broken down into the following steps:

- Determine Shift Factors for M2M Flowgates

- Compute RTO Load and Losses (less imports)
- Compute RTO Generation (less exports)
- Compute RTO Generation to Load impacts on the Market Flow
- Compute RTO interchange scheduling impacts on the Market Flow
- Compute PAR impacts on the Market Flow
- Compute Market Flow

The Rockland Electric Company (“RECo”) load shall be excluded from the M2M Market Flows and M2M Entitlements until such time as the Parties reach agreement regarding how service to RECo load should be handled in the M2M coordination process. When the Parties reach an agreement, the Parties shall file for Commission acceptance the necessary revisions to this Agreement.

5.1 Determine Shift Factors for M2M Flowgates

The first step to determining the Market Flow on a M2M Flowgate is to calculate generator, load and PAR shift factors for the each of the M2M Flowgates. For real-time M2M coordination, the shift factors will be based on the real-time transmission system topology.

5.2 Compute RTO Load Served by RTO Generation

Using area load and losses for each load zone, compute the RTO Load, in MWs, by summing the load and losses for each load zone to determine the total zonal load for each RTO load zone.

$$Zonal_Total_Load_{zone} = Load_{zone} + Losses_{zone}, \text{ for each RTO load zone}$$

Where:

zone = the relevant RTO load zone;

Zonal_Total_Load_{zone} = the sum of the RTO’s load and transmission losses for the zone;

Load_{zone} = the load within the zone; and

Losses_{zone} = the transmission losses for transfers through the zone.

Next, reduce the Zonal Loads by the scheduled line real-time import transaction schedules that sink in that particular load zone:

$$\begin{aligned}
Zonal_Reduced_Load_{zone} &= Zonal_Total_Load_{zone} \\
&- \sum_{\substack{all \\ scheduled_lines=1}} Import_Schedules_{scheduled_line,zone}
\end{aligned}$$

Where:

- zone = the relevant RTO load zone;
- scheduled_line = each of the transmission facilities identified in Table 1 below;
- Zonal_Reduced_Load_{zone} = the sum of the RTO's load and transmission losses in a zone reduced by the sum of import schedules over scheduled lines to the zone;
- Zonal_Total_Load_{zone} = the sum of the RTO's load and transmission losses for the zone; and
- Import_Schedules_{Scheduled_line,zone} = import schedules over a scheduled line to a zone.

The real-time import schedules over scheduled lines will only reduce the load in the sink load zones identified in Table 1 below:

Table 1. List of Scheduled Lines

Scheduled Line	NYISO Load Zone	PJM Load Zone
Dennison Scheduled Line	North	Not Applicable
Cross-Sound Scheduled Line	Long Island	Not Applicable
Linden VFT Scheduled Line	New York City	Mid-Atlantic Control Zone
Neptune Scheduled Line	Long Island	Mid-Atlantic Control Zone
Northport – Norwalk Scheduled Line	Long Island	Not Applicable

Once import schedules over scheduled lines have been accounted for, it is then appropriate to reduce the net RTO Load by the remaining real-time import schedules at the proxies identified in Table 2 below:

Table 2. List of Proxies*

Proxy	Balancing Authorities Responsible
PJM shall post and maintain a list of its proxies on its OASIS website. PJM shall provide to NYISO notice of any new or deleted proxies prior to implementing such changes in its M2M software.	PJM
NYISO proxies are the Proxy Generator Buses that are not identified as Scheduled Lines in the table that is set forth in Section 4.4.4 of the NYISO’s Market Services Tariff. The NYISO shall provide to PJM notice of any new of deleted proxies prior to implementing such changes in its M2M software.	NYISO

*Scheduled lines and proxies are mutually exclusive. Transmission Facilities that are components of a scheduled line are not also components of a proxy (and vice-versa).

$$RTO_Net_Load = \sum_{zone=1}^{all} Zonal_Reduced_Load_{zone}$$

Where:

zone = the relevant RTO load zone;

RTO_Net_Load = the sum of load and transmission losses for the entire RTO footprint reduced by the sum of import schedules over all scheduled lines; and

Zonal_Reduced_Load_{zone} = the sum of the RTO’s load and transmission losses in a zone reduced by the sum of import schedules over scheduled lines to the zone.

$$RTO_Final_Load = RTO_Net_Load - \sum_{proxy=1}^{all} Import_Schedules_{proxy}$$

Where:

proxy = representations of defined sets of transmission facilities that (i) interconnect neighboring Balancing Authorities, (ii) are collectively scheduled, and (iii) are identified in Table 2 above;

RTO_Final_Load = the sum of the RTO's load and transmission losses for the entire RTO footprint, sequentially reduced by (i) the sum of import schedules over all scheduled lines, and (ii) the sum of all proxy import schedules;

RTO_Net_Load = the sum of load and transmission losses for the entire RTO footprint reduced by the sum of import schedules over all scheduled lines; and

Import_Schedules_{proxy} = the sum of import schedules at a given proxy.

Next, calculate the Zonal Load weighting factor for each RTO load zone:

$$Zonal_Weighting_{zone} = \left(\frac{Zonal_Reduced_Load_{zone}}{RTO_Net_Load} \right)$$

Where:

zone = the relevant RTO load zone;

Zonal_Weighting_{zone} = the percentage of the RTO's load contained within the zone;

RTO_Net_Load = the sum of load and transmission losses for the entire RTO footprint reduced by the sum of import schedules over all scheduled lines; and

Zonal_Reduced_Load_{zone} = the sum of the RTO's load and transmission losses in a zone reduced by the sum of import schedules over scheduled lines to the zone.

Using the Zonal Weighting Factor compute the zonal load reduced by RTO imports for each load zone:

$$Zonal_Final_Load_{zone} = Zonal_Weighting_{zone} \times RTO_Final_Load$$

Where:

zone = the relevant RTO load zone;

Zonal_Final_Load_{zone} = the final RTO load served by internal RTO generation in the zone;

Zonal_Weighting_{zone} = the percentage of the RTO's load contained within the zone; and

RTO_Final_Load = the sum of the RTO's load and transmission losses for the entire RTO footprint, sequentially reduced by (i) the sum of import schedules over all scheduled lines, and (ii) the sum of all proxy import schedules.

Using the Load Shift Factors ("LSFs") calculated above, compute the weighted RTOLSF for each M2M Flowgate as:

$$RTO_LSF_{M2M_Flowgate-m} = \sum_{zone=1}^{all} \left(LSF_{(zone,M2M_Flowgate-m)} \times \left(\frac{Zonal_Final_Load_{zone}}{RTO_Final_Load} \right) \right)$$

Where:

M2M_Flowgate-m = the relevant flowgate;

zone = the relevant RTO load zone;

RTO_LSF_{M2M_Flowgate-m} = the load shift factor for the entire RTO footprint on M2M Flowgate m;

LSF_(zone,M2M_Flowgate-m) = the load shift factor for the RTO zone on M2M Flowgate m;

Zonal_Final_Load_{zone} = the final RTO load served by internal RTO generation in the zone; and

RTO_Final_Load = the sum of the RTO's load and transmission losses for the entire RTO footprint, sequentially reduced by (i) the sum of import schedules over all scheduled lines, and (ii) the sum of all proxy import schedules.

5.3 Compute RTO Generation Serving RTO Load

Using the real-time generation output in MWs, compute the Generation serving RTO Load. Sum the output of RTO generation within each load zone:

$$RTO_Gen_{zone} = \sum_{unit=1}^{all} Gen_{unit,zone}, \text{ for each RTO load zone}$$

Where:

zone = the relevant RTO load zone;

unit = the relevant generator;

RTO_Gen_{zone} = the sum of the RTO's generation in a zone; and

$Gen_{unit,zone}$ = the real-time output of the unit in a given zone.

Next, reduce the RTO generation located within a load zone by the scheduled line real-time export transaction schedules that source from that particular load zone:

$$RTO_Reduced_Gen_{zone} = RTO_Gen_{zone} - \sum_{scheduled_line=1}^{all} Export_Schedules_{scheduled_line,zone}$$

Where:

zone = the relevant RTO load zone;

scheduled_line = each of the transmission facilities identified in Table 1 above;

$RTO_Reduced_Gen_{zone}$ = the sum of the RTO's generation in a zone reduced by the sum of export schedules over scheduled lines from the zone;

RTO_Gen_{zone} = the sum of the RTO's generation in a zone; and

$Export_Schedules_{scheduled_line,zone}$ = export schedules from a zone over a scheduled line.

The real-time export schedules over scheduled lines will only reduce the generation in the source zones identified in Table 1 above. The resulting generator output based on this reduction is defined below.

$$Reduced\ Gen_{unit} = Gen_{unit,zone} \left(\frac{RTO_Reduced_Gen_{zone}}{RTO_Gen_{zone}} \right)$$

Where:

unit = the relevant generator;

zone = the relevant RTO load zone;

$Gen_{unit,zone}$ = the real-time output of the unit in a given zone;

Reduced Gen_{unit} = each unit's real-time output after reducing the RTO_Net_Gen by the real-time export schedules over scheduled lines;

$RTO_Reduced_Gen_{zone} =$ the sum of the RTO's generation in a zone reduced by the sum of export schedules over scheduled lines from the zone; and

$RTO_Gen_{zone} =$ the sum of the RTO's generation in a zone.

Once export schedules over scheduled lines are accounted for, it is then appropriate to reduce the net RTO generation by the remaining real-time export schedules at the proxies identified in Table 2 above.

$$RTO_Net_Gen = \sum_{zone=1}^{all} RTO_Reduced_Gen_{zone}$$

Where:

$zone =$ the relevant RTO load zone;

$RTO_Net_Gen =$ the sum of the RTO's generation reduced by the sum of export schedules over all scheduled lines; and

$RTO_Reduced_Gen_{zone} =$ the sum of the RTO's generation in a zone reduced by the sum of export schedules over scheduled lines from the zone.

$$RTO_Final_Gen = RTO_Net_Gen - \sum_{proxy=1}^{all} Export_Schedules_{proxy}$$

Where:

$proxy =$ representation of defined sets of transmission facilities that (i) interconnect neighboring Balancing Authorities, (ii) are collectively scheduled, and (iii) are identified in Table 2 above;

$RTO_Final_Gen =$ the sum of the RTO's generation output for the entire RTO footprint, sequentially reduced by (i) the sum of export schedules over all scheduled lines, and (ii) the sum of all proxy export schedules;

RTO_Net_Gen = the sum of the RTO's generation reduced by the sum of export schedules over all scheduled lines; and

Export_Schedules_{proxy} = the sum of export schedules at a given proxy.

Finally, weight each generator's output by the reduced RTO generation:

$$Gen_Final_{unit} = Reduced\ Gen_{unit} \times \frac{RTO_Final_Gen}{RTO_Net_Gen}$$

Where:

unit = the relevant generator;

Gen_Final_{unit} = the portion of each unit's output that is serving the RTO Net Load;

Reduced Gen_{unit} = each unit's real-time output after reducing the RTO_Net_Gen by the real-time export schedules over scheduled lines;

RTO_Final_Gen = the sum of the RTO's generation output for the entire RTO footprint, sequentially reduced by (i) the sum of export schedules over all scheduled lines, and (ii) the sum of all proxy export schedules; and

RTO_Net_Gen = the sum of the RTO's generation reduced by the sum of export schedules over all scheduled lines.

5.4 Compute the RTO GTL for all M2M Flowgates

The generation-to-load flow for a particular M2M Flowgate, in MWs, will be determined as:

$$RTO_GTL_{M2M_Flowgate-m} = \sum_{unit=1}^{all} (GSF_{(unit,M2M_Flowgate-m)} - RTO_LSF_{M2M_Flowgate-m}) \times Gen_Final_{unit}$$

Where:

M2M_Flowgate-m = the relevant flowgate;

unit = the relevant generator;

$RTO_GTL_{M2M_Flowgate-m}$ = the generation to load flow for the entire RTO footprint on M2M Flowgate m;

Gen_Final_{unit} = the portion of each unit’s output that is serving RTO Net Load;

$GSF_{(unit,M2M_Flowgate-m)}$ = the generator shift factor for each unit on M2M Flowgate m; and

$RTO_LSF_{M2M_Flowgate-m}$ = the load shift factor for the entire RTO footprint on M2M Flowgate m.

5.5 Compute the RTO Interchange Scheduling Impacts for all M2M Flowgates

For each scheduling point that the participating RTO is responsible for, determine the net interchange schedule in MWs. Table 3 below identifies both the participating RTO that is responsible for each listed scheduling point, and the “type” assigned to each listed scheduling point.

Table 3. List of Scheduling Points

Scheduling Point	Scheduling Point Type	Participating RTO(s) Responsible
NYISO-PJM	common	NYISO and PJM
Linden VFT Scheduled Line	common	NYISO and PJM
Neptune Scheduled Line	common	NYISO and PJM
PJM shall post and maintain a list of its non-common scheduling points on its OASIS website. PJM shall provide to NYISO notice of any new or deleted non-common scheduling points prior to implementing such changes in its M2M software.	non-common	PJM
NYISO non-common scheduling points include all Proxy Generator Buses and Scheduled Lines listed in the table that is set forth in Section 4.4.4 of the NYISO’s Market Services Tariff that are not identified in this Table 3 as common scheduling points. The NYISO shall provide to PJM notice of any new or deleted non-common scheduling points prior to implementing such changes in its M2M software.	non-common	NYISO

$$\begin{aligned}
RTO_Transfers_{sched_pt} &= Imports_{sched_pt} + WheelsIn_{sched_pt} - Exports_{sched_pt} \\
&\quad - WheelsOut_{sched_pt}
\end{aligned}$$

Where:

$sched_pt =$ the relevant scheduling point. A scheduling point can be either a proxy or a scheduled line;

$RTO_Transfers_{sched_pt} =$ the net interchange schedule at a scheduling point;

$Imports_{sched_pt} =$ the import component of the interchange schedule at a scheduling point;

$WheelsIn_{sched_pt} =$ the injection of wheels-through component of the interchange schedule at a scheduling point;

$Exports_{sched_pt} =$ the export component of the interchange schedule at a scheduling point; and

$WheelsOut_{sched_pt} =$ the withdrawal of wheels-through component of the interchange schedule at a scheduling point.

The equation below applies to all non-common scheduling points that only one of the participating RTOs is responsible for. *Parallel_Transfers* are applied to the Market Flow of the responsible participating RTO. For example, the *Parallel_Transfers* computed for the IESO-NYISO non-common scheduling point are applied to the NYISO Market Flow.

$$\begin{aligned}
Parallel_Transfers_{M2M_Flowgate-m} &= \sum_{nc_sched_pt=1}^{all} RTO_Transfers_{nc_sched_pt} \times PTF_{(nc_sched_pt, M2M_Flowgate-m)}
\end{aligned}$$

Where:

$M2M_Flowgate-m =$ the relevant flowgate;

$nc_sched_pt =$ the relevant non-common scheduling point. A non-common scheduling point can be either a proxy or a scheduled line. Non-common scheduling points are identified in Table 3, above;

$Parallel_Transfers_{M2M_Flowgate-m}$ =	the flow on M2M Flowgate m due to the net interchange schedule at the non-common scheduling point;
$RTO_Transfers_{nc_sched_pt}$ =	the net interchange schedule at the non-common scheduling point, where a positive number indicates the import direction; and
$PTDF_{(nc_sched_pt, M2M_Flowgate-m)}$ =	the power transfer distribution factor of the non-common scheduling point on M2M Flowgate m. For NYISO, the PTDF will equal the generator shift factor of the non-common scheduling point.

The equation below applies to common scheduling points that directly interconnect the participating RTOs. *Shared_Transfers* are applied to the Monitoring RTO's Market Flow only. NYISO to PJM transfers would be considered part of NYISO's Market Flow for NYISO-monitored Flowgates and part of PJM's Market Flow for PJM-monitored Flowgates.

$$Shared_Transfers_{M2M_Flowgate-m} = \sum_{cmn_sched_pt=1}^{all} RTO_Transfers_{cmn_sched_pt} \times PTDF_{(cmn_sched_pt, M2M_Flowgate-m)}$$

Where:

$M2M_Flowgate-m$ =	the relevant flowgate;
cmn_sched_pt =	the relevant common scheduling point. A common scheduling point can be either a proxy or a scheduled line. Common scheduling points are identified in Table 3, above;
$Shared_Transfers_{M2M_Flowgate-m}$ =	the flow on M2M Flowgate m due to interchange schedules on the common scheduling point;
$RTO_Transfers_{cmn_sched_pt}$ =	the net interchange schedule at a common scheduling point, where a positive number indicates the import direction; and
$PTDF_{(cmn_sched_pt, M2M_Flowgate-m)}$ =	the generation shift factor of the common scheduling point on M2M Flowgate m. For NYISO, the PTDF will equal the generator shift factor of the common scheduling point.

5.6 Compute the PAR Effects for all M2M Flowgates

For the PARs listed in Table 4 below, the RTOs will determine the generation-to-load flows and interchange schedules, in MWs, that each PAR is impacting.

Table 4. List of Phase Angle Regulators

PAR	Description	PAR Type	Actual Schedule	Target Schedule	Responsible Participating RTO(s)
1	RAMAPO PAR3500	common	From telemetry	From telemetry*	NYISO and PJM
2	RAMAPO PAR4500	common	From telemetry	From telemetry*	NYISO and PJM
3	FARRAGUT TR11	common	From telemetry	From telemetry [†]	NYISO and PJM
4	FARRAGUT TR12	common	From telemetry	From telemetry [†]	NYISO and PJM
5	GOETHSLN BK_1N	common	From telemetry	From telemetry [†]	NYISO and PJM
6	WALDWICK O2267	common	From telemetry	From telemetry [†]	NYISO and PJM
7	WALDWICK F2258	common	From telemetry	From telemetry [†]	NYISO and PJM
8	WALDWICK E2257	common	From telemetry	From telemetry [†]	NYISO and PJM
9	STLAWRNC PS_33	non-common	From telemetry	0	NYISO
10	STLAWRNC PS_34	non-common	From telemetry	0	NYISO

*Pursuant to the rules for implementing the M2M coordination process over the Ramapo PARs that are set forth in this M2M Schedule.

[†]Consistent with Schedule C to the Joint Operating Agreement between the Parties.

Compute the PAR control as the actual flow less the target flow across each PAR:

$$PAR_Control_{par} = Actual_MW_{par} - Target_MW_{par}$$

Where:

par = each of the phase angle regulators listed in Table 4, above;

PAR_Control_{par} = the flow deviation on each of the pars;

Actual_MW_{par} = the actual flow on each of the pars, determined consistent with Table 4 above; and

Target_MW_{par} = the target flow that each of the pars should be achieving, determined in accordance with Table 4 above.

When the Actual_MW and Target_MW are both set to “From telemetry” in Table 4 above, the *PAR_Control* will equal zero.

Common PARs

In the equations below, the Non-Monitoring RTO is credited for or responsible for *PAR_Impact* resulting from the common PAR effect on the Monitoring RTO’s M2M Flowgates. The common PAR impact calculation only applies to the common PARs identified in Table 4 above.

Compute control deviation for all common PARs on M2M Flowgate m based on the *PAR_Control_{par}* MWs calculated above:

$$Cmn_PAR_Control_{M2M_Flowgate-m} = \sum_{cmn_par=1}^{all} (PAR_OTDF_{(cmn_par,M2M_Flowgate-m)} \times PAR_Control_{cmn_par})$$

Where:

M2M_Flowgate-m = the relevant flowgate;

cmn_par = each of the common phase angle regulators, modeled as Flowgates, identified in Table 4, above;

Cmn_PAR_Control_{M2M_Flowgate-m} = the sum of flow on M2M Flowgate m after accounting for the operation of common pars;

PAR_OTDF_(cmn_par,M2M_Flowgate-m) = the outage transfer distribution factor of each of the common pars on M2M Flowgate m; and

PAR_Control_{cmn_par} = the flow deviation on each of the common pars.

Compute the impact of generation-to-load and interchange schedules across all common PARs on M2M Flowgate m as the Market Flow across each common PAR multiplied by that PAR’s shift factor on M2M Flowgate m:

$$Cmn_PAR_MF_{M2M_Flowgate-m} = \sum_{cmn_par=1}^{all} \left(\frac{(PAR_OTDF_{(cmn_par,M2M_Flowgate-m)}) \times (RTO_GTL_{cmn_par} + Parallel_Transfers_{cmn_par})}{(RTO_GTL_{cmn_par} + Parallel_Transfers_{cmn_par})} \right)$$

Where:

M2M_Flowgate-m = the relevant flowgate;

$cmn_par =$	the set of common phase angle regulators, modeled as Flowgates, identified in Table 4 above;
$Cmn_PAR_MF_{M2M_Flowgate-m} =$	the sum of flow on M2M Flowgate m due to the generation to load flows and interchange schedules on the common pars;
$PAR_OTDF_{(cmn_par,M2M_Flowgate-m)} =$	the outage transfer distribution factor of each of the common pars on M2M Flowgate m;
$RTO_GTL_{cmn_par} =$	the generation to load flow for each common par, computed in the same manner as the generation to load flow is computed for M2M Flowgates in Section 5.4 above; and
$Parallel_Transfers_{cmn_par} =$	the flow on each of the common pars caused by interchange schedules at non-common scheduling points.

Next, compute the impact of the common PAR effect for M2M Flowgate m as:

$$Cmn_PAR_Impact_{M2M_Flowgate-m} = Cmn_PAR_MF_{M2M_Flowgate-m} - Cmn_PAR_Control_{M2M_Flowgate-m}$$

Where:

$M2M_Flowgate-m =$	the relevant flowgate;
$Cmn_PAR_Impact_{M2M_Flowgate-m} =$	potential flow on M2M Flowgate m that is affected by the operation of the common pars;
$Cmn_PAR_MF_{M2M_Flowgate-m} =$	the sum of flow on M2M Flowgate m due to the generation to load and interchange schedules on the common pars; and
$Cmn_PAR_Control_{M2M_Flowgate-m} =$	the flow deviation on each of the common pars.

Non-Common PARs

For the equations below, the NYISO will be credited or responsible for *PAR_Impact* on all M2M Flowgates because the NYISO is the participating RTO that has input into the operation of these devices. The non-common PAR impact calculation only applies to the non-common PARs identified in Table 4 above.

Compute control deviation for all non-common PARs on M2M Flowgate m based on the PAR control MW above:

$$NC_PAR_Control_{M2M_Flowgate-m} = \sum_{nc_par=1}^{all} PAR_OTDF_{(nc_par,M2M_Flowgate-m)} \times PAR_Control_{nc_par}$$

Where:

- M2M_Flowgate-m = the relevant flowgate;
- nc_par = each of the non-common phase angle regulators, modeled as Flowgates, identified in Table 4 above;
- NC_PAR_Control_{M2M_Flowgate-m} = the sum of flow on M2M Flowgate m after accounting for the operation of non-common pars;
- PAR_OTDF_(nc_par,M2M_Flowgate-m) = the outage transfer distribution factor of each of the non-common pars on M2M Flowgate m; and
- PAR_Control_{nc_par} = the flow deviation on each of the non-common pars.

Compute the impact of generation-to-load and interchange schedules across all non-common PARs on M2M Flowgate m as the Market Flow across each PAR multiplied by that PAR's shift factor on M2M Flowgate m:

$$NC_PAR_MF_{M2M_Flowgate-m} = \sum_{nc_par=1}^{all} \left(\frac{(PAR_OTDF_{nc_par,M2M_Flowgate-m}) \times (RTO_GTL_{nc_par} + Parallel_Transfers_{nc_par})}{(RTO_GTL_{nc_par} + Parallel_Transfers_{nc_par})} \right)$$

Where:

- M2M_Flowgate-m = the relevant flowgate;
- nc_par = the set of non-common phase angle regulators, modeled as Flowgates, identified in Table 4 above;
- NC_PAR_MF_{M2M_Flowgate-m} = the sum of flow on M2M Flowgate m due to the generation to load flows and interchange schedules on the non-common pars;
- PAR_OTDF_(nc_par,M2M_Flowgate-m) = the outage transfer distribution factor of each of the non-common pars on M2M Flowgate m;
- RTO_GTL_{nc_par} = the generation to load flow for each non-common par, computed in the same manner as the generation to load flow is computed for M2M Flowgates in Section 5.4 above; and

$Parallel_Transfers_{nc_par} =$ the flow, as computed above where the M2M Flowgate m is one of the non-common pars, on each of the non-common pars caused by interchange schedules at non-common scheduling points.

Next, compute the non-common PAR impact for M2M Flowgate m as:

$$NC_PAR_Impact_{M2M_Flowgate-m} = NC_PAR_MF_{M2M_Flowgate-m} - NC_PAR_Control_{M2M_Flowgate-m}$$

Where:

$M2M_Flowgate-m =$ the relevant flowgate;

$NC_PAR_Impact_{M2M_Flowgate-m} =$ the potential flow on M2M Flowgate m that is affected by the operation of non-common pars;

$NC_PAR_MF_{M2M_Flowgate-m} =$ the sum of flow on M2M Flowgate m due to the generation to load and interchange schedules on the non-common pars; and

$NC_PAR_Control_{M2M_Flowgate-m} =$ the sum of flow on M2M Flowgate m after accounting for the operation of non-common pars.

Aggregate all PAR Effects for Each M2M Flowgate

The total impacts from the PAR effects for M2M Flowgate m is:

$$PAR_Impact_{M2M_Flowgate-m} = Cmn_PAR_Impact_{M2M_Flowgate-m} + NC_PAR_Impact_{M2M_Flowgate-m}$$

Where:

$M2M_Flowgate-m =$ the relevant flowgate;

$PAR_Impact_{M2M_Flowgate-m} =$ the flow on M2M Flowgate m that is affected after accounting for the operation of both common and non-common pars;

$Cmn_PAR_Impact_{M2M_Flowgate-m} =$ potential flow on M2M Flowgate m that is affected by the operation of the common pars; and

$NC_PAR_Impact_{M2M_Flowgate-m} =$ the potential flow on M2M Flowgate m that is affected by the operation of non-common pars.

5.7 Compute the RTO Aggregate Market Flow for all M2M Flowgates

With the RTO_GTL and PAR_IMPACT known, we can now compute the RTO_MF for all M2M Flowgates as:

$$\begin{aligned} RTO_MF_{M2M_Flowgate-m} &= RTO_GTL_{M2M_Flowgate-m} + Parallel_Transfers_{M2M_Flowgate-m} \\ &+ Shared_Transfers_{M2M_Flowgate-m} - PAR_Impact_{M2M_Flowgate-m} \end{aligned}$$

Where:

$M2M_Flowgate-m$ = the relevant flowgate;

$RTO_MF_{M2M_Flowgate-m}$ = the Market Flow caused by RTO generation dispatch and transaction scheduling on M2M Flowgate m after accounting for the operation of both the common and non-common pars;

$RTO_GTL_{M2M_Flowgate-m}$ = the generation to load flow for the entire RTO footprint on M2M Flowgate m;

$Parallel_Transfers_{M2M_Flowgate-m}$ = the flow on M2M Flowgate m caused by interchange schedules that are not jointly scheduled by the participating RTOs;

$Shared_Transfers_{M2M_Flowgate-m}$ = the flow on M2M Flowgate m caused by interchange schedules that are jointly scheduled by the participating RTOs; and

$PAR_Impact_{M2M_Flowgate-m}$ = the flow on M2M Flowgate m that is affected after accounting for the operation of both the common and non-common pars.

6 Preliminary M2M Entitlement Determination Method

M2M Entitlements are the equivalent of financial rights for the Non-Monitoring RTO to use the Monitoring RTO's transmission system within the confines of the M2M process. The Parties worked together to develop the preliminary M2M Entitlement determination method set forth below. Given the PAR controlled nature of the interfaces between the two markets, the Parties' expectation is that the M2M Entitlements will be small on both systems. Before M2M is implemented, both the method of determining M2M Entitlements and the initial M2M Entitlements must be verified by both Parties and vetted with stakeholders.

Each Party shall calculate a M2M Entitlement on each M2M Flowgate and compare the results on a mutually agreed upon schedule.

6.1 M2M Entitlement Topology Model and Impact Calculation

The M2M Entitlement calculation shall be based on a static topological model to determine a non-Monitoring RTO's share of a M2M Flowgate's total capacity based on historic dispatch patterns. The model must include the following items:

1. a static transmission and generation model;
2. generator, load, and PAR shift factors;
3. generator output and load from 2009 through 2011;
4. a PAR impact assumption that the PAR control is perfect; and
5. new or upgraded Transmission Facilities.

The Parties shall calculate the GLDFs using an IDC model that contains a mutually agreed upon static set of: (1) transmission lines that are modeled as in-service; (2) generators; and (3) loads. Using these GLDFs, generator output data from 2009 through 2011, and load data from 2009 through 2011, the Parties shall calculate each Party's MW impact on each M2M Flowgate for each hour in 2009, 2010, and 2011. Using these impacts, the Parties shall create a reference year consisting of four periods ("M2M Entitlement Periods") for each M2M Flowgate. The M2M Entitlement Periods are as follows:

1. M2M Entitlement Period 1: December, January, and February;
2. M2M Entitlement Period 2: March, April, and May;
3. M2M Entitlement Period 3: June, July, and August; and
4. M2M Entitlement Period 4: September, October, and November.

For each of the M2M Entitlement Periods listed above the Non-Monitoring RTO will calculate its M2M Entitlement on each M2M Flowgate for each hour of each day of a week that will serve as the representative week for that M2M Entitlement Period. The M2M Entitlement for each day/hour, for each M2M Flowgate will be calculated by averaging the Non-Monitoring RTO's Market Flow on an M2M Flowgate for each particular day/hour of the week. To calculate the average the Non-Monitoring RTO shall use the Market Flow data for all of the like day/hours, that occurred in that day of the week and hour in the M2M Entitlement Period, in each of the years 2009, 2010, and 2011. When determining M2M Settlements each Party will use the M2M Entitlement that corresponds to the hour of the week and to the M2M Entitlement Period for which the real-time Market Flow is being calculated.

6.2 M2M Entitlement Calculation

Each Party shall independently calculate the Non-Monitoring RTO's M2M Entitlement for all M2M Flowgates using the equations set forth in this section. The Parties shall mutually agree upon the initial M2M Entitlement calculations. Any disputes that arise in the M2M

Entitlement calculations will be resolved in accordance with the dispute resolution procedures set forth in section 35.15 of the Agreement.

The RECo load shall be excluded from the M2M Market Flows and M2M Entitlements until such time as the Parties reach agreement regarding how service to RECo load should be handled in the M2M coordination process. When the Parties reach an agreement, the Parties shall file for Commission acceptance the necessary revisions to this Agreement.

The following assumptions apply to the M2M Entitlement calculation:

1. the Parties shall calculate the values in this section using the M2M Entitlement Topology Model discussed in Section 6.1 above, unless otherwise stated; and
2. perfect PAR Control exists for the calculations.

Once the reference year raw entitlements have been calculated (using a formula agreed upon by the Parties) for each hour of the years 2009, 2010 and 2011, the new M2M Entitlement will be determined for a representative week in each M2M Entitlement Period using the method established in Section 6.1 above. In the event of new or upgraded Transmission Facilities, Section 6.3 below sets forth the rules that will be used to adjust M2M Entitlements.

6.2.1 Treatment of Out-of-Area Capacity Resources and Representation of Ontario/Michigan PARs in the M2M Entitlement Calculation Process

6.2.1.1 Modeling of External Capacity Resources

External capacity resources will not be included in the M2M Entitlement calculation until such time as the Parties reach agreement regarding how external capacity resources should be handled in the M2M coordination process. Instead, each Balancing Authority's load will be served by that Balancing Authority's internal resources in the system model that is used to calculate M2M Entitlements.

6.2.1.2 Modeling of the Ontario/Michigan PARs

Two sets of M2M Entitlements will be calculated. In the first set of M2M Entitlements, the Ontario/Michigan interface will be represented as regulating (conforming actual power flows to scheduled power flows at the interface). In the second set of M2M Entitlements, the Ontario/Michigan interface will be represented as not regulating. The RTOs will retain both sets of M2M Entitlement results for future use.

Thirty days prior to the beginning of each M2M Entitlement Period the Parties will review the actual operating history of the Ontario/Michigan PARs for the immediately prior 12 months to determine when the Ontario/Michigan PARs adequately controlled actual power flows to match scheduled power flows.

If the Ontario/Michigan PARs were out-of-service or bypassed for an extended, consecutive period of one month or longer within the immediately prior 12 months, then the

period during which the Ontario/Michigan PARs were out-of-service or bypassed will be excluded from the Ontario/Michigan PAR operating history and a determination regarding whether or not the PARs were regulating will be made based on the Ontario/Michigan PAR operating history that is available for the immediately prior 12 months. However, if the exclusion of period(s) during which the Ontario/Michigan PARs were out-of-service or bypassed results in less than six months operating history being available in the immediately prior 12 months, then the M2M Entitlement set that reflects the modeling of the Ontario/Michigan PARs as not regulating will be used until there is at least six months operating history available for evaluation on the date that the Ontario/Michigan PAR operating history evaluation commences (thirty days prior to an upcoming M2M Entitlement Period).

If the Ontario/Michigan PAR operating history demonstrates that actual power flows at the Ontario/Michigan Interface were within *a mutually agreed upon bandwidth* of scheduled power flows in *a mutually agreed upon minimum percentage* of hours, then the M2M Entitlement set that reflects the modeling of the Ontario/Michigan PARs as regulating will be used for the upcoming M2M Entitlement Period. Otherwise, the M2M Entitlement set that reflects the modeling of the Ontario/Michigan PARs as not regulating will be used for the upcoming M2M Entitlement Period.

If any of the PARs at the Ontario/Michigan interface are out-of-service and expected to continue to be out-of-service for one month or more of an upcoming three month M2M Entitlement period, then the M2M Entitlement set that reflects the modeling of the Ontario/Michigan PARs as non-regulating will be used for that entitlement period.

6.3 M2M Entitlement Adjustment for New Transmission Facilities or Upgraded Transmission Facilities

This section sets forth the rules for incorporating new or upgraded Transmission Facilities, added after the reference year M2M Entitlements have been established, into the M2M Entitlement calculation.

If the cost of a new or upgraded Transmission Facility is borne solely by the Market Participants of the Monitoring RTO for the new or upgraded Transmission Facility, the Market Participants of the Monitoring RTO will exclusively benefit from the increase in transfer capability on the Monitoring RTO's Transmission Facilities. Therefore, the Non-Monitoring RTO's M2M Entitlements shall not increase as result of such new or upgraded Transmission Facilities. Moreover, a Monitoring RTO's M2M Entitlements shall not decrease as a result of such new or upgraded Transmission Facilities.

If Transmission Facilities outside the Balancing Authority Areas of the Parties are added or upgraded and the new or upgraded Transmission Facilities would, individually or in aggregate, cause a change in either Party's aggregate M2M Entitlements of at least 10%, then the Parties may mutually agree to incorporate those Transmission Facilities into the M2M Entitlement calculations.

M2M Entitlement Adjustment Calculation for the Non-Monitoring RTO:

For all M2M Entitlement adjustments, the Non-Monitoring RTO is the non-funding market, and the Monitoring RTO is the funding market.

To the extent a Monitoring RTO's upgrade or new Transmission Facility results in reduced Non-Monitoring RTO's impacts on a Monitoring RTO's M2M Flowgate, the Non-Monitoring RTO's M2M Entitlement will be redistributed to ensure that the Non-Monitoring RTO's aggregate M2M Entitlements on all the Monitoring RTO's M2M Flowgates is not decreased.

The total Non-Monitoring RTO's circulation through the Monitoring RTO shall not result in net increased M2M Entitlement on the Monitoring RTO's system. Therefore, a formula agreed upon by the Parties shall be computed for each hour of the years 2009, 2010, and 2011 to determine the pro-rata adjustment that shall be applied to each Monitoring RTO's M2M Flowgates. Once a new raw entitlement that incorporates the topology adjustment has been calculated (using a formula agreed upon by the Parties) for each hour of the years 2009, 2010 and 2011, the new M2M Entitlement will be determined for each hour and day of the week in each M2M Entitlement Period using the method established in Section 6.1 above.

7 Real-Time Energy Market Coordination

Operation of the Ramapo PARs and redispatch are used by the Parties in real-time operations to effectuate this M2M coordination process. Operation of the Ramapo PARs will permit the Parties to redirect energy to reduce the overall cost of managing transmission congestion and to converge the participating RTOs' cost of managing transmission congestion. Operation of the Ramapo PARs to manage transmission congestion requires cooperation between the NYISO and PJM. Operation of the Ramapo PARs shall be coordinated with the operation of other PARs at the NYISO – PJM interface.

When a M2M Flowgate that is under the operational control of either NYISO or PJM and that is eligible for redispatch coordination, becomes binding in the Monitoring RTOs real-time security constrained economic dispatch, the Monitoring RTO will notify the Non-Monitoring RTO of the transmission constraint and will identify the appropriate M2M Flowgate that requires redispatch assistance. The Monitoring and Non-Monitoring RTOs will provide the economic value of the M2M Flowgate constraint (i.e., the Shadow Price) as calculated by their respective dispatch models. Using this information, the security-constrained economic dispatch of the Non-Monitoring RTO will include the M2M Flowgate constraint; the Monitoring RTO will evaluate the actual loading of the M2M Flowgate constraint and request that the Non-Monitoring RTO modify its Market Flow via redispatch if it can do so more efficiently than the Monitoring RTO (i.e., if the Non-Monitoring RTO has a lower Shadow Price for that M2M Flowgate than the Monitoring RTO).

An iterative coordination process will be supported by automated data exchanges in order to ensure the process is manageable in a real-time environment. The process of evaluating the Shadow Prices between the RTOs will continue until the Shadow Prices converge and an

efficient redispatch solution is achieved. The continual interactive process over the following dispatch cycles will allow the transmission congestion to be managed in a coordinated, cost-effective manner by the RTOs. A more detailed description of this iterative procedure is discussed in Section 7.1 and the appropriate use of this iterative procedure is described in Section 8.

7.1 Real-Time Redispatch Coordination Procedures

The following procedure will apply for managing redispatch for M2M Flowgates in the real-time Energy market:

1. M2M Flowgates shall be monitored per each RTO's internal procedures. When an M2M Flowgate is constrained to a defined limit (actual or contingency flow) by a non-transient constraint, the Monitoring RTO shall consider it as a M2M constraint; limits are verified and updated as required.
2. The Monitoring RTO initiates M2M, notifies the Non-Monitoring RTO of the M2M Flowgate that is subject to coordination and updates required information.
3. The Non-Monitoring RTO shall acknowledge receipt of the notification and one of the following shall occur:
 - a. The Non-Monitoring RTO refuses to activate M2M:
 - i. The Non-Monitoring RTO notifies the Monitoring RTO of the reason for refusal; and
 - ii. The M2M State is set to "Refused"; or
 - b. The Non-Monitoring RTO agrees to activate M2M:
 - i. Such an agreement shall be considered an initiation of the M2M process for operational and settlement purposes; and
 - ii. The M2M State is set to "Activated".
4. The Parties have agreed to transmit information required for the administration of this procedure, as per section 35.7.1 of the Agreement.
5. As Shadow Prices converge and approach zero, the Monitoring RTO shall be responsible for the continuation or termination of the M2M process. Current and forecasted future system conditions shall be considered.¹
6. Upon termination of M2M, the Monitoring RTO shall
 - a. Notify the Non-Monitoring RTO; and
 - b. Transmit M2M data to the Non-Monitoring RTO with the M2M State set to "Closed". The timestamp with this transmission shall be considered termination of the M2M process for operational and settlement purposes.

¹ Termination of M2M redispatch may be requested by either RTO in the event of a system emergency.

7.2 Real-Time Ramapo PAR Coordination

The Ramapo PARs will be operated to facilitate interchange schedules while minimizing regional congestion costs. When congestion is not present, the Ramapo PARs will be operated to achieve the target flow as established below in Section 7.2.1.

In order to preserve the long-term availability of the Ramapo PARs, a maximum of 20 taps per PAR per day, and a maximum of 400 taps per calendar month will normally be observed.

7.2.1 Ramapo Target Value

A Target Value for flow between the NYISO and PJM shall be determined for each Ramapo PAR (the 3500 PAR and the 4500 PAR) (“ $Target_{Ramapo}$ ”). These Target Values shall be determined by a formula based on the net interchange schedule between the Parties plus the deviation of actual flows and desired flows across the ABC and JK interfaces and shall be used for settlement purposes as:

$$\begin{aligned} Target_{Ramapo} &= ((RamapoInterchangeFactor) + (WheelImbalance) \\ &+ (RemainingImbalance)) \end{aligned}$$

Where:

$Target_{Ramapo}$ = Calculated Target Value for the flow on each Ramapo PAR (PAR3500 and PAR4500);

$RamapoInterchangeFactor$ = 61% of the net interchange schedule from PJM to NYISO over the AC tie lines distributed evenly across the in-service Ramapo PARs;

$WheelImbalance$ = As described in the wheel imbalance formula below, 72% multiplied by the imbalance of the 600/400 MW transactions described in Schedule C to the Agreement distributed evenly across the in-service Ramapo PARs;

$RemainingImbalance$ = As described in the remaining imbalance formula below, 28% multiplied by the imbalance of the JK/ABC transactions described in Schedule C to the Agreement distributed evenly across the in-service Ramapo PARs.

The Participating RTOs agree to compute the *WheelImbalance* and *RemainingImbalance* terms above as set forth below.

In accordance with Appendix 3 of Schedule C to the Agreement, the Participating RTOs will mutually agree on the circumstances under which they will allow thirteen percent of PJM to New York interchange schedules to flow over the ABC and JK interfaces. When thirteen percent

of PJM to New York interchange schedules is allowed to flow over the ABC and JK interfaces, the thirteen percent will be captured as a change to the $Actual_{JK}$ and $Actual_{ABC}$ terms below.

The *WheelImbalance* is the distribution of actual flows over Ramapo that is incorporated in the Ramapo PAR Target Value when the actual flows on the ABC and JK interfaces do not perfectly match the ABC and JK interfaces desired flow.

$$WheelImbalance = 72\% \times \left(\left(Actual_{JK} - (RTE + Auto\ Correction\ Factor_{JK}) \right) - \left(Actual_{ABC} - (RTE + Auto\ Correction\ Factor_{ABC}) \right) \right)$$

Where:

$Actual_{JK}$ = Telemetered real-time flow over the JK interface, where positive indicates flows from NYISO to PJM;

$Actual_{ABC}$ = Telemetered real-time flow over the ABC interface, where positive indicates flows from PJM to NYISO;

RTE = Con Edison real-time election pursuant to Schedule C to the Agreement, where positive indicates flows from the JK interface to the ABC interface;

$Auto\ Correction\ Factor_{JK}$ = The JK interface Auto Correction component of the JK interface real-time desired flow as described in Schedule C to the Agreement, where positive indicates flows from NYISO to PJM; and

$Auto\ Correction\ Factor_{ABC}$ = The ABC interface Auto Correction component of the ABC interface real-time desired flow as described in Schedule C to the Agreement, where positive indicates flows from PJM to NYISO.

The *RemainingImbalance* is the distribution of actual flows over the western free flow ties that is incorporated in the Ramapo PAR Target Value when the actual flows on the ABC and JK interfaces do not perfectly match the ABC and JK interfaces desired flow.

$$RemainingImbalance = 28\% \times \left(\left(Actual_{JK} - (RTE + Auto\ Correction\ Factor_{JK}) \right) - \left(Actual_{ABC\ s} - (RTE + Auto\ Correction\ Factor_{ABC}) \right) \right)$$

Where:

$Actual_{JK}$ = Telemetered real-time flow over the JK interface, where positive indicates flows from NYISO to PJM;

$Actual_{ABC} =$ Telemetered real-time flow over the ABC interface, where positive indicates flows from PJM to NYISO;

$RTE =$ Con Edison real-time election pursuant to Schedule C to the Agreement, where positive indicates flows from the JK interface to the ABC interface;

$Auto\ Correction\ Factor_{JK} =$ The JK interface Auto Correction component of the JK interface real-time desired flow as described in Schedule C to the Agreement, where positive indicates flows from NYISO to PJM; and

$Auto\ Correction\ Factor_{ABC\ PARS} =$ The ABC interface Auto Correction component of the ABC interface real-time desired flow as described in Schedule C to the Agreement, where positive indicates flows from PJM to NYISO.

7.2.2 Determination of the Cost of Congestion at Ramapo

The incremental cost of congestion relief provided by each Ramapo PAR shall be determined by each of the Parties. These costs shall be determined by multiplying each Party's Shadow Price on each of its M2M Flowgates by each Ramapo PAR's OTDF for the relevant M2M Flowgates.

The incremental cost of congestion relief provided by each Ramapo PAR shall be determined by the following formula:

$$Congestion\$_{(Ramapo,RTO)} = \sum_{M2M\ Flowgates-m \in M2M\ Flowgates_{RTO}} (OTDF_{(M2M\ Flowgate-m,Ramapo)} \times Shadow\$_{M2M\ Flowgate-m})$$

Where:

$Congestion\$_{(Ramapo,RTO)} =$ Cost of congestion at each Ramapo PAR for the relevant participating RTO;

$M2M\ Flowgates_{RTO} =$ Set of M2M Flowgates for the relevant participating RTO;

$OTDF_{(M2M\ Flowgate-m,Ramapo)} =$ The PAR OTDF for each Ramapo PARs on M2M Flowgate-m; and

$Shadow\$_{M2M\ Flowgate-m} =$ The Shadow Price on the relevant participating RTO's M2M Flowgate m.

7.2.3 Desired PAR Changes

If the NYISO congestion costs associated with the Ramapo PAR are greater than the PJM congestion costs associated with the Ramapo PAR, then hold or take taps into NYISO.

If the PJM congestion costs associated with the Ramapo PAR are greater than NYISO congestion costs associated with the Ramapo PAR, then hold or take taps into PJM.

Any action on the Ramapo PARs will be coordinated between the Parties and taken into consideration other PAR actions.

8 Real-Time Energy Market Settlements

8.1 Information Used to Calculate M2M Settlements

For each M2M Flowgate there are two components of the M2M settlement, a redispatch component and a Ramapo PARs coordination component. Both M2M settlement components are defined below.

For the redispatch component, market settlements under this M2M Schedule will be calculated based on the following:

1. the Non-Monitoring RTO's real-time Market Flow on each M2M Flowgate compared to its M2M Entitlement for M2M Flowgates eligible for redispatch on each M2M Flowgate; and
2. the *ex-ante* Shadow Price at each M2M Flowgate.

For the Ramapo PARs coordination component, Market settlements under this M2M Schedule will be calculated based on the following:

1. actual real-time flow on each of the Ramapo PARs compared to its target flow ($Target_{Ramapo}$);
2. Ramapo PAR OTDF for each M2M Flowgate; and
3. the *ex-ante* Shadow Price at each M2M Flowgate.

8.2 Real-Time Redispatch Settlement

If the M2M Flowgate is eligible for redispatch, then compute the real-time redispatch settlement for each interval as specified below.

When $RT_MktFlow_{M2M\ Flowgate-m} > M2M_Ent_{M2M\ Flowgate-m}$,

$$\begin{aligned}
MonRTO_Payment_{M2M\ Flowgate-m} & \\
&= Mon_Shadow\$_{M2M\ Flowgate-m} \\
&\times (RT_MktFlow_{M2M\ Flowgate-m} - M2M_Ent_{M2M\ Flowgate-m})
\end{aligned}$$

When $RT_MktFlow_{M2M\ Flowgate-m} < M2M_Ent_{M2M\ Flowgate-m}$,

$$\begin{aligned}
Non_Mon_Payment_{M2M\ Flowgate-m} & \\
&= Non_Mon_Shadow\$_{M2M\ Flowgate-m} \\
&\times (M2M_Ent_{M2M\ Flowgate-m} - RT_MktFlow_{M2M\ Flowgate-m})
\end{aligned}$$

Where:

$Non_MonRTO_Payment_{M2M\ Flowgate-m}$ = M2M redispatch settlement, in the form of a payment to the Non-Monitoring RTO from the Monitoring RTO, for M2M Flowgate m;

$MonRTO_Payment_{M2M\ Flowgate-m}$ = M2M redispatch settlement, in the form of a payment to the Monitoring RTO from the Non-Monitoring RTO, for M2M Flowgate m;

$RT_MktFlow_{M2M\ Flowgate-m}$ = real-time RTO_MF for M2M Flowgate m;

$M2M_Ent_{M2M\ Flowgate-m}$ = Non-Monitoring RTO M2M Entitlement for M2M Flowgate m;

$Mon_Shadow\$_{M2M\ Flowgate-m}$ = Monitoring RTO's Shadow Price for M2M Flowgate m; and

$Non_Mon_Shadow\$_{M2M\ Flowgate-m}$ = Non-Monitoring RTO's Shadow Price for M2M Flowgate m.

8.3 Ramapo PARs Settlement

For each M2M Flowgate, compute the real-time Ramapo PAR settlement for each interval as specified below.

For each M2M Flowgate, when $Actual_{Ramapo} > Target_{Ramapo}$,

$$\begin{aligned}
PJMPayment_{M2M\ Flowgate-m} & \\
&= Shadow\$_{M2M\ Flowgate-m} \times OTDF_{(M2M\ Flowgate-m, Ramapo)} \\
&\times (Actual_{Ramapo} - Target_{Ramapo})
\end{aligned}$$

For each M2M Flowgate, when $Actual_{Ramapo} < Target_{Ramapo}$,

$$\begin{aligned}
 NYPayment_{M2M\ Flowgate-m} &= Shadow\$_{M2M\ Flowgate-m} \times OTDF_{(M2M\ Flowgate-m, Ramapo)} \\
 &\times (Target_{Ramapo} - Actual_{Ramapo})
 \end{aligned}$$

Where:

$Actual_{Ramapo}$ = Measured real-time actual flow on each of the Ramapo PARs. For purposes of this equation, a positive value indicates a flow from PJM to the NYISO;

$Target_{Ramapo}$ = Calculated Target Value for the flow on each Ramapo PAR (PAR3500 and PAR4500) as described in Section 7.2.1 above. For purposes of this equation, a positive value indicates a flow from PJM to the NYISO;

$Shadow\$_{M2M\ Flowgate-m}$ = Shadow Price, as computed by the payee, for M2M Flowgate m;

$OTDF_{(M2M\ Flowgate-m, Ramapo)}$ = The PAR OTDF for each Ramapo PARs for M2M Flowgate m;

$PJMPayment_{M2M\ Flowgate-m}$ = Ramapo PARs settlement, in the form of a payment to PJM from NYISO, for M2M Flowgate m; and

$NYPayment_{M2M\ Flowgate-m}$ = Ramapo PARs settlement, in the form of a payment to NYISO from PJM, for M2M Flowgate m.

8.4 Calculating a Combined M2M Settlement

The M2M settlement for each M2M Flowgate shall be the sum of the real-time redispatch settlement and Ramapo PARs settlement

If NYISO is the Monitoring RTO for the M2M Flowgate:

$$\begin{aligned}
 M2M\ Settlement_{M2M\ Flowgate\ m_i} &= \left(\begin{array}{l} MonRTO\ Payment_{M2M\ Flowgate\ m_i} - \\ Non\ MonRTO\ Payment_{M2M\ Flowgate\ m_i} + NYPayment_{M2M\ Flowgate\ m_i} \end{array} \right) \times S_i / 3600sec
 \end{aligned}$$

If PJM is the Monitoring RTO for the M2M Flowgate:

$$M2M \text{ Settlement}_{M2M \text{ Flowgate } m_i} = \left(\frac{MonRTO \text{ Payment}_{M2M \text{ Flowgate } m_i} - Non \text{ MonRTO} \text{ Payment}_{M2M \text{ Flowgate } m_i} + PJMPayment_{M2M \text{ Flowgate } m_i}}{3600} \right) \times S_i / 3600sec$$

Where:

$M2M \text{ Settlement}_{M2M \text{ Flowgate } m_i}$ = M2M settlement, defined as a payment from the Non-Monitoring RTO to the Monitoring RTO, for interval i ; and

$Non \text{ MonRTO} \text{ Payment}_{M2M \text{ Flowgate } m_i}$ = Non-Monitoring RTO payment to Monitoring RTO for congestion on M2M Flowgate m for interval i ;

$MonRTO \text{ Payment}_{M2M \text{ Flowgate } m_i}$ = Monitoring RTO payment to Non-Monitoring RTO for congestion on M2M Flowgate m for interval i ;

$PJMPayment_{M2M \text{ Flowgate } m_i}$ = Ramapo PARs settlement, in the form of a payment to PJM from NYISO, for M2M Flowgate m for interval i ;

$NYPayment_{M2M \text{ Flowgate } m_i}$ = Ramapo PARs settlement, in the form of a payment to NYISO from PJM, for M2M Flowgate m for interval i ; and S_i = number of seconds in interval i .

For the purpose of settlements calculations, each interval will be calculated separately and then integrated to an hourly value:

$$M2M_Settlement_h = \sum_{M2M \text{ Flowgate } m}^{all} \sum_{i=1}^n M2M_Settlement_{M2M \text{ Flowgate } m_i}$$

Where:

$M2M_Settlement_h$ = M2M settlement for hour h ; and

n = Number of intervals in hour h .

Section 10.1 of this M2M Schedule sets forth circumstances under which the M2M coordination process and M2M settlements may be temporarily suspended.

9 When One of the RTOs Does Not Have Sufficient Redispatch

Under the normal M2M coordination process, sufficient redispatch for a M2M Flowgate may be available in one RTO but not the other. When this condition occurs, in order to ensure

an operationally efficient dispatch solution is achieved, the RTO without sufficient redispatch will redispatch all effective generation to control the M2M Flowgate to a “relaxed” Shadow Price limit. Then this RTO calculates the Shadow Price for the M2M Flowgate using the available redispatch which is limited by the maximum physical control action inside the RTO. Because the magnitude of the Shadow Price in this RTO cannot reach that of the other RTO with sufficient redispatch, unless further action is taken, there will be a divergence in Shadow Prices and the LMPs at the RTO border.

A special process is designed to enhance the price convergence under this condition. If the Non-Monitoring RTO cannot provide sufficient relief to reach the Shadow Price of the Monitoring RTO, the constraint relaxation logic will be deactivated. The Non-Monitoring RTO will then be able to use the Monitoring RTO’s Shadow Price without limiting the Shadow Price to the maximum Shadow Price associated with a physical control action inside the Non-Monitoring RTO. With the M2M Flowgate Shadow Prices being the same in both RTOs, their resulting bus LMPs will converge in a consistent price profile.

10 Appropriate Use of the M2M Process

Under normal operating conditions, the Parties will model all M2M Flowgates in their respective real-time EMSs. M2M Flowgates will be controlled using M2M tools for coordinated redispatch and coordinated operation of the Ramapo PARs, and will be eligible for M2M settlements.

10.1 Qualifying Conditions for M2M Settlement

10.1.1 Purpose of M2M. M2M was established to address regional, not local issues. The intent is to implement the M2M coordination process and settle on such coordination where both Parties have significant impact.

10.1.2 Minimizing Less than Optimal Dispatch. The Parties agree that, as a general matter, they should minimize financial harm to one RTO that results from the M2M coordination process initiated by the other RTO that produces less than optimal dispatch.

10.1.3 Use M2M Whenever Binding a M2M Flowgate. During normal operating conditions, the M2M redispatch process will be initiated by the Monitoring RTO whenever an M2M Flowgate that is eligible for redispatch is constrained and therefore binding in its dispatch. Coordinated operation of the Ramapo PARs is the default condition and does not require initiation by either Party to occur.

10.1.4 Most Limiting Flowgate. Generally, controlling to the most limiting Flowgate provides the preferable operational and financial outcome. In principle and as much as practicable, the M2M coordination process will take place on the most limiting Flowgate, and to that Flowgate’s actual limit (thermal, reactive, stability).

10.1.5 Abnormal Operating Conditions. A Party that is experiencing system conditions that require the system operators' immediate attention may temporarily delay implementation of the M2M redispatch process or cease an active M2M redispatch event until a reasonable time after the system condition that required the system operators' immediate attention is resolved.

10.1.6 Transient System Conditions. A Party that is experiencing intermittent congestion due to transient system conditions including, but not limited to, interchange ramping or transmission switching, is not required to implement the M2M redispatch process unless the congestion continues after the transient condition(s) have concluded.

10.1.7 Temporary Cessation of M2M Coordination Process Pending Review. If the net charges to a Party resulting from implementation of the M2M coordination process for a market-day exceed five hundred thousand dollars, then the Party that is responsible for paying the charges may (but is not required to) suspend implementation of this M2M coordination process (for a particular M2M Flowgate, or of the entire M2M coordination process) until the Parties are able to complete a review to ensure that both the process and the calculation of settlements resulting from the M2M coordination process are occurring in a manner that is both (a) consistent with this M2M Coordination Schedule, and (b) producing a just and reasonable result. The Party requesting suspension must identify specific concerns that require investigation within one business day of requesting suspension of the M2M coordination process. If, following their investigation, the Parties mutually agree that the M2M coordination process is (i) being implemented in a manner that is consistent with this M2M Coordination Schedule and (ii) producing a just and reasonable result, then the M2M coordination process shall be re-initiated as quickly as practicable. If the Parties are unable to mutually agree that the M2M coordination process was being implemented appropriately, or of the Parties are unable to mutually agree that the M2M coordination process was producing a just and reasonable result, the suspension (for a particular M2M Flowgate, or of the entire M2M coordination process) shall continue while the Parties engage in dispute resolution in accordance with section 35.15 of the Agreement.

10.1.8 Suspension of M2M Settlement when a Request for Taps on Common PARs to Prevent Overuse is Refused. If a Party requests that taps be taken on any Common PAR to reduce the requesting Party's overuse of the other Party's transmission system, refusal by the other Party or its Transmission Owner(s) to permit taps to be taken to reduce overuse shall result in the Ramapo PAR settlement component of M2M (*see* Section 8.3 above) being suspended for the requesting Party until the tap request is granted. The refusing Party shall not be relieved of any of its M2M settlement obligations.

10.2 After-the-Fact Review to Determine M2M Settlement

Based on the communication and data exchange that has occurred in real-time between the Parties, there will be an opportunity to review the use of the market-to-market process to verify it was an appropriate use of the M2M coordination process and subject to M2M settlement. The Parties will initiate the review as necessary to apply these conditions and settlements adjustments.

10.3 Access to Data to Verify Market Flow Calculations

Each Party shall provide the other Party with data to enable the other Party independently to verify the results of the calculations that determine the M2M settlements under this M2M Coordination Schedule. A Party supplying data shall retain that data for two years from the date of the settlement invoice to which the data relates, unless there is a legal or regulatory requirement for a longer retention period. The method of exchange and the type of information to be exchanged pursuant to section 35.7.1 of the Agreement shall be specified in writing. The Parties will cooperate to review the data and mutually identify or resolve errors and anomalies in the calculations that determine the M2M settlements. If one Party determines that it is required to self report a potential violation to the Commission's Office of Enforcement regarding its compliance with this M2M Coordination Schedule, the reporting Party shall inform, and provide a copy of the self report to, the other Party. Any such report provided by one Party to the other shall be Confidential Information.

11 M2M Change Management Process

11.1 Notice

Prior to changing any process that implements this M2M Schedule, the Party desiring the change shall notify the other Party in writing or via email of the proposed change. The notice shall include a complete and detailed description of the proposed change, the reason for the proposed change, and the impacts the proposed change is expected to have on the implementation of the M2M coordination process, including M2M settlements under this M2M Schedule.

11.2 Opportunity to Request Additional Information

Following receipt of the Notice described in Section 10.1, the receiving party may make reasonable requests for additional information/documentation from the other Party. Absent mutual agreement of the parties, the submission of a request for additional information under this Section shall not delay the obligation to timely note any objection pursuant to Section 10.3, below.

11.3 Objection to Change

Within ten business days after receipt of the Notice described in Section 10.1 (or within such longer period of time as the parties mutually agree), the receiving Party may notify in

writing or via email the other Party of its disagreement with the proposed change. Any such notice must specifically identify and describe the concern(s) that required the receiving party to object to the described change.

11.4 Implementation of Change

The Party proposing a change to its implementation of the M2M coordination process shall not implement such change until (a) it receives written or email notification from the other Party that the other Party concurs with the change, or (b) the ten business day notice period specified in Section 10.3 expires, or (c) completion of any dispute resolution process initiated pursuant to this Agreement.

Attachment II

Joint Operating Agreement Among and
Between NYISO and PJM – blacklined version

35.1 Recitals

- 35.1.1 PJM is the regional transmission organization that provides operating and reliability functions in portions of the mid-Atlantic and Midwest States. PJM also administers an open access tariff for transmission and related services on its grid, and independently operates markets for day-ahead, real-time energy, [capacity, ancillary services](#) and financially firm transmission rights;
- 35.1.2 NYISO is a not-for-profit corporation established pursuant to the ISO Agreement, responsible for providing transmission service, maintaining the reliability of the electric power system and facilitating efficient markets for capacity, energy and ancillary services in the New York Control Area in accordance with its filed Tariffs;
- 35.1.3 In accordance with good utility practice, the Parties seek to establish or confirm other arrangements and protocols in furtherance of the reliability of their systems [and efficient market operations](#), as provided under the terms and conditions of this Agreement;

NOW, THEREFORE, for good and valuable consideration including the Parties' mutual reliance upon the covenants contained herein, the Parties agree as follows:

35.2 Abbreviations, Acronyms, ~~and~~ Definitions and Rules of Construction

In this Agreement, the following words and terms shall have the meanings (such meanings to be equally applicable to both the singular and plural forms) ascribed to them in this Section 35.2. Any undefined, capitalized terms used in this Agreement shall have the meaning given under industry custom and, where applicable, in accordance with Good Utility Practices or the meaning given to those terms in the tariffs of PJM and NYISO on file at FERC.

Schedule C to this Agreement contains the Operating Protocol for the Implementation of Con Ed – PJM Transmission Service Agreements. Schedule C was accepted by FERC as a multi-party settlement to a long-running dispute. To the extent Schedule C contains definitions that differ from those set forth below (see, e.g., Appendix 8 to Schedule C), the definitions contained in Schedule C shall supersede the definitions set forth below, for purposes of interpreting Schedule C (including all of the appendices thereto), but shall not be used to interpret any other part of this Agreement.

35.2.1 Abbreviations, Acronyms and Definitions

~~35.2.1 — Abbreviations and Acronyms.~~

~~“ATC” shall mean Available Transfer Capability.~~

~~“AFC” shall mean Available Flowgate Capability.~~

~~“CPS” shall mean Control Performance Standard.~~

~~“DCS” shall mean Disturbance Control Standard.~~

~~“EMS” shall mean the respective Energy Management Systems utilized by the Parties to manage the flow of energy within their Regions.~~

~~“FERC” shall mean the Federal Energy Regulatory Commission or any successor agency thereto.~~

~~“ICCP”, “ISN” and “ICCP/ISN” shall mean those common communication protocols adopted to standardize information exchange.~~

~~“IDC” shall mean the NERC Interchange Distribution Calculator used for identifying and requesting congestion management relief.~~

~~“IROL” shall mean Interconnected Reliability Operating Limit.~~

~~“ISO” shall mean Independent System Operator.~~

~~“MMWG” shall mean the NERC working group that is charged with multi-regional modeling.~~

~~“MVAR” shall mean megavolt ampere of reactive power.~~

~~“MW” shall mean megawatt of capacity.~~

~~“NERC” shall mean the North American Electricity Reliability Corporation or its successor organization.~~

~~“NPCC” shall mean the Northeast Power Coordinating Council, Inc., including the NPCC Cross Border Regional Entity (CBRE), or their successor organizations.~~

~~“NYISO” shall have the meaning stated in the preamble of this Agreement.~~

~~“OASIS” shall mean the Open Access Same Time Information System required by FERC for the posting of market and transmission data on the Internet websites of PJM and NYISO.~~

~~“OATT” shall mean the applicable Open Access Transmission Tariff on file with FERC for PJM and NYISO.~~

~~“PJM” shall have the meaning stated in the preamble of this Agreement.~~

~~“RFC” shall mean Reliability First Corporation.~~

~~“RTO” shall mean Regional Transmission Organization.~~

~~“SDX System” shall mean the system used by NERC to exchange system data.~~

~~“SERC” SERC Reliability Corporation or its successor organization.~~

~~“SOL” shall mean System Operating Limit.~~

~~“TLR” shall mean the NERC Transmission Loading Relief Procedures used in the Eastern Interconnection as specified in NERC Operating Policies.~~

~~“TTC” shall mean Total Transfer Capability.~~

~~35.2.2~~ **Definitions.**

~~Any undefined, capitalized terms used in this Agreement shall have the meaning given under industry custom and, where applicable, in accordance with good utility practices or the meaning given to those terms in the tariffs of PJM and NYISO on file at FERC.~~

“AC” shall mean alternating current.

“Affected Party” shall mean the electric system of the Party other than the Party to which a request for interconnection or long-term firm delivery service is made and that may be affected by the proposed service.

~~“Agreement” shall have the meaning stated in the preamble~~mean this document, as amended from time to time, including all attachments, appendices, and schedules.

~~“Area Control Error” or “ACE” shall~~ means the instantaneous difference between a Balancing Authority’s net actual and scheduled interchange, taking into account the effects of Frequency Bias and correction for meter error.

“Available Flowgate Capability” or “AFC” shall mean the rating of the applicable Flowgate less the projected loading across the applicable Flowgate less TRM and CBM. The firm AFC is calculated with only the appropriate Firm Transmission Service reservations (or interchange schedules) in the model, including recognition of all roll-over Transmission Service rights. Non-firm AFC is determined with appropriate firm and non-firm reservations (or interchange schedules) modeled.

~~“Available Transfer Capability” or “ATC” shall~~ means a measure of the transfer capability remaining in the physical transmission network for further commercial activity over and above already committed uses.

“Balancing Authority” or “BA” shall mean the responsible entity that integrates resource plans ahead of time, maintains load-interchange-generation balance within a Balancing Authority Area, and supports interconnection frequency in real-time.

~~“Balancing Authority Area” or “BAA” shall mean~~ the collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.~~an electric system or systems, bounded by Interconnection metering and telemetry, capable of controlling generation to maintain its~~

~~interchange schedule with other Balancing Authority Areas and contributing to frequency regulation of the Interconnection Facilities as set forth by NERC.~~

~~“Balancing Authority Operator” shall mean the entity responsible for the secure operation of a Balancing Authority Area as set forth by NERC.~~

“Bulk Electric System” shall have the meaning provided for in the NERC Glossary of Terms used in Reliability Standards, as it may be amended, supplemented, or restated from time to time.

“Capacity Benefit Margin” or “CBM” shall mean the amount of firm transmission transfer capability preserved by the transmission provider for Load-Serving Entities (“LSEs”), whose loads are located on that Transmission Service Provider’s system, to enable access by the LSEs to generation from interconnected systems to meet generation reliability requirements. Preservation of CBM for an LSE allows that entity to reduce its installed generating capacity below that which may otherwise have been necessary without interconnections to meet its generation reliability requirements. The transmission transfer capability preserved as CBM is intended to be used by the LSE only in times of emergency generation deficiencies.

“CIM” shall mean Common Infrastructure Model.

“Confidential Information” shall have the meaning stated in Section 35.8.1.

“Control Area(s)” shall mean an electric power system or combination of electric power systems to which a common automatic generation control scheme is applied.

“Control Performance Standard” or “CPS” shall mean the reliability standard that sets the limits of a Balancing Authority’s Area Control Error over a specified time period.

~~“Coordinated Flowgate” shall mean a Flowgate impacted by the flows of a Party as determined by a mutually agreed upon study methodology identified in a congestion management process. A Coordinated Flowgate may be in the footprint of a Party or a third party.~~

“Coordination Committee” shall mean the jointly constituted PJM and NYISO committee established to administer the terms and provisions of this Agreement pursuant to Section 35.3.2 Article Three.

“Delivery Point” shall mean ~~the point at~~ each of the points of direct Interconnection between PJM and the NYISO Balancing Authority Areas. Such Delivery Point(s) shall include the Interconnection Facilities between the PJM and the New York ~~Control Areas~~ Balancing Authority Areas.

“DC” shall mean direct current.

[“Disclosing Party” shall have the meaning stated in Section 35.8.7.](#)

“Dispute” shall have the meaning stated in ~~Article Fourteen~~Section 35.8.715.

“Disturbance Control Standard” or “DCS” shall mean the reliability standard that sets the time limit following a disturbance within which a balancing authority must return its Area Control Error to within a specified range.

“Economic Dispatch” shall mean the sending of dispatch instructions to generation units to minimize the cost of reliably meeting load demands.

“Effective Date” shall have the meaning stated in Section 35.189.1.

“Emergency” shall mean any abnormal system condition that requires remedial action to prevent or limit loss of transmission or generation facilities that could adversely affect the reliability of the electricity system.

“Emergency Energy” shall mean energy supplied from Operating Reserve or electrical generation available for sale in New York or PJM or available from another Balancing Authority Area. Emergency Energy may be provided in cases of sudden and unforeseen outages of generating units, transmission lines or other equipment, or to meet other sudden and unforeseen circumstances such as forecast errors, or to provide sufficient Operating Reserve. Emergency Energy is provided pursuant to this Agreement and the Inter Control Area Transactions Agreement dated May 1, 2000 and priced according to Section 35.6.4 of this agreement and said Inter Control Area Transactions Agreement.

[“EMS” shall mean the respective Energy Management Systems utilized by the Parties to manage the flow of energy within their Regions.](#)

[“FERC” or “Commission” shall mean the Federal Energy Regulatory Commission or any successor agency thereto.](#)

“Flowgate” shall mean a representative modeling of facilities or groups of facilities that may act as potential constraint points.

“Force Majeure” shall mean an event of *force majeure* as described in Section 35. ~~19~~20.1.

[“Generator to Load Distribution Factor” or “GLDF” shall mean a generator’s impact on a Flowgate while serving load in that generator’s Balancing Authority Area.](#)

“Good Utility Practice” shall mean any of the practices, methods and acts engaged in or approved by a significant portion of the North American electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of

reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted by NERC.

“Governmental Authority” shall mean any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power.

“ICCP”, “ISN” and “ICCP/ISN” shall mean those common communication protocols adopted to standardize information exchange.

“IDC” shall mean the NERC Interchange Distribution Calculator used for identifying and requesting congestion management relief.

“Indemnifying Party” shall have the meaning stated in Section 35.20.3.

“Indemnitee” shall have the meaning stated in Section 35.20.3

“Intellectual Property” shall mean (i) ideas, designs, concepts, techniques, inventions, discoveries, or improvements, regardless of patentability, but including without limitation patents, patent applications, mask works, trade secrets, and know-how; (ii) works of authorship, regardless of copyright ability, including copyrights and any moral rights recognized by law; and (iii) any other similar rights, in each case on a worldwide basis.

“Intentional Wrongdoing” shall mean an act or omission taken or omitted by a Party with knowledge or intent that injury or damage could reasonably be expected to result.

“Interconnected Reliability Operating Limit” or **“IROL”** shall mean the value (such as MW, MVAR, Amperes, Frequency, or Volts) derived from, or a subset of, the System Operating Limits, which if exceeded, could expose a widespread area of the bulk electrical system to instability, uncontrolled separation(s) or cascading outages.

“Interconnection” shall mean a connection between two or more individual Transmission Systems that normally operate in synchronism and have interconnecting **I**ntertie(s).

“Interconnection Facilities” shall mean the Interconnection facilities described in Schedule A.

“ISO” shall mean Independent System Operator.

“kV” shall mean kilovolt of electric potential.

“Locational Marginal Price” or “LMP” shall mean the market clearing price for energy at a given location in a Party’s RC Area, and “Locational Marginal Pricing” shall mean the processes related to the determination of the LMP.

“Losses” shall have the meaning stated in Section 35.20.3.

“M2M” shall mean the market-to-market coordination process set forth in Schedule D to this Agreement.

“M2M Entitlement” shall mean a Non-Monitoring RTO’s share of a M2M Flowgate’s total capability to be used for settlement purposes that is calculated pursuant to Section 6 of Schedule D to this Agreement.

“M2M Event” shall mean the period when both Parties are operating under M2M as defined and set forth in Schedule D to this Agreement.

“M2M Flowgate” shall mean Flowgates where ~~C~~constraints are jointly monitored and coordinated as defined and set forth in Schedule D to this Agreement.

“Market Flows” shall mean the calculated energy flows on a specified Flowgate as a result of dispatch of generating resources serving ~~market~~ load within an RTO’s ~~Market Based Operating Entity’s market (excluding tagged transactions).~~

“Market Participant” shall mean an entity that, for its own account, produces, transmits, sells, and/or purchases for its own consumption or resale capacity, energy, energy derivatives and ancillary services in the wholesale power markets. Market Participants include transmission service customers, power exchanges, Transmission Owners, load serving entities, loads, holders of energy derivatives, generators and other power suppliers and their designated agents.

“Metered Quantity” shall mean apparent power, reactive power, active power, with associated time tagging and any other quantity that may be measured by a Party’s Metering Equipment and that is reasonably required by either Party for Security reasons or revenue requirements.

“Metering Equipment” shall mean the potential transformers, current transformers, meters, interconnecting wiring and recorders used to meter any Metered Quantity.

“Monitoring RTO” shall mean the Party that has operational control of a M2M Flowgate.

“Multiregional Modeling Working Group” or “MMWG” shall mean the NERC working group that is charged with multi-regional modeling.

“Mutual Benefits” shall mean the transient and steady-state support that the integrated generation and Transmission Systems in PJM and New York provide to each other inherently by virtue of being interconnected as described in Section 35.4 of this Agreement.

“MVAR” shall mean megavolt ampere of reactive power.

“MW” shall mean megawatt of capacity.

“NAESB” shall mean North American Energy Standards Board or its successor organization.

“NERC” shall mean the North American Electricity Reliability Corporation or its successor organization.

“Network Resource” shall have the meaning as provided in the NYISO OATT, for such resources located in New York, and the meaning as provided in the PJM OATT, for such resources located in PJM.

“Non-Monitoring RTO” shall mean the Party that does not have operational control of a M2M Flowgate.

“Notice” shall have the meaning stated in Section 35. ~~+920.2+2.~~

“NPCC” shall mean the Northeast Power Coordinating Council, Inc., including the NPCC Cross Border Regional Entity (“CBRE”), or their successor organizations.

“NYISO” shall have the meaning stated in the preamble of this Agreement.

“NYISO Code of Conduct” shall mean the rules, procedures and restrictions concerning the conduct of the ISO directors and employees, contained in Attachment F to the NYISO OATT.

“NYISO Market Monitoring Plan” shall refer to Attachment O to the NYISO Services Tariff.

“NYISO Tariffs” shall means the NYISO OATT and the NYISO Market Administration and Control Area Services Tariff (“Services Tariff”), collectively.

“NYSRC” shall mean the New York State Reliability Council.

“NYSRC Reliability Rules” shall means the rules applicable to the operation of the New York Transmission System. These rules are based on ~~R~~Reliability Standards adopted by NERC and NPCC, but also include more specific and more stringent rules to reflect the particular requirements of the New York Transmission System.

“OASIS” shall mean the Open Access Same-Time Information System required by FERC for the posting of market and transmission data on the Internet websites of PJM and NYISO.

“OATT” shall mean the applicable Open Access Transmission Tariffs on file with FERC for PJM and NYISO.

“**Operating Entity**” shall mean an entity that operates and controls a portion of the bulk transmission system with the goal of ensuring reliable energy interchange between generators, loads, and other operating entities.

“**Operating Instructions**” shall mean the operating procedures, steps, and instructions for the operation of the Interconnection Facilities established from time to time by the Coordination Committee or the PJM and NYISO individual procedures and processes and includes changes from time to time by the Coordination Committee to such established procedures, steps and instructions exclusive of the individual procedures.

“**Operating Reserve**” shall mean generation capacity or load reduction capacity which can be called upon on short notice by either Party to replace scheduled energy supply which is unavailable as a result of an unexpected outage or to augment scheduled energy as a result of unexpected demand or other contingencies.

“**Operational Control**” shall mean Security monitoring, adjustment of generation and transmission resources, coordinating and approval of changes in transmission status for maintenance, determination of changes in transmission status for reliability, coordination with other Balancing Authority Areas and Reliability Coordinators, voltage reductions and load shedding, except that each legal owner of generation and transmission resources continues to physically operate and maintain its own facilities.

“OTDF” shall mean the electric PTDF with one or more system facilities removed from service (i.e., outaged) in the post-contingency configuration of a system under study.

“**Outages**” shall mean the planned unavailability of transmission and/or generation facilities dispatched by PJM or the NYISO, as described in ~~Article Nine~~Section 35.9 of this Agreement.

“PAR” shall mean phase angle regulator.

“PAR OTDF”, also known as PAR shift factor, shall mean the ratio of a change in flow on a Flowgate, up to 1, due to a change in PAR active power transfer.

“**Party**” or “**Parties**” refers to each party to this Agreement or both, as applicable.

“**PJM**” has the meaning stated in the preamble of this Agreement.

“PJM Code of Conduct” shall mean the code of ethical standards, guidelines and expectations for PJM’s employees, officers and Board Members in their transactions and business dealings on behalf of PJM as posted on the PJM website and as may be amended from time to time.

“PJM Tariffs” shall mean the PJM OATT and the PJM Amended and Restated Operating Agreement, collectively.

“Power Transfer Distribution Factor” or “PTDF” shall mean a measure of the responsiveness or change in electrical loadings on Transmission Facilities due to a change in electric power transfer from one area to another, expressed in percent (up to 100%) of the change in power transfer in the pre-contingency configuration of a system under study.

“Region” shall mean the Control Areas and Transmission Facilities with respect to which a Party serves as RTO or Reliability Coordinator under NERC policies and procedures.

“Regulatory Body” shall have the meaning stated in Section 35.20.21.

“Reliability Coordinator” or “RC” shall mean the entity that is the highest level of authority who is responsible for the reliable operation of the Bulk Electric System, has the ~~W~~wide ~~A~~area view of the Bulk Electric System, and has the operating tools, processes and procedures, including the authority to prevent or mitigate emergency operating situations in both next day analysis and real-time operations. The Reliability Coordinator has the purview that is broad enough to enable the calculation of Interconnection Reliability Operating Limits, which may be based on the operating parameters of transmission systems beyond any Transmission Operator’s vision.

“Reliability Coordinator Area” shall mean that portion of the ~~b~~Bulk ~~e~~Electric ~~s~~System under the purview of the Reliability Coordinator.

“Reliability Standards” shall mean the criteria, standards, rules and requirements relating to reliability established by a Standards Authority.

“RFC” shall mean ReliabilityFirst Corporation.

“RTO” shall mean Regional Transmission Organization. For ease of reference, the New York Independent System Operator, Inc., may be referred to as an RTO in this Agreement and the NYISO and PJM may be referred to collectively as the “RTOs” or the “participating RTOs.”

“Schedule” shall mean a schedule attached to this Agreement and all amendments, supplements, replacements and additions hereto.

“SDX System” shall mean the system used by NERC to exchange system data.

“Security” shall mean the ability of the electric system to withstand sudden disturbances including, without limitation, electric short circuits or unanticipated loss of system elements.

“Security Limits” shall mean operating electricity system voltage limits, stability limits and thermal ratings.

“SERC” shall mean [SERC Reliability Corporation or its successor organization.](#)

“Shadow Price” shall mean [the marginal value of relieving a particular constraint which is determined by the reduction in system cost that would result from an incremental relaxation of that constraint.](#)

“Standards Authority” shall mean ~~the North American Electric Reliability Council (“NERC”)~~, and the NERC regional ~~entities~~~~councils~~ with governance over PJM and NYISO, any successor thereof, or any other agency with authority over the Parties regarding standards or criteria to either Party relating to the reliability of Transmission Systems.

“Standards Authority Standards” shall have the meaning stated in Section 35.5.2.

“State Estimator” shall mean a computer model that computes the state (voltage magnitudes and angles) of the [T](#)ransmission [S](#)ystem using the network model and real-time measurements. Line flows, transformer flows, and injections at the busses are calculated from the known state and the transmission line parameters. The State Estimator has the capability to detect and identify bad measurements.

“Supplying Party” shall have the meaning stated in Section 35.8.2.

“System Operating Limit” or **“SOL”** shall mean the value (such as MW, MVAR, Amperes, Frequency, or Volts) that satisfies the most limiting of the prescribed operating criteria for a specified system configuration to ensure operation within acceptable reliability criteria.

“Target Value” shall have the meaning stated in Section 7.2 of Schedule D to this Agreement.

“Third Party” refers to [any entity other than a Party to this Agreement.](#)

“TLR” shall mean [the NERC Transmission Loading Relief Procedures used in the Eastern Interconnection as specified in NERC Operating Policies.](#)

“Transmission Operator” shall mean [the entity responsible for the reliability of its “local” Transmission System, and that operates or directs the operations of the Transmission Facilities.](#)

“Transmission Owner” shall mean an entity that owns Transmission Facilities.

“Transmission System” shall mean the facilities controlled or operated by PJM or NYISO as designated by each in their respective OATTs.

“**Transmission Facility**” shall mean a facility for transmitting electricity, and includes any structures, equipment or other facilities used for that purpose as defined in the Parties respective OATTs.

“**Transmission Reliability Margin**” or “**TRM**” shall mean the amount of transmission transfer capability necessary to provide reasonable assurance that the interconnected transmission network will be secure. TRM accounts for the inherent uncertainty in system conditions and the need for operating flexibility to ensure reliable system operation as system conditions change.

“**Total Transfer Capability**” or “**TTC**” shall mean the amount of electric power that can be moved or transferred reliably from one area to another area of the interconnected Transmission Systems by way of all transmission lines (or paths) between those areas under specified system conditions.

“**Voltage and Reactive Power Coordination Procedures**” are the procedures under ~~Article~~ Section 35.11 for coordination of voltage control and reactive power requirements.

35.2. ~~32~~ Rules of Construction.

35.2. ~~32~~.1 No Interpretation Against Drafter.

In addition to their roles as RTOs/ISOs and Reliability Coordinators, and the functions and responsibilities associated therewith, the Parties agree that each Party participated in the drafting of this Agreement and was represented therein by competent legal counsel. No rule of construction or interpretation against the drafter shall be applied to the construction or in the interpretation of this Agreement.

35.2. ~~32~~.2 Incorporation of Preamble and Recitals.

The Preamble and Recitals of this Agreement are incorporated into the terms and conditions of this Agreement and made a part thereof.

35.2.32.3 Meanings of Certain Common Words.

The word “including” shall be understood to mean “including, but not limited to.” The word “Section” refers to the applicable section of this Agreement and, unless otherwise stated, includes all subsections thereof. The word “Article” refers to articles of this Agreement.

35.2.32.4 Standards Authority Standards, Policies, and Procedures.

All activities under this Agreement will meet or exceed the applicable Standards Authority standards, policies, or procedures as revised from time to time.

35.2.32.5 Scope of Application.

Each Party will perform this Agreement in accordance with its terms and conditions with respect to each Control Area for which it serves as ISO or RTO and, in addition, each Control Area for which it serves as Reliability Coordinator.

35.3 Overview, Administration, and Relationship With Other Agreements

35.3.1 Purpose of This Agreement:

This Agreement provides for the reliable operation of the interconnected PJM and NYISO Transmission Systems in accordance with the requirements of the Standards Authority [and efficient market operations through M2M coordination](#). This Agreement establishes a structure and framework for the following functions related to the reliability of interconnected operations between the Parties [and efficient joint market operations](#):

- 35.3.1.1 Developing and issuing Operating Instructions and Security Limits;
- 35.3.1.2 Coordinating operation of their respective Transmission Systems;
- 35.3.1.3 Developing and adopting operating criteria and standards;
- 35.3.1.4 Conducting operating performance reviews of the Interconnection Facilities;
- 35.3.1.5 Implementing each Party's respective Standards Authority requirements with regard to the PJM and NYISO Transmission Systems;
- 35.3.1.6 Exchanging information and coordination regarding system planning;
- 35.3.1.7 Providing mutual assistance in an Emergency and during system restoration;
- 35.3.1.9 Performance of certain other arrangements among the Parties for coordination of their systems, including, but not limited to performance consistent with the arrangements set forth in the existing agreements listed in Section 35.~~20-21~~ [and the M2M transmission congestion coordination process that is set forth in the attached Market-to-Market Coordination Schedule and Section 35.12 below; and](#)
- [35.3.1.9](#) Performance of certain other arrangements among the Parties for administration of this Agreement ~~;~~ [and](#)

The Parties shall, consistent with Standards Authority requirements and the Parties' respective tariffs, rules and standards, including with respect to the NYISO, the NYSRC Reliability Rules, to the maximum extent consistent with the safe and proper operation of their respective Reliability Coordinator Area and Balancing Authority Area and necessary coordination with other interconnected systems, operate their systems in accordance with the procedures and principles set forth in this Agreement.

35.3.2 Establishment and Functions of Coordination Committee:

To administer the arrangements under this Agreement, the Parties shall establish a Coordination Committee. The Coordination Committee shall undertake to jointly develop and authorize Operating Instructions to implement the intent of this Agreement [with respect to reliable Transmission System operations](#).

35.3.2.1 The Coordination Committee shall have the following duties and responsibilities:

35.3.2.1.1 Determine the date(s) for implementing the various parts of this Agreement and undertake to jointly develop and authorize Operating Instructions to implement the intent of this Agreement;

35.3.2.1.2 Meet [periodically](#) ~~no less than twice yearly~~ to address any issues associated with this Agreement that a Party may raise and to determine whether any changes to this Agreement, or procedures employed under this Agreement, would enhance reliability, efficiency or economy;

35.3.2.1.3 The matters to be addressed at all meetings shall be specified in an agenda, which shall contain items specified by either Party in advance of the meeting

and sent to the representatives of the other Party. All decisions of the Coordination Committee must be unanimous;

35.3.2.1.4 Conduct additional meetings upon Notice given by any Party, provided that the Notice specifies the reason(s) for requesting the meeting;

~~35.3.2.1.5 Conduct dispute resolution in accordance with Article Fourteen of this Agreement;~~

35.3.2.1.65 Initiate process reviews at the request of any Party for activities undertaken in the performance of this Agreement;

~~35.3.2.1.7 Continue the process to define a congestion management process mutually agreed upon by NYISO and PJM; and~~

35.3.2.1.67 In its discretion, take other actions, including the establishment of subcommittees and/or task forces, to address any issues that the Coordination Committee deems necessary consistent with ~~in the implementation of~~ this Agreement.

35.3.2.2 Coordination Committee Representatives.

Within 30 days of the Effective Date, each Party shall designate a primary and alternate representative to the Coordination Committee and shall inform the other Parties of its designated representatives by Notice. A Party may change its designated Coordination Committee representatives at any time, provided that timely Notice is given to the other Parties. Each designated Coordination Committee representative shall have the authority to make decisions on issues that arise during the performance of this Agreement. The costs and expenses associated with each Party's designated Coordination Committee representatives shall be the responsibility of the designating Party.

35.3.2.3 Limitations Upon Authority of Coordination Committee.

The Coordination Committee is not authorized to modify or amend any of the terms of this Agreement. The Coordination Committee is also not authorized to excuse any obligations under this Agreement or waive any rights pertaining to this Agreement. The Coordination Committee has no authority to commit either Party to any expenditure that is beyond those expenses described in this Agreement. ~~35.3.2.4—Subject to the limitations on its authority as described in Section 35.3.2.3 of this Agreement, the Coordination Committee has the responsibility and authority to take action on all aspects of this Agreement, including, but not limited to the following:~~

~~35.3.2.4.1—Amending, adding or canceling Schedules, or Operating Instructions and providing written notice in accordance with Section 35.19.21 of this Agreement;~~

~~35.3.2.4.2—Assessment of non-compliance with this Agreement and, subject to Section 35.14 of this Agreement, the taking of appropriate action in respect thereto;~~

~~35.3.2.4.3—Documentation of decisions related to the initial resolution of Disputes as set out in Section 35.14 of this Agreement, or in cases of unresolved Disputes, the circumstances relevant to the Dispute in question as contemplated by the requirements of Section 35.14 of this Agreement; and~~

~~35.3.2.4.4 Preparation, documentation, retention and distribution of Coordination Committee meeting minutes and agendas.~~

35.3.3 Ongoing Review and Revisions.

As set forth in Section 35.7, the Parties have agreed to the coordination and exchange of data and information under this Agreement to enhance system reliability and efficient market operations as systems exist and are contemplated as of the Effective Date. The Parties expect

that these systems and the technology applicable to these systems and to the collection and exchange of data will change from time to time throughout the term of this Agreement. The Parties agree that the objectives of this Agreement can be fulfilled efficiently and economically only if the Parties, from time to time, review and, as appropriate, revise the requirements stated herein in response to such changes, including deleting, adding, or revising requirements and protocols. Each Party will negotiate in good faith in response to such revisions the other Party may propose from time to time. Nothing in this Agreement, however, shall require any Party to reach agreement with respect to any such changes, or to purchase, install, or otherwise implement new equipment, software, or devices, or functions, except as required to perform this Agreement.

35.5 Interconnected Operation

35.5.1 Obligation to Remain Interconnected.

The Parties shall at all times during the term of this Agreement operate or direct the operation of their respective Transmission Systems so that they remain interconnected except:

35.5.1.1 During the occurrence of an event of Force Majeure which renders a Party unable to remain interconnected;

35.5.1.2 When an Interconnection is opened in accordance with the terms of an Operating Instruction or, if the Operating Instruction does not anticipate a particular circumstance where there is an imminent risk of equipment failure, or of danger to personnel or the public, or a risk to the environment, or a risk to system Security or reliability of a Transmission System, which cannot be avoided through Good Utility Practice; or

35.5.1.3 During planned maintenance where notice has been given in accordance with outage procedures as implemented by the Coordination Committee.

35.5.2 Adherence to Standards Authority Standards, Policies and Procedures.

The Parties are participants in multiple [Standards Authorities](#) ~~NERC Regional Councils (RFC, NPCC, SERC, etc.)~~, and are required to comply with specified standards, criteria, guides and procedures (“Standards Authority Standards”). Such Standards Authority Standards detail the many coordinating functions carried out by the parties, and this Agreement is intended to enhance those arrangements. Such Standards Authority Standards include, and the Parties agree to, the provision of “maximum reasonable assistance” to a neighboring Balancing Authority Area. Such maximum reasonable assistance will not normally require the shedding of firm load.

35.5.3 Notification of Circumstances

In the event that an Interconnection Facility is opened or if the Interconnection Facility transfer capability is changed, or if a Party plans to initiate the opening of an Interconnection Facility, or to change the transfer capability of the Interconnection Facilities, such Party shall immediately provide the other Party with notification indicating the circumstances of the opening or transfer capability change and expected restoration time, in accordance with procedures implemented by the Coordination Committee.

35.5.4 Compliance with Decisions of the Coordination Committee Direction

PJM shall direct the operation of the PJM Transmission System and the NYISO shall direct the operation of the NYISO Transmission System in accordance with the obligations of their respective tariffs, rules and standards and applicable directions of the Coordination Committee that conform with their respective tariffs, rules and standards, except where prevented by Force Majeure. The Coordination Committee's scope includes making decisions and jointly developing and approving Operating Instructions for many expected circumstances within the provisions of the Parties' respective tariffs, rules and standards. If decisions of the Coordination Committee do not anticipate a particular circumstance, the Parties shall act in accordance with Good Utility Practice.

35.5.5 Control and Monitoring

Each Party shall provide or arrange for 24-hour control and monitoring of their portion of the Interconnection Facilities.

35.5.6 Reactive Transfer and Voltage Control.

The Parties agree to determine reactive transfers and control voltages in accordance with the provisions of their respective Standards Authority Standards. Real and reactive power will be transferred over the Interconnection Facilities as described in Section 35.11.

35.5.7 Inadvertent Exchanges.

Inadvertent power transfers on all Interconnection Facilities shall be controlled and accounted for in accordance with the standards and procedures developed by [the Standards Authorities](#) ~~NERC and its Regional Councils and implemented by the Coordination Committee~~ and the system operators of each Party to this Agreement.

35.5.8 Adoption of Standards.

The Parties hereby agree to adopt, enforce and comply with all applicable requirements and standards that will safeguard the reliability of the interconnected Transmission Systems. Such reliability requirements and Reliability Standards shall be:

- 35.5.8.1 Adopted and enforced for the purpose of providing reliable service;
- 35.5.8.2 Not unduly discriminatory in substance or application;
- 35.5.8.3 Applied consistently to both Parties with the exception of subsection 35.5.8.5 below;
- 35.5.8.4 Consistent with the Parties' respective obligations to applicable Standards Authorities including, without limitation, any relevant requirements or guidelines from each of NERC, or its Regional Councils' or any other Standards Authority or regional transmission group to which either of the Parties is required to adhere; and
- 35.5.8.5 With respect to the NYISO, consistent with the NYSRC Reliability Rules.

35.5.9 New York - PJM IROL Interface.

The Parties share a joint IROL related to transfers related to the interconnecting transmission lines between their respective Reliability Coordinator Areas and Balancing Authority Areas. This IROL is adhered to in order to maintain acceptable steady-state and transient performance of the NYISO and PJM Transmission Systems. Both Parties will monitor this limit in accordance with this Agreement and independently determine the applicable import and export transfer limits. Both Parties agree to operate the interface to the most conservative limits developed in real-time and the day-ahead planning process. These operating limits shall be determined in accordance with Standards Authority Standards. Both Parties will take coordinated corrective actions to avoid a violation of the IROL. If a violation occurs, actions will be taken to clear the violation as soon as possible, and in accordance with Standards Authority Standards.

35.5.10 Coordination and Exchange of Information Regarding System Planning.

The Parties shall exchange information and coordinate regarding system planning and inter-regional planning activities in a manner consistent with Standards Authority Standards and consistent with the requirements of confidentiality agreements or rules binding upon either of the Parties.

35.6 Emergency Assistance

35.6.1 Emergency Assistance.

Both Parties shall exercise due diligence to avoid or mitigate an Emergency to the extent practical in accordance with applicable requirements imposed by the Standards Authority or contained in the PJM Tariffs and NYISO Tariffs. In avoiding or mitigating an Emergency, both Parties shall strive to allow for commercial remedies, but if commercial remedies are not successful or practical, the Parties agree to be the suppliers of last resort to maintain reliability on the system. For each hour during which Emergency conditions exist in a Party's Balancing Authority Area, that Party (while still ensuring operations within applicable Reliability Standards) shall determine what commercial remedies are available and make use of those that are practical and needed to avoid or mitigate the Emergency before any Emergency Energy is scheduled in that hour.

35.6.2 Emergency Operating Guides.

The Parties agree to jointly develop, maintain, and share operating guides to address credible Emergency conditions.

35.6.3 Emergency Energy.

Each Party shall, to the maximum extent it deems consistent with the safe and proper operation of its respective Transmission System, provide Emergency Energy to the other Party in accordance with the provisions of the Inter Control Area Transactions Agreement.

35.6.4 Costs of Compliance.

Each Party shall bear its own costs of compliance with this Article except that the cost of Emergency Energy purchased by one Party at the request of the other Party shall be reimbursed

in accordance with the Inter Control Area Transaction Agreement. Nothing in this Agreement shall require a Party to purchase Emergency Energy if the Party cannot recover the costs under an OATT or other agreement or lawful arrangement.

35.7 Exchange of Information

35.7.1 Exchange of Operating Data:

PJM and NYISO agree to exchange and share such information as may be required from time to time for the ~~Parties~~ Coordination Committee to perform ~~its~~their duties and ~~for the Parties~~ ~~to~~ fulfill their obligations under this Agreement, subject to the requirements of existing confidentiality agreements or rules binding upon either of the Parties, including the NYISO Code of Conduct as set forth in Attachment F to the NYISO OATT, Article 6 of the NYISO Services Tariff, the PJM Code of Conduct and PJM Data Confidentiality Regional Stakeholder Group. ~~The types of data to be exchanged will be maintained and posted by the Parties to this Agreement on their respective OASIS web sites.~~ Such information ~~will~~may consist of the following:

35.7.1.1 Information required to develop Operating Instructions;

35.7.1.2 Transmission System facility specifications and modeling data required to perform Security analysis;

35.7.1.2.1 The Parties will exchange their detailed EMS models in CIM format or another mutually agreed upon electronic format, and include the ICCP/ISN mapping files, identification of individual bus loads, seasonal equipment ratings and one-line drawings to expedite the model conversion process, upon request. The Parties will also exchange updates that represent the incremental changes that have occurred to the EMS model since the most recent update in an agreed upon electronic format;

35.7.1.3 Functional descriptions and schematic diagrams of Transmission System protective devices and communication facilities;

- 35.7.1.4 Ratings data and associated ratings methodologies for the Interconnection Facilities;
- 35.7.1.5 Telemetry points, equipment alarms and status points required for real-time monitoring of Security dispatch;
- 35.7.1.6 Data required to reconcile accounts for inadvertent energy, and for Emergency Energy transactions;
- 35.7.1.7 Transmission System information that is consistent with the information sharing requirements imposed by the Standards Authority; ~~and~~
- 35.7.1.8 Such other information as may be required for the Parties to maintain the reliable operation of their interconnected Transmission Systems and fulfill their obligations under this Agreement and to any Standards Authority of which either Party is a member, provided, however, that this other information will be exchanged only if that can be done in accordance with applicable restrictions on the disclosure of information to any Market Participant; ~~and~~
- 35.7.1.9 Additional information required for the Parties to administer the M2M coordination process set forth in Schedule D to this Agreement, including:
 - a. actual flows on M2M Flowgates;
 - b. actual limits for M2M Flowgates;
 - c. *ex ante* Shadow Prices on constrained M2M Flowgates;
 - d. requested relief during a M2M Event;
 - e. Market Flow calculation data (generator shift factors, load shift factors, interchange PTDFs, phase angle regulator OTDFs, generator output, load, net interchange);

f. Market Flows on M2M Flowgates; and

g. binding constraint thresholds (the shift factor thresholds used to identify the resource(s) available to relieve a transmission constraint).

35.7.2 Confidentiality

The Party receiving information pursuant to this Section 35.7 shall treat such information as confidential subject to the terms and conditions of set forth in Section 35.8 of this Agreement. The obligation of each Party under this Section 35.7.2 continues and survives the termination of this Agreement by seven (7) years.

35.7.3 Data Exchange Contact

To facilitate the exchange of all such data, each Party will designate to the other Party's Vice President of Operations a contact to be available twenty-four (24) hours each day, seven (7) days per week, and an alternate contact to act in the absence or unavailability of the primary contact, to respond to any inquiries. With respect to each contact and alternate, each Party shall provide the name, telephone number, e-mail address, and fax number. Each Party may change a designee from time to time by Notice to the other Party's Vice President of Operations.

The Parties agree to exchange data in a timely manner consistent with existing defined formats or such other formats to which the Parties may agree. Each Party shall provide notification to the other Party thirty (30) days prior to modifying an established data exchange format.

35.7.4 Cost of Data and Information Exchange

Each Party shall bear its own cost of providing information to the other Party.

35.7.5 Other Data

The Parties may share other data not listed in this Section 35.7 as mutually agreed upon by the Parties.

35.8 Confidential Information

35.8.1 Definition

The term “Confidential Information” shall mean: (a) all information, whether furnished before or after the mutual execution of this Agreement, whether oral, written or recorded/electronic, and regardless of the manner in which it is furnished, that is marked “confidential” or “proprietary” or which under all of the circumstances should be treated as confidential or proprietary; (b) any data or information deemed confidential under some other form of confidentiality agreement or tariff provided to a Party by a generator; (c) all reports, summaries, compilations, analyses, notes or other information of a Party hereto which are based on, contain or reflect any Confidential Information; (d) applicable material deemed Confidential Information pursuant to the PJM Data Confidentiality Regional Stakeholder Group, [the PJM Code of Conduct](#), the NYISO Code of Conduct, [or Article 6 of the NYISO’s Services Tariff](#); [\(e\) Protected Information under the NYISO Market Monitoring Plan](#); and [\(ef\) any information](#) which, if disclosed by a transmission function employee of a utility regulated by the FERC to a market function employee of the same utility system, other than by public posting, would violate the FERC’s Standards of Conduct set forth in 18 C.F.R. § 37 et. seq. and the Parties’ Standards of Conduct on file with the FERC.

35.8.2 Protection

During the course of the Parties’ performance under this Agreement, a Party may receive or become exposed to Confidential Information. Except as set forth herein, the Parties agree to keep in confidence and not to copy, disclose, or distribute any Confidential Information or any part thereof, without the prior written permission of the Party supplying such Confidential Information ([“Supplying Party”](#)). In addition, each Party shall require that its employees, its

subcontractors and its subcontractors' employees and agents to whom Confidential Information is exposed agree to be bound by the terms and conditions contained herein. Each Party shall be ~~liable~~ responsible for any breach of this section by its employees, its subcontractors and its subcontractors' employees and agents.

35.8.3 Treatment of ~~Confidentiality~~ Confidential Information

The Party receiving the Confidential Information shall treat the information in the same confidential manner as its governing documents require it to treat the confidential information of its own members and Market Participants, ~~or if more restrictive, the governing documents of the Supplying Party sending the Confidential Information.~~

35.8.4 Statute of Limitations

The receiving Party shall not release the Supplying Party's Confidential Information until expiration of the time period controlling the Supplying Party's disclosure of the same information, as such period is described in the Supplying Party's governing documents from time to time. As of the Effective Date, this period is ~~six~~ three (~~6~~3) months with respect to bid or pricing data and seven (7) calendar days for transmission data after the event ends. The obligation of each Party under this Section 35.8 continues and survives the termination of this Agreement by seven (7) years.

35.8.5 Scope

This obligation of confidentiality shall not extend to data and information that, at no fault of a recipient Party, is or was: (a) in the public domain or generally available or known to the public; (b) disclosed to a recipient by a non-Party who had a legal right to do so; (c) independently developed by a Party or known to such Party prior to its disclosure hereunder; and

(d) which is required to be disclosed by subpoena, law, or other directive of a Governmental Authority.

35.8.6 Standard of Care

Each Party shall protect Confidential Information from disclosure, dissemination, or publication. ~~Regardless of whether a Party is subject to the jurisdiction of the FERC under the Federal Power Act, and regardless of whether a Party is an RTO or an ISO, e~~Each Party agrees to restrict access to all Confidential Information to only those persons authorized to view such information: (a) by the FERC's Standards of Conduct, (b) OASIS posting requirements in 18 C.F.R. §§ 37.1-37.8 and, (c) if more restrictive, by such Party's board resolutions, tariff provisions, or other internal policies governing access to, and the sharing of, energy market or ~~transmission system~~Transmission System information.

35.8.7 Required Disclosure

If a Governmental Authority requests or requires a Party to disclose any Confidential Information ("Disclosing Party"), such Disclosing Party shall provide the ~~Party that supplied the Confidential Information ("Supplying Party")~~ with prompt written notice of such request or requirement ~~so that the~~and will assist any efforts by the Supplying Party ~~may to contest disclosure, or~~ seek an appropriate protective order or other appropriate remedy. ~~or~~The Supplying Party may also choose to waive compliance with the provisions of this Agreement.

Notwithstanding the presence or absence of a protective order or a waiver, a Disclosing Party shall disclose only such Confidential Information ~~which as~~ it is legally required to disclose.

Each Party shall use reasonable efforts to obtain reliable assurances that confidential treatment will be accorded to Confidential Information required to be disclosed.

If a Disclosing Party is required to disclose any Confidential Information under this section, a Supplying Party shall have the right to immediately suspend supplying such Confidential Information to the Disclosing Party. In that event, the Parties shall meet as soon as practicable in an effort to resolve any and all issues associated with the required disclosure of such Confidential Information, and the likelihood of additional disclosures of such Confidential Information.

35.8.8 Return of Confidential Information

All Confidential Information provided by the Supplying Party shall be returned by the receiving Party to the Supplying Party promptly upon request. Upon termination or expiration of this Agreement, a Party shall use reasonable efforts to destroy, erase, delete or return to the Supplying Party any and all written or electronic Confidential Information. In no event shall a receiving Party retain copies of any Confidential Information provided by a Supplying Party.

35.8.9 Equitable Relief

Each Party acknowledges that remedies at law are inadequate to protect against breach of the covenants and agreements in this Article, and hereby in advance agrees, without prejudice to any rights to judicial relief that it may otherwise have, to the granting of equitable relief, including injunction, in the Supplying Party's favor without proof of actual damages. In addition to the equitable relief referred to in this section, a Supplying Party shall only be entitled to recover from a receiving Party any and all gains wrongfully acquired, directly or indirectly, from a receiving Party's unauthorized disclosure of Confidential Information.

35.8.10 Existing Confidential Information Obligations.

Notwithstanding anything to the contrary in this Agreement, the parties shall have no obligation to disclose Confidential Information or data to the extent such disclosure of information or data would be a violation of or inconsistent with the terms and conditions of the PJM or NYISO Amended and Restated Operating Agreement, either Party's [OATT](#) ~~Open Access Transmission Tariff~~, any other agreement, or applicable state or federal regulation or law. The obligation of each Party under this section continues and survives the termination of this Agreement by seven (7) years.

35.9 Coordination of Scheduled Outages

35.9.1 Coordinating Outages Operating Protocols

The Parties will jointly develop protocols for coordinating transmission and generation Outages to maintain reliability. The Parties agree to the following with respect to transmission and generation Outage coordination.

35.9.1.1 Exchange of Transmission and Generation Outage Schedule Data

Upon a Party's request, the projected status of generation and transmission availability will be communicated between the Parties, subject to data confidentiality agreements. The Parties shall exchange the most current information on proposed Outage information and provide a timely response on potential impacts of proposed Outages. The Parties shall select a mutually agreeable common format for the exchange of this information.

35.9.1.2 Evaluation and Coordination of Transmission and Generation Outages

The Parties analyze planned critical facility maintenance to determine its effects on the reliability of the ~~transmission system~~ [Transmission System](#). The Parties will work together to resolve Outage conflicts and work with the facility owner(s), as necessary, to provide remedial steps.

The Parties will notify each other of emergency maintenance and forced outages as soon as possible after these conditions are known. The Parties will evaluate the impact of emergency and forced outages on the Parties' systems to develop remedial steps as necessary.

Unforeseen changes in scheduled outages may require additional review. Each Party will consider the impact of these changes on the other Party's system reliability in addition to its own.

The Parties will contact each other as soon as possible if these changes result in unacceptable system conditions to develop remedial steps as necessary.

35.11 Voltage Control and Reactive Power Coordination

35.11.1 Specific Voltage and Reactive Power Coordination Procedures

The Parties will utilize the following procedures to coordinate the use of voltage control equipment to maintain a reliable bulk power ~~transmission system~~[Transmission System](#) voltage profile on their respective systems.

35.11.1.1 Under normal conditions, each Party shall provide for the supply and control of the reactive regulation requirements in its own area, including reactive reserve, so that applicable emergency voltage levels can be maintained following any of the set of contingencies that are observed under normal conditions.

35.11.1.2 Under normal conditions, each Party will anticipate voltage trends and initiate corrective action in advance of critical periods of heavy and light loads.

35.11.1.3 Under an abnormal condition, either Party experiencing rapid voltage decay will immediately implement all possible actions, including the shedding of firm load, to correct the problem until such time that the decay has been corrected.

35.12 M2M Coordination Process

The fundamental philosophy of the M2M transmission congestion coordination process that is set forth in the attached Market-to-Market Coordination Schedule is to allow any transmission constraints that are significantly impacted by generation dispatch changes in both the NYISO and PJM markets or by the operation of the Ramapo PARs to be jointly managed in the real-time security-constrained economic dispatch models of both Parties. This joint real-time management of transmission constraints near the market borders will provide a more efficient and lower cost transmission congestion management solution and coordinated pricing at the market boundaries.

Under normal system operating conditions, the Parties shall utilize the M2M coordination process on all defined M2M Flowgates that experience congestion. The Party that is responsible for monitoring a M2M Flowgate will initiate and terminate the redispatch component of the M2M coordination process. The Party that is responsible for monitoring a M2M Flowgate is expected to bind that Flowgate when it becomes congested, and to initiate market-to-market redispatch to utilize the more cost effective generation between the two markets to manage the congestion. Ramapo PAR coordination need not be formally invoked by either Party. It is ordinarily in effect.

The Market-to-Market coordination process includes a settlement process that applies when M2M coordination is occurring.

35.~~12~~13 Joint Checkout Procedures

35.~~12~~13.1 Scheduling Checkout Protocols

35.~~12~~13.1.1 Both Parties shall require all transaction schedules to be tagged in accord with the NERC tagging standard. For reserve sharing and other emergency schedules that are not tagged, the Parties will enter manual schedules after the fact into their respective scheduling systems.

35.~~12~~13.1.2 When there is a transaction scheduling conflict, the Parties will work to modify the schedule as soon as practical.

35.~~12~~13.1.3 The Parties will perform the following types of checkouts. Checkouts will be consistent with 35.~~12~~13.1.1 and 35.~~12~~13.1.2.

- (a) Day-ahead checkout shall be performed daily on the day before the transaction is to flow. Day-ahead checkout includes the verification of import and export totals and individual transaction schedules.
- (b) Real-time checkout shall be performed hourly during the hour before the transaction is to flow. Real-time checkout includes the verification of import and export totals and individual transaction schedules.
- (c) After-the-fact checkout of transactions shall be performed the next business day following the day of the transactions.
- (d) After-the-fact reporting of hourly scheduled energy interchanged and hourly actual energy interchanged shall be updated by each Party each day and exchanged with the other Party. Each day, month to date data shall be exchanged. Parties shall resolve discrepancies within ten (10) business days of the end of each month.

35.1314 TTC/ATC/AFC Calculations

35.1314.1 TTC/ATC/AFC Protocols

In accordance with Section 35.9, the Parties will exchange scheduled Outages of all interconnections and other ~~transmission facilities~~ [Transmission Facilities](#).

35.1314.1.1 Scheduled Outages of Transmission Resources

Each Party will provide the projected status of scheduled Outages of ~~transmission facilities~~ [Transmission Facilities](#) for a minimum of eighteen (18) months or more if available.

35.1314.1.2 Transmission Interchange Schedules

Each Party will make available its interchange schedules to permit accurate calculation of TTC and ATC/AFC values.

35.1314.2 Configuration/Facility Changes

Transmission configuration changes and generation additions (or retirements) shall be communicated via the NERC MMWG process.

35.1314.3 Transmission System Impacts

35.1314.3.1 The Parties shall coordinate with each other as needed and with other Reliability Coordinators, Balancing Authorities, and Generator Operators as needed to develop and implement action plans to mitigate potential or actual SOL, IROL, CPS, or DCS violations.

35.1314.3.2 Each Party shall operate to prevent the likelihood that a disturbance, action, or non-action in its area will result in a SOL or IROL violation for the other Party. In instances where there is a difference in derived limits, Parties shall respect the most limiting parameter.

35.~~13~~14.3.3 A Party who foresees a transmission problem (such as an SOL or IROL violation, loss of reactive reserves, etc.) that impacts the other Party shall issue an alert to the other Party without unreasonable delay.

35.~~13~~14.3.4 Each Party shall confirm reliability assessment results and determine the effects within its own and the other Party's areas. The Parties shall discuss options to mitigate potential or actual SOL or IROL violations and take actions as necessary to always act in the best interests of the Interconnection at all times.

35.1415 Dispute Resolution Procedures

35.1415.1 Good Faith Negotiation

The Parties shall attempt in good faith to achieve consensus with respect to all matters arising under this Agreement and to use reasonable efforts through good faith discussion and negotiation to avoid and resolve disputes that could delay or impede a Party from receiving the benefits of this Agreement. These dispute resolution procedures apply to any dispute that arises from either Party's performance of, or failure to perform, in compliance with this Agreement and which the Parties are unable to resolve prior to invocation of these procedures.

35.1415.2 Dispute Resolution

In the event of a Dispute arising out of or relating to this Agreement that is not resolved by the representatives of the Parties who have been designated under Section 35.3.2.2 of this Agreement within 7 days of the reference to such representatives of such Dispute, each Party shall, within 14 days' written notice by either Party to the other, designate a senior officer with authority and responsibility to resolve the Dispute and refer the Dispute to them. The senior officer designated by each Party shall have authority to make decisions on its behalf with respect to that Party's rights and obligations under this Agreement. The senior officers, once designated, shall promptly begin discussions in a good faith effort to agree upon a resolution of the Dispute. If the senior officers do not agree upon a resolution of the Dispute within 14 days of its referral to them, or within such longer period as the senior officers mutually agree to in writing, or do not within the same 14 day period agree to refer the matter to some individual or organization for alternate Dispute resolution, ~~then either Party shall have the right to pursue any and all remedies available to it at law or in equity.~~ then the Parties shall request that FERC's Dispute Resolution Service mediate their efforts to resolve the Dispute. Upon a Party's determination, at any point

in the mediation process, that mediation has failed to resolve the Dispute, either Party may seek formal resolution by initiating a proceeding before the FERC. If the FERC is not willing or able to consider or resolve a Dispute, then either Party shall have the right to pursue any and all remedies available to it at law or in equity.

Neither the giving of notice of a Dispute, nor the pendency of any Dispute resolution process as described in this section shall relieve a Party of its obligations under this Agreement, extend any notice period described in this Agreement or extend any period in which a Party must act as described in this Agreement. Notwithstanding the requirements of this section, either Party may terminate this Agreement in accordance with its provisions, or pursuant to an action at equity. The issue of whether such a termination is proper shall not be considered a Dispute hereunder.

35.1516 Interconnection Revenue Metering

35.1516.1 Obligation to Provide Inadvertent Energy Accounting Metering

The Parties shall require appropriate electric metering devices to be installed as required to measure electric power quantities for determining Interconnection Facilities inadvertent energy accounting.

35.1516.2 Standards for Metering Equipment

The parties shall cause any Metering Equipment used to meter Metered Quantities for inadvertent energy accounting to be designed, verified, sealed and maintained in accordance with the Party's respective metering standards or as otherwise agreed upon by the Coordination Committee.

35.1516.3 Meter Compensation to the Point of Interconnection

The metering compensation for transmission line losses to the Interconnection Facilities Delivery Point shall be determined by the Party's respective standards or otherwise agreed to by the Coordination Committee.

35.1516.4 Metering Readings

The Parties shall require that integrated meter readings are provided at least once each hour for Interconnection Facilities accounting purposes and meter registers are read at least monthly, as close as practical to the last hour of the month. An appropriate adjustment shall be made to register readings not taken on the last hour of the month.

35.1617 Retained Rights of Parties

35.1617.1 Parties Entitled to Act Separately

This Agreement does not create or establish, and shall not be construed to create or establish, any partnership or joint venture between or among any of the Parties. This Agreement establishes terms and conditions solely of a contractual relationship, among independent entities, to facilitate the achievement of the joint objectives described in the Agreement. The contractual relationship established hereunder implies no duties or obligations among the Parties except as specified expressly herein.

35.1718 Representations

35.1718.1 Good Standing

Each Party represents and warrants that it is duly organized, validly existing and in good standing under the laws of the state or province in which it is organized, formed, or incorporated, as applicable.

35.1718.2 Authority to enter Into Agreement

Each Party represents and warrants that it has the right, power, and authority to enter into this Agreement, to become a Party hereto and to perform its obligations hereunder. This Agreement is a legal, valid and binding obligation of such Party, enforceable against such Party in accordance with its terms.

35.1718.3 Organizational Formation Documents

Each Party represents and warrants that the execution, delivery and performance of this Agreement does not violate or conflict with its organizational or formation documents.

35.1718.4 Regulatory Authorizations

Each Party represents and warrants that it has, or applied for, all regulatory authorizations necessary for it to perform its obligations under this Agreement.

35.1819 Effective Date, Implementation, Term and Termination

35.1819.1 Effective Date; Implementation

This Agreement shall become effective as of the date that all of the following have occurred: (i) upon the execution hereof by both Parties, and (ii) acceptance or approval by the Federal Energy Regulatory Commission. Commencing with the Effective Date, the Parties shall commence and continue efforts to implement other provisions of this Agreement on dates determined by the Coordination Committee, which dates shall be the earliest dates reasonably feasible for both Parties.

35.1819.2 Term

This Agreement shall continue in full force and effect ~~for a term of ten (10) years, and shall continue year to year thereafter,~~ unless terminated ~~earlier~~ in accordance with the provisions of this Agreement.

35.1819.3 Right of a Party to Terminate

35.1819.3.1 NYISO may terminate this Agreement at any time upon not less than twelve (12) months' Notice to PJM.

35.1819.3.2 PJM may terminate this Agreement at any time upon not less than twelve (12) months' Notice to NYISO.

35.1819.3.3 This Agreement may be terminated at anytime by mutual agreement in writing.

35.1819.4 Survival

The applicable provisions of this Agreement shall continue in effect after any termination of this Agreement to provide for adjustments and payments under Section 35.15, dispute

resolution, determination and enforcement of liability, and indemnification, arising from acts or events that occurred during the period this Agreement was in effect. [In addition, Sections 35.8.4 and 35.8.10 of this Agreement provides that the obligation to safeguard Confidential Information continues in effect for a period of seven years after any termination of this Agreement.](#)

35.1819.5 Post-Termination Cooperation

Following any termination of this Agreement, all Parties shall thereafter cooperate fully and work diligently in good faith to achieve an orderly resolution of all matters resulting from such termination.

35.1920 Additional Provisions

35.1920.1 Force Majeure

A Party shall not be considered to be in default or breach of this Agreement, and shall be excused from performance or liability for damages to any other party, if and to the extent it shall be delayed in or prevented from performing or carrying out any of the provisions of this Agreement, arising out of or from any act, omission, or circumstance by or in consequence of any act of God, labor disturbance, sabotage, failure of ~~contractors or~~ suppliers of materials, act of the public enemy, war, invasion, insurrection, riot, fire, storm, flood, ice, earthquake, explosion, epidemic, breakage or accident to machinery or equipment or any other cause or causes beyond such Party's reasonable control, including any curtailment, order, regulation, or restriction imposed by governmental, military or lawfully established civilian authorities, or by making of repairs necessitated by an emergency circumstance not limited to those listed above upon the property or equipment of the Party or property or equipment of others which is deemed under the Operational Control of the Party. A Force Majeure event does not include an act of negligence or Intentional Wrongdoing by a Party. Any Party claiming a Force Majeure event shall use reasonable diligence to remove the condition that prevents performance and shall not be entitled to suspend performance of its obligations in any greater scope or for any longer duration than is required by the Force Majeure event. Each Party shall use its best efforts to mitigate the effects of such Force Majeure event, remedy its inability to perform, and resume full performance of its obligations hereunder.

35.1920.2 Force Majeure Notification

A Party suffering a Force Majeure event ("Affected Party") shall notify the other Party ("Non-Affected Party") in writing ("Notice of Force Majeure Event") as soon as reasonably

practicable specifying the cause of the event, the scope of commitments under the Agreement affected by the event, and a good faith estimate of the time required to restore full performance. Except for those commitments identified in the Notice of Force Majeure Event, the Affected Party shall not be relieved of its responsibility to fully perform as to all other commitments in the Agreement. If the Force Majeure Event continues for a period of more than 90 days from the date of the Notice of Force Majeure Event, the Non-Affected Party shall be entitled, at its sole discretion, to terminate the Agreement.

35.1920.3 Indemnification

“Indemnifying Party” means a Party who holds an indemnification obligation hereunder. An “Indemnitee” means a Party entitled to receive indemnification under this Agreement as to any Third Party claim. Each Party will defend, indemnify, and hold the other Party harmless from all actual losses, damages, liabilities, claims, expenses, causes of action, and judgments (collectively, “Losses”), brought or obtained by any Third Party against such other Party, only to the extent that such Losses arise directly from:

(a) Gross negligence, recklessness, or willful misconduct of the Indemnifying Party or any of its agents or employees, in the performance of this Agreement, except to the extent the Losses arise (i) from gross negligence, recklessness, willful misconduct or breach of contract or law by the Indemnitee or such Indemnitee’s agents or employees, or (ii) as a consequence of strict liability imposed as a matter of law upon the Indemnitee, or such Indemnitee’s agents or employees;

(b) Any claim arising from the transfer of Intellectual Property in violation of Section 35.1920.8; or

- (c) Any claim that such Indemnitee caused bodily injury to an employee of Third Party due to gross negligence, recklessness, or willful conduct of the Indemnifying Party.
- (d) The Indemnitee shall give Notice to the Indemnifying Party as soon as reasonably practicable after the Indemnitee becomes aware of the Indemnifiable Loss or any claim, action or proceeding that may give rise to an indemnification. Such notice shall describe the nature of the loss or proceeding in reasonable detail and shall indicate, if practicable, the estimated amount of the loss that has been sustained by the Indemnitee. A delay or failure of the Indemnitee to provide the required notice shall release the Indemnifying Party (a) from any indemnification obligation to the extent that such delay or failure materially and adversely affects the Indemnifying Party's ability to defend such claim or materially and adversely increases the amount of the Indemnifiable Loss, and (b) from any responsibility for any costs or expenses of the Indemnitee in the defense of the claim during such period of delay or failure.
- (e) The indemnification by either Party shall be limited to the extent that the liability of a Party seeking indemnification would be limited by any applicable law and arises from a claim by a Party acting within the scope of this Agreement as to obligations of the other Party under this Agreement.

35.1920.4 Headings

The headings used for the Articles and Sections of this Agreement are for convenience and reference purposes only, and shall not be construed to modify, expand, limit, or restrict the provisions of this Agreement.

35.1920.5 Liability to Non-Parties

Nothing in this Agreement, whether express or implied, is intended to confer any rights or remedies under or by reason of this Agreement on any person or entity that is not a Party or a permitted successor or assign.

35.1920.6 Liability Between Parties

The Parties' duties and standard of care with respect to each other, and the benefits and rights conferred on each other shall be no greater than as expressly stated herein. Neither Party, its directors, officers, trustees, employees or agents, shall be liable to the other Party for any loss, damage, claim, cost, charge or expense, whether direct, indirect, incidental, punitive, special, exemplary or consequential, arising from the other Party's performance or nonperformance under this Agreement, except to the extent that a Party, is found liable for gross negligence or willful misconduct, in which case the Party responsible shall be liable only for direct and ordinary damages and not for any lost goodwill, incidental, consequential, punitive, special, exemplary or indirect damage.

This section shall not limit amounts required to be paid under this Agreement, including any of the appendices, schedules or attachments to this Agreement. This section shall not apply to adjustments or corrections for errors in invoiced amounts due under this Agreement, including ~~of~~ any of the appendices, schedules or attachments to this Agreement.

35.1920.6.17 Limitation on Claims

No claim seeking an adjustment in the billing for any service, transaction, or charge under this Agreement, including any of the appendices, schedules or attachments to this Agreement, may be asserted with respect to a week or month, if more than one year has elapsed (a) since the first date upon which an invoice was rendered for that week or month, or (b) since

the date upon which a changed or modified invoice was rendered for that week or month. The Party responsible for issuing an invoice may not, of its own initiative, issue a changed or modified invoice if more than one year has elapsed since the first date upon which an invoice was rendered for a week or month. A changed or modified invoice may be issued more than one year after the first date upon which an invoice was rendered for a week or month in order to correct for or address a timely-raised claim seeking an adjustment in the billing for any service, transaction, or charge under this Agreement.

35.1920.78 Unauthorized Transfer of Third-Party Intellectual Property

In the performance of this Agreement, no party shall transfer to another party any Intellectual Property, the use of which by another Party would constitute an infringement of the rights of any Third Party. In the event such transfer occurs, whether or not inadvertent, the transferring Party shall, promptly upon learning of the transfer, provide Notice to the receiving Party and upon receipt of such Notice the receiving Party shall take reasonable steps to avoid claims and mitigate losses.

35.1920.89 Intellectual Property Developed Under This Agreement

If during the term of this Agreement, the Parties mutually develop any new Intellectual Property that is reduced to writing or any tangible form, the Parties shall negotiate in good faith concerning the ownership and licensing of such Intellectual Property.

35.1920.910 Governing Law

This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware without giving effect to the State of Delaware's conflict of law principles.

35.1920.1011 License and Authorization

The agreements and obligations expressed herein are subject to such initial and continuing governmental permission and authorization as may be required. Each Party shall be responsible for securing and paying for any approvals required by it from any regulatory agency of competent jurisdiction relating to its participation in this Agreement and will reasonably cooperate with the other Party in seeking such approvals.

35.1920.1112 Assignment

This Agreement shall inure to the benefit of, and be binding upon and may be performed by, the successors and assigns of the Parties hereto respectively, but shall not be assignable by either Party without the written consent of the other.

35.1920.1213 Amendment

35.1920.1213.1 Authorized Representatives

No amendment of this Agreement shall be effective unless by written instrument duly executed by the Parties' authorized representatives. For the purposes of this section, an authorized person refers to individuals designated as such by Parties in their respective corporate by-laws.

35.1920.1213.2 Review of Agreement

The terms of this Agreement are subject to review for potential amendment at the request of either Party. If, after such review, the Parties agree that any of the provisions hereof, or the practices or conduct of either Party impose an inequity, hardship or undue burden upon the other Party, or if the Parties agree that any of the provisions of this Agreement have become obsolete or inconsistent with changes related to the Interconnection Facilities, the Parties shall endeavor

in good faith to amend or supplement this Agreement in such a manner as will remove such inequity, hardship or undue burden, or otherwise appropriately address the cause for such change.

35.~~19~~20.~~12~~13.3 Mutual Agreement

The Parties may amend this Agreement at any time by mutual agreement in accordance with Section 35.~~19~~20.~~12~~13.1 above.

35.~~19~~20.~~13~~14 Performance

The failure of a Party to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any right held by such Party. Any waiver on any specific occasion by either Party shall not be deemed a continuing waiver of such right, nor shall it be deemed a waiver of any other right under this Agreement.

35.~~19~~20.~~14~~15 Rights, Remedies or Benefits

This Agreement is not intended to and does not create any rights, remedies, or benefits of any kind whatsoever in favor of any entities other than the Parties, their principals and, where permitted, their assigns.

35.~~19~~20.~~15~~16 Agreement

This Agreement, including all Attachments attached hereto, is the entire agreement between the Parties with respect to the subject matter hereof, and supersedes all prior or contemporaneous understandings or agreements, oral or written, with respect to the subject matter of this Agreement.

35.1920.1617 Governmental Authorizations

This Agreement, including its future amendments is subject to the initial and continuing governmental authorizations, including approval of the [FERC](#) ~~Federal Energy Regulatory Commission~~, required to establish, operate and maintain the Interconnection Facilities as herein specified. Each Party shall take all actions necessary and reasonably within its control to maintain all governmental rights and approvals required to perform its respective obligations under this Agreement.

35.1920.1718 Unenforceable Provisions

If any provision of this Agreement is deemed unenforceable, the rest of the Agreement shall remain in effect and the Parties shall negotiate in good faith and seek to agree upon a substitute provision that will achieve the original intent of the Parties.

35.1920.1819 Execution

This Agreement may be executed in multiple counterparts, each of which shall be considered an original instrument, but all of which shall be considered one and the same Agreement, and shall become binding when all counterparts have been signed by each of the Parties and delivered to each Party hereto. Delivery of an executed signature page counterpart by telecopier or e-mail shall be as effective as delivery of a manually executed counterpart.

35.20.20 Billing and Payment:

35.20.20.1 General Billing and Payment Rules

This Section 35.20.20.1 of the Agreement sets forth the billing and payment rules that apply to all charges arising under this Agreement except for charges resulting from the M2M coordination process set forth in Schedule D to this Agreement.

35.20.20.1.1 Invoicing. When charges arise under this Agreement, the billing RTO shall submit an invoice to the other RTO within five (5) business days after the first day of the month indicating the net amount owed by that RTO for the previous month.

35.20.20.1.2 Payments. Payments under this Agreement will be effected in immediately available funds of the United States of America.

The RTO owing payments on net in the invoice shall make those payments within five (5) business days after the receipt of the invoice.

In the event of a billing and payment dispute between the Parties, the dispute resolution procedures and limitation of the claims section contained in this Agreement shall apply to the review, challenge, and correction of invoices.

35.20.20.1.3 Interest on Unpaid Balances. Interest on any unpaid amount (including amounts placed in escrow) shall be calculated in accordance with the method specified for interest on refunds in the Commission's regulations at 18 C.F.R. § 35.19a (a)(2)(iii). Interest on unpaid amounts shall be calculated from the due date of the bill to the date of payment. Invoices shall be considered as having been paid on the date of receipt of payment.

35.20.20.1.4 RTO Bills and Payments to their Respective Customers. Bills or payments that either RTO is authorized to issue directly to its customer shall be invoiced, paid and/or processed in accordance with the relevant RTO's billing and payment tariff rules.

35.20.20.2 Billing and Payment for the M2M Coordination Process set forth in Schedule D to this Agreement.

For the limited purposes of these billing and payment rules that apply to the M2M coordination process, PJM shall be considered a “Customer” as that term is used in Section 7 of the NYISO Services Tariff where the NYISO Services Tariff applies and NYISO shall be considered a “Transmission Customer” as that term is used in Section 7 of the PJM OATT where the PJM OATT applies.

35.20.20.2.1 Invoicing and Settlement Information. NYISO shall provide invoice

and settlement information to PJM consistent with Section 7.2.1 (*Invoices and Settlement Information*), 7.2.3.1 (*Weekly Invoice*), and 7.2.3.2 (*Monthly Invoice*) of the NYISO Services Tariff or any successor NYISO Services Tariff provision(s).

NYISO may use estimates for invoicing consistent with Section 7.2.4 (*Use of Estimated Data and Meter Data*) of the NYISO Services Tariff or any successor NYISO Services Tariff provision(s).

35.20.20.2.2 Payments. Unless otherwise indicated in writing by the Parties, all

payments due under this Agreement will be effected in immediately available funds of the United States of America.

Payments shall be due and payable in accordance with the terms and conditions set herein and notwithstanding any invoicing disputes. In the event of a billing and payment dispute between the Parties under this Agreement, the dispute resolution procedures and limitation of the claims section contained in this Agreement shall apply to the review, challenge, and correction of invoices.

PJM shall make payments to the NYISO's Clearing Account consistent with Sections 7.2.3.3 (Payment by the Customer) and 7.2.5 (Method of Payment) of the NYISO Services Tariff or any successor NYISO Services Tariff provision(s). NYISO shall make payments, from the NYISO's Clearing Account, to PJM consistent with Section 7.1A(a) (Payments: Monthly Bills), 7.1A(b) (Payments: Weekly Bills), 7.1A(c) (Payments: Form of Payments), and 7.1A(e) (Payments: Payment Calendar) of the PJM OATT or any successor PJM OATT provision(s).

35.20.20.2.3 Interest on Unpaid Balances. Interest on any unpaid amount whether owed to PJM or to NYISO (including amounts placed in escrow) shall be calculated in accordance with the methodology specified for interest on refunds in the Commission's regulations at 18 C.F.R. § 35.19a (a)(2)(iii). Interest on unpaid amounts shall be calculated from the due date of the bill to the date of payment. Invoices shall be considered as having been paid on the date of receipt of payment.

35.20.20.2.4 Payment Obligation. The RTOs each assume responsibility for ensuring that their respective payment obligations resulting from the M2M coordination process set forth in Schedule D to this Agreement are satisfied without regard for their ability to collect such payments from their respective customers.

~~Unless otherwise indicated in writing by the parties, all payments due under this Agreement will be effected in immediately available funds of the United States of America.~~

35.1920.2021 Regulatory Authority

If any regulatory authority having jurisdiction (or any successor boards or agencies), a court of competent jurisdiction or other Governmental Authority with the appropriate jurisdiction

(collectively, the "Regulatory Body") issues a rule, regulation, law or order that has the effect of cancelling, changing or superseding any term or provision of this Agreement (the "Regulatory Requirement"), then this Agreement will be deemed modified to the extent necessary to comply with the Regulatory Requirement. Notwithstanding the foregoing, if a Regulatory Body materially modifies the terms and conditions of this Agreement and such modification(s) materially affect the benefits flowing to one or both of the Parties, as determined by either of the Parties within twenty (20) business days of the receipt of the Agreement as materially modified, the Parties agree to attempt in good faith to negotiate an amendment or amendments to this Agreement or take other appropriate action(s) so as to put each Party in effectively the same position in which the Parties would have been had such modification not been made. In the event that, within sixty (60) days or some other time period mutually agreed upon by the Parties after such modification has been made, the Parties are unable to reach agreement as to what, if any, amendments are necessary and fail to take other appropriate action to put each Party in effectively the same position in which the Parties would have been had such modification not been made, then either Party shall have the right to unilaterally terminate this Agreement forthwith.

35.1920.2122 Notices

Except as otherwise agreed from time to time, any Notice, invoice or other communication which is required by this Agreement to be given in writing, shall be sufficiently given at the earlier of the time of receipt or deemed time of receipt if delivered personally to a senior official of the Party for whom it is intended or electronically transferred or sent by registered mail, addressed as follows:

PJM: [Terry Boston](#)~~Phillip G. Harris~~
President & CEO
PJM Interconnection L.L.C.
955 Jefferson Avenue
Valley Forge Corporate Center
Norristown, PA 19403-4501
Tel: (610) 666-~~4377~~[8263](#)
~~Fax: (610) 666-4281~~

NYISO: New York System Operator
10 Krey Boulevard
Rensselaer, New York 12144
Attention: Vice President Operations & Reliability

or delivered to such other person or electronically transferred or sent by registered mail to such other address as either Party may designate for itself by Notice given in accordance with this section or delivered by any other means agreed to by the Parties hereto.

Any Notice, or communication so mailed shall be deemed to have been received on the third business day following the day of mailing, or if electronically transferred shall be deemed to have been received on the same business day as the date of the electronic transfer, or if delivered personally shall be deemed to have been received on the date of delivery or if delivered by some other means shall be deemed to have been received as agreed to by the Parties hereto.

The use of a signed facsimile of future Notices and correspondence between the Parties related to this Agreement shall be accepted as proof of the matters therein set out. Follow-up with hard copy by mail will not be required unless agreed to by the Coordination Committee.

A Party may change its designated recipient of Notices, or its address, from time to time by giving Notice of such change.

IN WITNESS WHEREOF, the signatories hereto have caused this Agreement to be executed by their duly authorized officers.

PJM INTERCONNECTION, L.L.C.

By: Michael J. Kormos, Senior VP – Reliability Services

Date: _____

NEW YORK INDEPENDENT SYSTEM OPERATOR, INC.

| By: ~~Mark S. Lynch~~[Stephen G. Whitley](#), President and CEO

| Date: _____

35.2021 Schedules A and B

Schedule A - Description Of Interconnection Facilities

The NYISO – PJM Coordination Agreement covers the PJM – NYISO *Interconnection Facilities* under the *Operational Control* of the NYISO and PJM. For *Operational Control* purposes, the point of demarcation for each of the *Interconnection Facilities* listed below is the point at which each *Interconnection Facility* crosses the PJM-New York State boundary, except as noted below.

The PJM-NYISO *Interconnection* contains twenty-three (23) alternating current (“AC”) *Interconnection Facilities*, seven (7) of which form one (1) AC pseudo-tie¹; and further contains one (1) HVDC *Interconnection Facility* as well as one (1) *Variable Frequency Transformer (VFT)*. These are tabulated below:

NY/PJM AC *Interconnection Facilities*:

PJM	NYISO	Designated	(kV)	Common Meter Point
Branchburg	Ramapo	5018	500	Ramapo
Cresskill	Sparkill	751	69	Cresskill
E. Sayre	N. Waverly	956	115	E. Sayre
E. Towanda	Hillside	70	230	Hillside
Erie East	South Ripley	69	230	South Ripley
Harings Corners	Burns	702	138	Harings
Harings Corners	Pearl River	45	34	Harings
Harings Corners	W. Nyack	701	69	Harings
Homer City	Watercure	30	345	Homer
Homer City	Stolle Road	37	345	Homer
Hudson	Farragut	C3403	345	Farragut
Hudson	Farragut	B3402	345	Farragut
Linden	Goethals	A2253	230	Goethals
Linden VFT	Linden Cogen	VFT	345	Linden VFT
Montvale	Pearl River	491	69	Montvale
Montvale	Blue Hill	44	69	Montvale
Montvale	Blue Hill	43	69	Montvale
S. Mahwah	Hilburn	65	69	S. Mahwah
S. Mahwah	S. Mahwah	BK 258	138/345	S. Mahwah
S. Mahwah	Ramapo	51	138	S. Mahwah
Waldwick	S. Mahwah	J3410	345	Waldwick
Waldwick	S. Mahwah	K3411	345	Waldwick
Tiffany	Goudey	952	115	Goudey
Warren	Falconer	171	115	Warren
RECO	NYISO	AC Pseudo-Tie	Various	O&R EMS

¹ WEQ-007 “Inadvertent Interchange Payback Standards,” North American Energy Standards Board (NAESB), on-line at www.naesb.org.

Schedule B - Other Existing Agreements:

- 1.0 Lake Erie Emergency Redispatch (LEER)
- 2.0 RAMAPO PHASE ANGLE REGULATOR OPERATING PROCEDURE prepared by the NYPP/PJM Circulation Study Operating Committee.
- 3.0 Operating Protocol for the Implementation of Commission Opinion No. 476, Docket No. EL02-23-000 (Phase II), New York Independent System Operator, Inc., FERC Electric Tariff, Original Vol. No. 2, Attachment M-1.
- 4.0 Northeastern ISO/RTO Coordination of Planning Protocol
- 5.0 Inter Control Area Transaction Agreement.
- 6.0 Procedures to Protect for Loss of Phase II Imports (effective January 16, 2007, pursuant to Order issued January 12, 2007, in FERC Docket No. ER07-231-000).
- ~~7.0~~ ~~Unscheduled Transmission Service Agreement, PJM Interconnection L.L.C., Rate Schedule No. 30, Effective Date January 1, 2001.~~
- 87.0 Joint Emergency Operating Protocol dated September 10, 2009, among PJM Interconnection, L.L.C., New York Independent System Operator, Inc., and Linden VFT, LLC (Filed by PJM on October 1, 2009, in FERC Docket No. ER09-996-000).

35.221 Schedule C - Operating Protocol for the Implementation Of Con Ed – PJM Transmission Service Agreements

- 1.1 This “Operating Protocol” establishes procedures for the planning, operation, control, and scheduling of energy between the New York Independent System Operator, Inc. (“NYISO”) and PJM Interconnection, L.L.C. (“PJM”) (collectively, the “Parties”), associated with two Long-term Firm Point-to-Point Transmission Service Agreements (“TSAs”) entered into by Consolidated Edison Company of New York (“ConEd”) and PJM, dated April 18, 2008, executed in connection with the rollover of contracts dated May 22, 1975 (as amended May 9, 1978) and May 8, 1978 between ConEd and Public Service Electric and Gas Company (“PSE&G”). The TSA designated Original Service Agreement No. 1874 is referred to herein as the 400 MW transaction and the TSA designated Original Service Agreement No. 1873 is referred to as the 600 MW transaction. The two contracts are referred to collectively as the “600/400 MW transactions.”
 - 1.1.1 The 400 MW transaction. The 400 MW transaction has the same level of firmness as other firm transactions, except as provided in section 1.3 of this Operating Protocol.
 - 1.1.2 The 600 MW transaction. The 600 MW transaction shall have the same level of firmness as other firm transactions.
- 1.2 This Operating Protocol shall be used by the NYISO and PJM in preparing to operate, and operating in real-time, to the hourly flow of energy between them pursuant to the 600/400 MW transactions as established by this Operating Protocol.
- 1.3 During system emergencies, the appropriate emergency procedures of the NYISO and PJM, if necessary, shall take priority over the provisions of this Operating Protocol. The NYISO and PJM shall have the authority to implement their respective emergency procedures in whatever order is required to ensure overall system reliability. Without limiting the foregoing, the order of load relief measures and transaction reductions when there is an emergency in the PJM Mid-Atlantic Area will be:
 - Calling of Emergency Load Response
 - Voltage reduction
 - Reduction of the 400 MW transaction

- Pro-rata load shed and reduction of the 600/400 MW transactions¹

In addition, if PJM declares an emergency condition that arises from outages on the PSE&G system, the NYISO and PJM may agree to deliver up to 400 MW to Goethals for re-delivery to Hudson via the NYISO's system. Such emergency re-deliveries shall not be considered in the calculation of the Real-Time Market Desired Flow under Appendices 1 and 3 of this Operating Protocol.

- 1.4 All aspects of this Operating Protocol are subject to the dispute resolution procedures set forth in the Joint Operating Agreement Among and Between New York Independent System Operator, Inc., and PJM Interconnection, L.L.C.
- 1.5 The Parties will review all aspects of this Operating Protocol annually.
- 1.6 Attached and included as part of this Operating Protocol are the following appendices: Appendix 1 – Process Flow, Appendix 2 – Transmission Constraints and Outages Associated with the Contracts, Appendix 3 – The Day-Ahead Market and Real-Time Market Desired Flow Calculation, Appendix 4 – Planning Procedures, Appendix 5 – Operation of the PARs, Appendix 6 – Distribution of Flows Associated with Implementation of Day-Ahead and Real Time Market Desired Flows, Appendix 7 – References, and Appendix 8 – Definitions.

¹ In a maximum generation emergency in the PJM Mid-Atlantic Area where PSE&G load needs to be curtailed, the PSE&G load would be curtailed pro-rata with curtailment of the ConEd requested service (and other firm service on the system). But, if NYISO is not also in a capacity emergency, the desired flow on ABC will be reduced by up to 400 MW to the extent necessary to avoid a PSEG load curtailment. ConEd may upgrade the transmission service for the 400 MW transaction to eliminate the reduction of the 400 MW transaction prior to load shed as described above by requesting such upgraded service and funding all necessary transmission upgrades as required by Part II and Part VI of the PJM OATT. The 600 MW transaction shall be reduced in the same manner as all other firm transactions in PJM.

Schedule C Appendices

Appendix 1- Process Flow

Two Day-ahead Actions:

1. PJM shall post constraint forecast information on its OASIS, or a comparable website, indicating if there is the potential for off-cost operations, two days prior to the operating day by 9 pm (sample at Figure 1 in Appendix 7).
2. PJM shall analyze transmission and generation outages in accordance with Appendix 2B to determine if the 600/400 MW transaction flow is expected to be feasible under a security constrained dispatch in PJM. If any portion of the flow is not expected to be feasible under a security-constrained dispatch, PJM will determine what portion of the flow is expected to be feasible and post that information on the PJM OASIS. This advance notification is not binding on any party.
3. The NYISO shall post transmission outages on its OASIS, or a comparable website, to identify outages that impact the transfer capability of the ISO Secured Transmission System.²

Day Ahead Scheduling:

4. ConEd shall submit a contract election (NY-DAE) in the NYISO's Day-Ahead Market for the 600/400 MW transactions prior to the NYISO Day Ahead Market (DAM) deadline (currently 5:00 a.m.).
5. The NYISO shall establish New York (aggregate ABC interface and aggregate JK interface) Desired Flow (NYDF) schedules for NYISO Day Ahead Market using the NY-DAE identified in (4).
6. The NYISO shall establish the distribution of flows for the NYISO DAM in accordance with Appendix 7.
7. The NYISO shall run the New York Day Ahead Market with NYDF schedules determined in (5 and 6).

² The ISO Secured Transmission System is defined in the NYISO's Transmission and Dispatching Operations Manual.

8. The NYISO shall post DAM results by the deadline established in its market rules (currently prior to 11:00 a.m.). The NYISO shall provide NYDF schedules and post nodal prices for the JK (Ramapo), BC (Farragut) and A (Goethals) pricing points on the NYISO OASIS, or a comparable website (sample at Figure 2 in Appendix 7).
9. ConEd shall submit a transaction election (PJM-DAE) in the PJM Day Ahead Market prior to the PJM Day Ahead Market deadline (currently 12 noon):
 - a) ConEd shall submit a transaction election for the 600 MW transaction.
 - b) ConEd shall submit a transaction election for the 400 MW transaction.
10. PJM shall establish the PJM (aggregate ABC interface and aggregate JK interface) Desired Flow (PJ MDF) schedules for PJM Day Ahead Market using PJM-DAE identified in Appendix 8.
11. PJM shall establish the distribution of flows for the PJM DAM in accordance with Appendix 8.
12. PJM shall run the PJM Day Ahead Market with the PJ MDF schedules determined in (11). The amount of the PJM-DAE which clears will become the PJM Day Ahead Schedule amount (PJM-DAS).
13. PJM Day Ahead results shall be posted by the deadline established in PJM's market rules (currently at 4:00 p.m.), and shall identify the PJM-DAS. The PJM posting will include nodal prices for the JK (Waldwick), BC (Hudson) and A (Linden) pricing points on <https://esuite.pjm.com/mui/index.htm> or a comparable website (sample at Figure 3 in Appendix 7).

If there is congestion in the PJM Day Ahead Market:

14. If there is congestion in PJM that affects the 600/400 MW transaction, PJM shall re-dispatch.

In Day Operations:

15. Aggregate ABC and aggregate JK Real-Time Market Desired Flow (RT MDF) calculations shall be made in real time, continuous throughout the operating day, by the NYISO and PJM.
16. The desired distribution of flows on the A, B, C, J, and K lines for the in-day markets shall be established by PJM and the NYISO in accordance with Appendix 6.

17. Aggregate actual ABC interface flows shall be within +/- 100 MW of the aggregate RTMDF for the ABC interface and aggregate actual JK interface flows shall be within +/- 100 MW of the aggregate RTMDF for the JK interface.³
18. ConEd shall have the option to request a modification in the Real-Time Market from its Day Ahead Market election (NY_DAE and PJM_DAE) for each hour.⁴
 - a) ConEd must request a Real-Time election (RTE) modification through NYISO at least 75 minutes prior to the dispatch hour (or a shorter notice period that is agreed upon by the NYISO and PJM.).
 - b) The NYISO shall notify PJM of the RTE.
 - c) ConEd shall settle with PJM for the balancing market costs for deviations between PJM-DAS and RTE pursuant to the TSAs described in Section 35.1 of this Operating Protocol. ConEd shall settle with the NYISO for balancing market costs for deviations between NY-DAE and RTE. ConEd shall not be responsible for NYISO balancing market costs resulting from NYISO-directed deviations between NY DAE and RTE.

Note - Actions identified in steps 17 and 18 that are taken will be logged, and PSE&G and ConEd will be notified of PAR moves related to these steps.

³ PJM and NYISO will operate in accordance with the bandwidth requirements of Step 17 to the extent practicable (utilizing PARs, curtailment of third party transactions, and re-dispatch, consistent with the other provisions of the Operating Protocol) recognizing relevant operating conditions that are beyond the control of PJM and NYISO or that are not anticipated by this Operating Protocol. Deviations will be accounted for with in-kind payback using the Auto Correction Factor described in Appendix 3 to this Operating Protocol. The Auto Correction Factor shall be the sole and exclusive remedy available to any person or entity for any under- or over-delivery of power pursuant to the 600/400 MW transactions, unless such under- or over-delivery is the result of gross negligence or intentional misconduct.

⁴ At all times, however, the ConEd election under the 600/400 MW transactions must be the same in PJM and NYISO in In-Day Operations. Absent an in-day change in the election by ConEd, the ConEd Real-Time election shall be the PJM-DAS.

Appendix 2 - Transmission Constraints and Outages - Associated with the Contracts

A. Constraints

A list of constraints identified as potential constraints that may result in off-cost operation due to transfers associated with the 600/400 MW transactions will be posted on the PJM and NYISO OASIS or web page. The constraints included in the listing should be considered representative of the kinds of constraints that may exist within PJM or the NYISO. If such transmission constraints are limiting, then the affected ISO/RTO may be subject to off-cost operation due to transfers associated with the 600/400 MW transactions. Other constraints, not listed on the web site, may arise that could cause either ISO/RTO to operate off-cost. The list may be revised by NYISO/PJM to reflect system changes or security monitoring technique changes in their respective Control Areas.

B. Outages

The NYISO and PJM will identify critical outages that may impact redispatch costs incurred for the delivery of energy, under the 600/400 MW transactions. Identified outages may have the following consequences:

The outage of any A, B, C, J, or K facility will result in the NY-DAE, PJM-DAE, and/or RTE (as appropriate) being limited to a value no greater than the remaining thermal capability of the most limiting of the ABC interface or the JK interface. The remaining thermal capability of either the ABC interface or the JK interface may be limited by other facilities directly in series with the A, B, C, J, or K lines.

1. It is not anticipated that one primary facility outage will preclude PJM from providing redispatch for the 600 MW or 400 MW transaction. However, combinations of two or more outages of the facilities, listed on the PJM OASIS or web page, could preclude PJM from accommodating all or part of the delivery, even with redispatch. In this case, PJM will provide notification to NYISO.

PJM will provide notification⁵ of all outages by posting these outages (transmission only) on the PJM OASIS or web site.

NYISO will provide notification of all outages by posting these outages (transmission only) on the NYISO OASIS or web site.

PJM and the NYISO will review and revise, as necessary, the list of primary and secondary facilities on an annual basis.

⁵ PJM can also provide the option of automated email outage notification through the PJM eDart tool.

Appendix 3 - The Day-Ahead Market and Real-Time Market - Desired Flow Calculation

The following shall be the formula for calculating Day-Ahead Market (DAM) and Real-Time Market (RTM) desired flows:

$$NYDF_{ABC} = [NY-DAE] + [A]*[PJM-NYISO \text{ DAM Schedule}] + [B] * [OH-NYISO \text{ DAM Schedule}] + [C] * [West-PJM \text{ DAM Schedule}] + [D]*[DAM \text{ Lake Erie Circulation}]$$

$$NYDF_{JK} = [NY-DAE] - [A]*[PJM-NYISO \text{ DAM Schedule}] - [B] * [OH-NYISO \text{ DAM Schedule}] - [C] * [West-PJM \text{ DAM Schedule}] - [D]*[DAM \text{ Lake Erie Circulation}]$$

$$PJ MDF_{ABC} = [PJM-DAE] + [A]*[PJM-NYISO \text{ DAM Schedule}] + [B] * [OH-NYISO \text{ DAM Schedule}] + [C] * [West-PJM \text{ DAM Schedule}] + [D]*[DAM \text{ Lake Erie Circulation}]$$

$$PJ MDF_{JK} = [PJM-DAE] - [A]*[PJM-NYISO \text{ DAM Schedule}] - [B] * [OH-NYISO \text{ DAM Schedule}] - [C] * [West-PJM \text{ DAM Schedule}] - [D]*[DAM \text{ Lake Erie Circulation}]$$

$$RTMDF_{ABC} = [RTE] + [A]*[PJM-NYISO \text{ RTM Schedule}] + [B] * [OH-NYISO \text{ RTM Schedule}] + [C] * [West-PJM \text{ RTM Schedule}] + [D]*[RTM \text{ Lake Erie Circulation}] + \text{Auto Correction Factor}$$

$$RTMDF_{JK} = [RTE] - [A]*[PJM-NYISO \text{ RTM Schedule}] - [B] * [OH-NYISO \text{ RTM Schedule}] - [C] * [West-PJM \text{ RTM Schedule}] - [D]*[RTM \text{ Lake Erie Circulation}] + \text{Auto Correction Factor}$$

- The DAM and RTM desired flows will be limited to the facility rating.
- The Auto Correction Factor component of the desired flow is the on-peak and off-peak aggregations of MW deviation in a calendar day to be included in a subsequent day's on-peak or off-peak period as applicable and agreed upon by PJM and NYISO. The Auto Correction Factor "pays-back" MW in kind during a subsequent day on-peak or off-peak period as agreed upon by NYISO and PJM. On-peak aggregation shall be paid back in a subsequent day on-peak period. Off-peak aggregation shall be paid back in a subsequent day off-peak period.
- The Auto Correction Factor shall not apply to under-deliveries over the A, B, and C Feeders that occur during the first hour following a thunderstorm alert.
- The Auto Correction Factor shall be the sole and exclusive remedy available to any person or entity for any under- or over-delivery of power pursuant to the 600/400 MW transactions, unless such under- or over-delivery is the result of gross negligence or intentional misconduct.

A 13 % Adjustment for NYISO-PJM Schedule

B 0 % Adjustment for OH-NYISO Schedule

C	0 %	Adjustment for West-PJM Schedules
D	0 %	Adjustment for Lake Erie Circulation

Other impacts will be part of the real time bandwidth operation – not the desired flow calculation. These impacts will be reviewed by PJM and the NYISO on an annual basis.

Except as provided in the last sentence of this paragraph with regard to distribution factor A, the above distribution factors (A, B, C, D) will be used in the calculation unless otherwise agreed by PJM and the NYISO based upon operating analysis conducted in response to major topology changes or outages referenced in Appendix 2. Such modifications will be posted by PJM and the NYISO on the PJM and NY OASIS sites or web sites. Distribution factor A will apply only when steps taken by PJM and NYISO to coordinate tap changes on the PARs to control power flow on transmission lines between New York and New Jersey are unable to maintain the desired flow. If necessary, in order to maintain the desired flow after applying distribution factor A, PJM and NYISO may issue TLRs concerning third-party non-firm transmission service.

Appendix 4 - Planning Procedures

The procedures for identifying and remedying impairments shall be handled on a planning basis. The impairment process is not directly applicable to DAM or RT operations under the 600/400 MW transactions.

EXISTING IMPAIRMENTS

- PJM and the NYISO are not aware of any existing impairments that would preclude provision of transmission service under the 600 MW / 400 MW transaction.

NOTIFICATION PROCEDURES

- ConEd and PSE&G shall notify the NYISO and PJM respectively under their existing ISO/RTO interconnection procedures when interconnecting new generation facilities to their transmission systems.

PROCEDURES FOR DETERMINATION OF FUTURE IMPAIRMENTS

- The procedures to be used by the NYISO and PJM for the determination of future impairments shall be in accordance with:
 - The PJM Regional Transmission Expansion Planning Process, as revised from time to time;
 - The NYISO Comprehensive Reliability Planning Process, as revised from time to time; and
 - The Northeast ISO/RTO Planning Coordination Protocol executed by PJM, the NYISO and ISO-New England Inc., as revised from time to time.
- The Northeast ISO/RTO Planning Coordination Protocol contains provisions for the coordination of interconnection requests received by one ISO/RTO that have the potential to cause impacts on an adjacent ISO/RTO to include the handling of firm transmission service.
- The Northeast ISO/RTO Planning Coordination Protocol has provisions for notification, development of screening procedures, and coordination of the study process between the ISO/RTOs.
- The Northeast ISO/RTO Planning Coordination Protocol also provides that all analyses performed to evaluate cross-border impacts on the system facilities of one of the ISOs/RTOs will be based on the criteria, guidelines, procedures or standards applicable to those facilities.

- Future planning studies by the ISOs/RTOs shall include 1,000 MW⁶ of firm delivery from the NYISO at Waldwick and 1,000 MW of re-delivery from PJM at the Hudson and Linden interface independent of the amount of off-cost operation that is required to meet reliability criteria. For PJM load deliverability planning studies, which simulate a capacity emergency situation, the system shall be planned to include 1,000 MW of firm delivery from the NYISO at Waldwick and 600 MW of re-delivery from PJM at the Hudson and Linden interface.

⁶ 1,000 MW will also be included in the FTR simultaneous feasibility analysis.

Appendix 5 – Operation of the PARs

General

This procedure outlines the steps taken to coordinate tap changes on the PARs in order to control power flow on selected transmission lines between New York and New Jersey. The facilities are used to provide transmission service and to satisfy the 600/400 MW transactions, other third party uses, and to provide emergency assistance as required. These tie-lines are part of the interconnection between the PJM and NYISO. These PAR operations will be coordinated with the operation of other PAR facilities including the 5018 PARs. The 5018 PAR will be operated taking into account this Operating Protocol. The ties are controlled by PARs at the following locations:

- Waldwick (F-2258, E-2257, O-2267)
- Goethals (A-2253)
- Farragut (C-3403, B-3402)

This appendix addresses the operation of the PARs at Waldwick, Goethals, and Farragut as these primarily impact the delivery associated with the 600/400 MW transactions .

PJM and the NYISO will work together to maintain reliable system operation, and to implement the RTMDF within the bandwidths established by this Operating Protocol while endeavoring to minimize the tap changes necessary to implement these contracts.

RTMDF calculations will be made for the ‘ABC Interface’, and the ‘JK Interface’. Desired line flow calculations will be made for A, B, and C lines (initial assumption is balanced each 1/3 of the ABC Interface), and for the J and K lines (initial assumption is balanced each ½ of the JK Interface).

Normal Operations

The desired flow calculation process is a coordinated effort between PJM and the NYISO. PJM and the NYISO have the responsibility to direct the operation of the PARs to ensure compliance with the requirements of the Operating Protocol. However, one of the objectives of this procedure is to minimize the movement of PARs while implementing the 600/400 MW transactions. PJM and the NYISO will employ a +/- 100 MW bandwidth at each of the ABC and JK Interfaces to ensure that actual flows are maintained at acceptable levels.

PJM and the NYISO have operational control of the PARs and direct the operation of the PARs, while PSE&G and ConEd have physical control of the PARs. The ConEd dispatcher sets the PAR taps at Goethals and Farragut at the direction of the NYISO. The PSE&G dispatchers set the PAR taps at Waldwick at the direction of PJM.

Tap movements shall be limited to 400 per month based on 20 operations (per PAR) in a 24-hour period. If, in attempting to maintain the desired bandwidth, tap movements exceed these limits, then the bandwidth shall be increased in 50 MW increments until the tap movements no longer exceed 20 per day, unless PJM and the NYISO agree otherwise.

Emergency Operations

If an emergency condition exists in either the NYISO or PJM, the NYISO dispatcher or PJM dispatcher may request that the ties between New York and New Jersey be adjusted to assist directing power flows in the respective areas to alleviate the emergency situation. The taps on the PARs at Waldwick, Goethals, and Farragut may be moved either in tandem or individually as needed to mitigate the emergency condition. Responding to emergency conditions in either the NYISO or PJM overrides any requirements of this Operating Protocol and the appendices hereto.

PAR Movement Scenarios

Case 1 — Aggregate actual flow on the JK interface (at Waldwick) or the ABC interface (at Farragut and Goethals) is higher or lower than RTMDF, but within the bandwidth.

No action taken. Flows will continue to be monitored, but action will only be taken if the flows get above or below the bandwidth.

Case 2 — Aggregate actual flow on the JK interface (at Waldwick) or the ABC interface (at Farragut and Goethals) is higher or lower than the RTMDF, and outside the bandwidth.

PJM and the NYISO will coordinate the following procedures:

- PJM shall determine the Waldwick PAR tap change(s) that change the aggregate actual flow to be within the bandwidth, considering the impact that the proposed tap changes have on the NYISO. If the PJM analysis indicates that the tap changes can be made without causing an actual or contingency constraint in the NYISO that would result in NYISO off-cost operation, PJM will inform the NYISO of the proposed PAR moves, obtain the NYISO's concurrence, and direct PSE&G to implement the PAR tap changes.
- The NYISO shall determine the Farragut and Goethals PAR tap change(s) that change the aggregate actual flow to be within the bandwidth, considering the impact that the proposed tap changes have on PJM. If the NYISO analysis indicates that the tap changes can be made without an actual or contingency constraint in PJM that would result in PJM off-cost operation, the NYISO will inform PJM of the proposed PAR moves, obtain PJM concurrence, and direct ConEd to implement the PAR tap changes.

- If the ABC actual interface flows cannot be maintained within the interface desired flow range due to the following system conditions: (1) insufficient PAR angle capability resulting from any of the A, B, C, J, or K PARs being at their maximum tap setting, and (2) PJM's inability to redispatch in response to transmission constraints to support ABC deliveries to New York, then PJM and the NYISO shall consider using other available facilities, including the other PARs, to create flow capability to permit the necessary tap changes to bring the actual flow within the tolerances of the desired flow calculation, provided that this can be done without creating additional redispatch costs in either the NYISO or PJM. If after such actions have been taken, including the use of other facilities, and ABC/JK actual interface flows still cannot be maintained within the interface desired flow range, then an adjustment to the desired flow calculation (a desired flow offset, with the amount agreed to by PJM and the NYISO) shall be made such that both the ABC and JK actual interface flows are within +/- 100 MW of the ABC and JK interface RTMDF respectively.
- If the JK actual interface flows cannot be maintained within the interface desired flow range due to the following system conditions: (1) insufficient PAR angle capability resulting from any of the A, B, C, J, or K PARs being at their maximum tap setting, and (2) the NYISO's inability to re-dispatch in response to transmission constraints to support JK deliveries to PJM then PJM and NYISO shall consider using other available facilities, including the other PARs to create flow capability to permit the necessary tap changes to bring the actual flow within the tolerances of the desired flow calculation, provided that this can be done without creating additional redispatch costs in either the NYISO or PJM. If after such actions have been taken, including the use of other facilities, and ABC/JK actual interface flows still cannot be maintained within the interface desired flow range, then an adjustment to the desired flow calculation (a desired flow offset, with the amount agreed to by PJM and NYISO) shall be made such that both the ABC and JK actual interface flows are within +/- 100 MW of the ABC and JK interface RTMDF respectively.

Case 3 — If PJM or NYISO analysis reveals that future system conditions (within the next several hours) may reasonably be expected to require that a PAR will need to change by more than 3 taps in order to remain within the bandwidth, then PJM and NYISO shall consider pre-positioning the system to address these future conditions. Both PJM and the NYISO must agree to any decision to re-position the taps to address expected future conditions.

PJM and the NYISO will coordinate with each other and may mutually agree to position the respective PARs on each system to be within two tap changes in anticipation of changes to

RTMDF for the next several hours to ensure that the PARs are positioned such that they are able to meet the anticipated RTMDF.

Appendix 6 – Distribution of Flows Associated with Implementation of Day-Ahead and Real Time Market Desired Flows

In general, the ability to maintain the ABC / JK actual interface flows at their corresponding ABC/JK Day-Ahead and Real Time Market Desired Flow (RTMDF) values should not be impacted by individual line flow constraints. The Operating Protocol will ordinarily be considered satisfied if the ABC/JK actual interface flows are each equal to the desired flow values plus or minus the 100 MW bandwidth.

The initial estimate of individual line flow distribution for the ABC / JK interfaces shall be based on an equal flow assumption among the lines comprising the interface. Under outage conditions of the A, B, C, J, or K lines, the initial estimate of individual line flow distribution shall be based on an assumption that flows should be equalized among those remaining lines comprising the interface. Further, the ISOs shall adjust (from RTMDF) the flow distribution for ABC (move flow from the A line to the B and C lines) upon the NYISO's request, provided that the adjustment shall not exceed 125 MW if PJM is off-cost or is expected to be off-cost. Con Ed shall not be responsible for balancing charges resulting from changes in the individual line flow distribution between the PJM Day-Ahead and Real-Time Markets.

For example:

If the ABC interface RTMDF is 900 MW, then the initial estimate of line flow on A is $1/3 * 900=300$ MW, B is $1/3 * 900=300$ MW, and C is $1/3 * 900=300$ MW.

If the J, K interface RTMDF is 900 MW, then the initial estimate of line flow on J is $1/2 * 900=450$ MW, K is $1/2 * 900=450$ MW.

However, if the ABC/JK actual interface flows cannot be maintained within the 100 MW bandwidth of desired flows due to the following system conditions: 1) insufficient PAR angle capability and an inability to redispatch in response to transmission constraints in PJM; or 2) upon implementing a NYISO request to adjust the distribution of flow on the A line (move flow from the A line to the B and C lines) in excess of 125 MW as described above, then the actual ABC and/or JK interface flow shall be adjusted to be as close as feasible to the interface desired flow values for each of the JK and ABC interfaces.

For example:

Assume the ABC interface RTMDF = 900 MW, then the initial estimate of line flow on A is $1/3 * 900=300$ MW, B is $1/3 * 900=300$ MW, and C is $1/3 * 900=300$ MW. Further assume that the NYISO requests that the distribution of flow over the A line be limited to 100 MW, then the resulting system conditions are an actual ABC interface flow of 825 MW with individual PAR flows of A=100 MW, B=362.5 MW, C=362.5 MW.

In this example, the actual ABC interface flow is as close as feasible to the ABC RTMDF assuming off-cost operation in the PJM area and the NYISO request that the distribution of flow over the A line be limited to 100 MW, which is in excess of the 125 MW distribution adjustment (300 MW-100 MW = 200 MW). PJM and the NYISO's obligations under this Operating Protocol will be deemed to be satisfied even though the ABC/JK actual interface flows are not equal to the RTMDF plus or minus the 100 MW bandwidth.

Appendix 7 – References

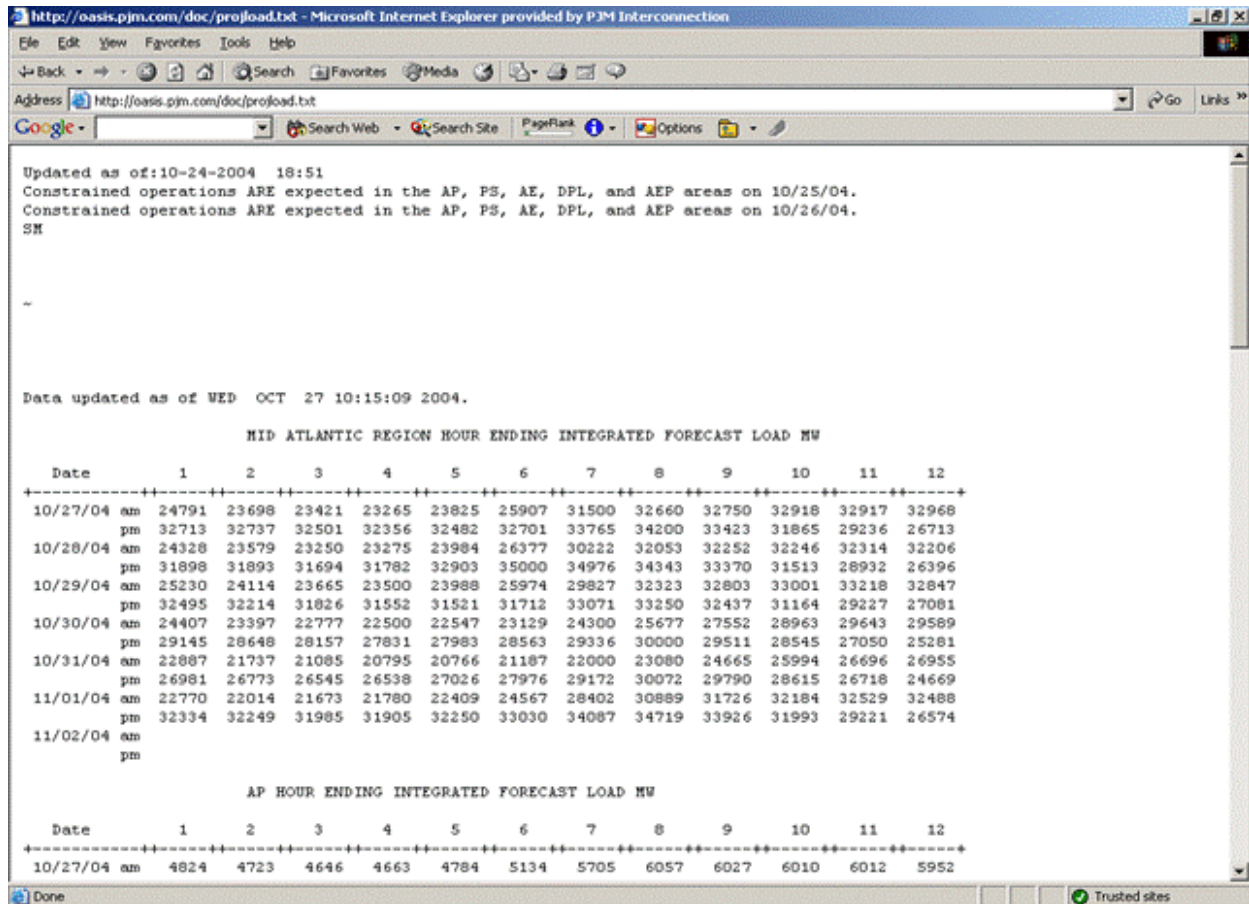


Figure 1 - PJM Constraints

NYISO
New York Independent System Operator

OASIS (Open Access Same-Time Information System)

Pricing Data | Power Grid Data | Load Data | Reports & Information | Zone Maps | Graphs | Market Applications | SMD2

Day Ahead Market LBMP - Zonal

Note 1: Dates with corrected prices are displayed with **green links**. Updates for both missing data and presentation are displayed with an **orange link**.

Note 2: Updated historical LBMPs have been posted in the archived files section. An [explanation of the issues involved](#) and a [list of the intervals](#) that have been updated are available for download.

CSV Files	HTML Files	PDF Files	Last Updated
10-28-2004	10-28-2004	10-28-2004	10/27/04 10:17 EDT
10-27-2004	10-27-2004	10-27-2004	10/26/04 10:21 EDT
10-26-2004	10-26-2004	10-26-2004	10/25/04 10:04 EDT
10-25-2004	10-25-2004	10-25-2004	10/24/04 10:55 EDT
10-24-2004	10-24-2004	10-24-2004	10/23/04 10:05 EDT
10-23-2004	10-23-2004	10-23-2004	10/22/04 10:06 EDT
10-22-2004	10-22-2004	10-22-2004	10/21/04 10:09 EDT

Figure 2 - NYISO Day Ahead Results

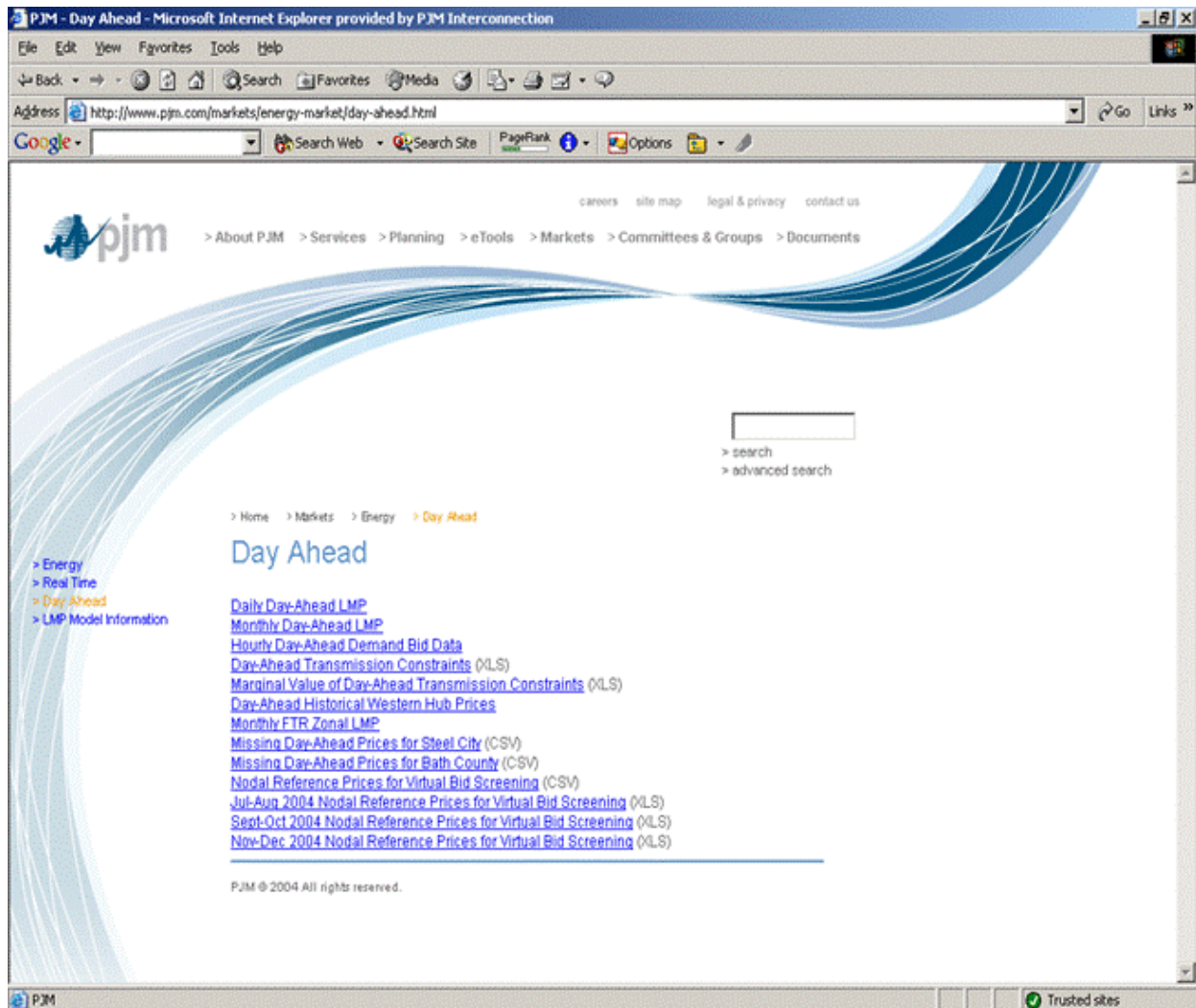


Figure 3 - PJM Day Ahead Market Results

Appendix 8 – Definitions

Off-cost: the weighted LMP of JK is less than the weighted LMP of ABC by more than \$5 and/or the weighted nodal pricing of Ramapo is less than the weighted nodal pricing of the aggregate of Farragut and Goethals by more than \$5 (with a reasonable expectation of the appropriate cost differential continuing for at least two consecutive hours).

Mid-Atlantic Area: Atlantic City Electric Company, Baltimore Gas and Electric Company, Delmarva Power and Light Company, Jersey Central Power and Light Company, Metropolitan Edison Company, PECO Energy Company, PPL Electric Utilities Corporation, Pennsylvania Electric Company, Potomac Electric Power Company, Public Service Electric and Gas Company, and Rockland Electric Company.

New York ISO Day Ahead Election (NY-DAE): election by ConEd – submitted in the NYISO Day-Ahead Market prior to 5 a.m..

NY Desired Flow (NYDF): desired flow calculation by NYISO based on NY-DAE for input to NYISO Day Ahead Market.

PJM Day Ahead Market Election (PJM-DAE): election by the ConEd – submitted in the PJM Day Ahead Market prior to 12 noon.

PJM Desired Flow (PJMDF): desired flow calculation by PJM based on PJM-DAE for input to PJM Day Ahead Market.

ConEd Real-Time election (RTE): option by ConEd to request Real-Time Market modification from its Day Ahead Market election.

Real Time Market Desired Flow (RTMDF): Desired flow for real time operations.

Impairments: Conditions determined during the NYISO's and PJM's respective planning analyses that will cause implementation of the 600/400 MW transactions to result in violations of established reliability criteria.

Emergency Load Response: Emergency Load Response is the reduction of a load by participants in the PJM Emergency Load Response Program in response to a request by PJM for load reduction following the declaration of Maximum Emergency Generation.

Pricing points: aggregate nodal points for the ABC interface and JK interface at the respective locations in both PJM and NYISO regions. These points will be defined and posted.

35.23 Schedule D – Market-to-Market Coordination Process – Version 1.0

NYISO & PJM
Market-to-Market Coordination Schedule
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1 Overview of the Market-to-Market Coordination Process

The purpose of the M2M coordination process is to set forth the rules that apply to M2M coordination between PJM and NYISO and the associated settlements processes.

The fundamental philosophy of the PJM/NYISO M2M coordination process is to set up procedures to allow any transmission constraints that are significantly impacted by generation dispatch changes and/or Phase Angle Regulator (“PAR”) control actions in both markets to be jointly managed in the security-constrained economic dispatch models of both RTOs. This joint management of transmission constraints near the market borders will provide the more efficient and lower cost transmission congestion management solution, while providing coordinated pricing at the market boundaries.

The M2M coordination process focuses on real-time market coordination to manage transmission limitations that occur on the M2M Flowgates in a more cost effective manner. Coordination between NYISO and PJM will include not only joint redispatch, but will also incorporate coordinated operation of the Ramapo PARs that are located at the NYISO – PJM interface. This real-time coordination will result in a more efficient economic dispatch solution across both markets to manage the real-time transmission constraints that impact both markets, focusing on the actual flows in real-time to manage constraints. Under this approach, the flow entitlements on the M2M Flowgates do not impact the physical dispatch; the flow entitlements are used in market settlements to ensure appropriate compensation based on comparison of the actual Market Flows to the flow entitlements.

2 M2M Flowgates

Only a subset of all transmission constraints that exist in either market will require coordinated congestion management. This subset of transmission constraints will be identified as M2M Flowgates. Flowgates eligible for the M2M coordination process are called M2M Flowgates. For the purposes of the M2M coordination process (in addition to the studies described in section 3 below) the following will be used in determining M2M Flowgates.

- 2.1 NYISO and PJM will only be performing the M2M coordination process on M2M Flowgates that are under the operational control of NYISO or PJM. NYISO and PJM will not be performing the M2M coordination process on Flowgates that are owned and controlled by third party entities.
- 2.2 The Parties will make reasonable efforts to lower their generator binding threshold to match the lower generator binding threshold utilized by the other Party. The generator and Ramapo PAR binding thresholds (the shift factor thresholds used to identify the resource(s) available to relieve a transmission constraint), will not be set below 3%, except by mutual consent. This requirement applies to M2M Flowgates. It is not an additional criterion for determination of M2M Flowgates.

- 2.3 For the purpose of determining whether a monitored element Flowgate is eligible for the M2M coordination process, a threshold for determining a significant GLDF or Ramapo PAR OTDF will take into account the number of monitored elements. Implementation of M2M Flowgates will ordinarily occur through mutual agreement.
- 2.4 All Flowgates eligible for M2M coordination will be included in the coordinated operations of the Ramapo PARs. Flowgates with significant GLDF will also be included in joint redispatch.
- 2.5 M2M Flowgates that are eligible for redispatch coordination are also eligible for coordinated operation of the Ramapo PARs. M2M Flowgates that are eligible for coordinated operation of the Ramapo PARs are not necessarily also eligible for redispatch coordination.
- 2.6 The NYISO shall post a list of all of the M2M Flowgates located in the NYCA on its web site. PJM shall post a list of all of the M2M Flowgates located in its Control Area on its web site.

3 M2M Flowgate Studies

To identify M2M Flowgates the Parties will perform an off-line study to determine if the significant GLDF for at least one generator within the Non-Monitoring RTO, or significant PAR OTDF for at least one Ramapo PAR, on a potential M2M Flowgate within the Monitoring RTO is greater than or equal to the thresholds as described below. The study shall be based on an up-to-date, common, power flow model representation of the Eastern Interconnection, with all normally closed Transmission Facilities in-service. The transmission modeling assumptions used in the M2M Flowgate studies will be based on the same assumptions used for determining M2M Entitlements in Section 6 below.

- 3.1 Either Party may propose that a new M2M Flowgate be added at any time. The Parties will work together to perform the necessary studies within a reasonable timeframe.
- 3.2 The GLDF or Ramapo PAR OTDF thresholds for M2M Flowgates with one or more monitored elements are defined as:
- i. Single monitored element, 5% GLDF/Ramapo PAR OTDF;
 - ii. Two monitored elements, 7.5% GLDF/Ramapo PAR OTDF; and
 - iii. Three or more monitored elements, 10% GLDF/Ramapo PAR OTDF.

3.3 For potential M2M Flowgates that pass the above Ramapo PAR OTDF criteria, the Parties must still mutually agree to add each Flowgate as an M2M Flowgate for coordinated operation of the Ramapo PARs.

3.4 For potential M2M Flowgates that pass the above GLDF criteria, the Parties must still mutually agree to add each Flowgate as an M2M Flowgate for redispatch coordination.

3.5 The Parties can also mutually agree to add a M2M Flowgate that does not satisfy the above criteria.

4 Removal of M2M Flowgates

Removal of M2M Flowgates from the systems may be necessary under certain conditions including the following:

4.1 A M2M Flowgate is no longer valid when (a) a change is implemented that effects either Party's generation impacts causing the Flowgate to no longer pass the M2M Flowgate Studies, or (b) a change is implemented that affects the impacts from coordinated operation of the Ramapo PARs causing the Flowgate to no longer pass the M2M Flowgate Studies. The Parties must still mutually agree to remove a M2M Flowgate, such agreement not to be unreasonably withheld. Once a M2M Flowgate has been removed, it will no longer be eligible for M2M settlement.

4.2 A M2M Flowgate that does not satisfy the criteria set forth in Section 3.2 above, but that is created based on the mutual agreement of the Parties pursuant to Section 3.5 above, shall be removed two weeks after either Party provides a formal notice to the other Party that it withdraws its agreement to the M2M Flowgate, or at a later or earlier date that the Parties mutually agree upon. The formal notice must include an explanation of the reason(s) why the agreement to the M2M Flowgate was withdrawn.

4.3 The Parties can mutually agree to remove a M2M Flowgate from the M2M coordination process whether or not it passes the coordination tests. A M2M Flowgate should be removed when the Parties agree that the M2M coordination process is not, or will not be, an effective mechanism to manage congestion on that Flowgate.

5 Market Flow Determination

Each RTO will independently calculate its Market Flow for all M2M Flowgates using the equations set forth in this section. The Market Flow calculation is broken down into the following steps:

- Determine Shift Factors for M2M Flowgates

- Compute RTO Load and Losses (less imports)
- Compute RTO Generation (less exports)
- Compute RTO Generation to Load impacts on the Market Flow
- Compute RTO interchange scheduling impacts on the Market Flow
- Compute PAR impacts on the Market Flow
- Compute Market Flow

The Rockland Electric Company (“RECo”) load shall be excluded from the M2M Market Flows and M2M Entitlements until such time as the Parties reach agreement regarding how service to RECo load should be handled in the M2M coordination process. When the Parties reach an agreement, the Parties shall file for Commission acceptance the necessary revisions to this Agreement.

5.1 Determine Shift Factors for M2M Flowgates

The first step to determining the Market Flow on a M2M Flowgate is to calculate generator, load and PAR shift factors for the each of the M2M Flowgates. For real-time M2M coordination, the shift factors will be based on the real-time transmission system topology.

5.2 Compute RTO Load Served by RTO Generation

Using area load and losses for each load zone, compute the RTO Load, in MWs, by summing the load and losses for each load zone to determine the total zonal load for each RTO load zone.

$$Zonal_Total_Load_{zone} = Load_{zone} + Losses_{zone}, \text{ for each RTO load zone}$$

Where:

zone = the relevant RTO load zone;

Zonal_Total_Load_{zone} = the sum of the RTO’s load and transmission losses for the zone;

Load_{zone} = the load within the zone; and

Losses_{zone} = the transmission losses for transfers through the zone.

Next, reduce the Zonal Loads by the scheduled line real-time import transaction schedules that sink in that particular load zone:

$$\begin{aligned}
 \text{Zonal_Reduced_Load}_{zone} &= \text{Zonal_Total_Load}_{zone} \\
 &- \sum_{\text{scheduled_lines}=1}^{\text{all}} \text{Import_Schedules}_{\text{scheduled_line},zone}
 \end{aligned}$$

Where:

zone = the relevant RTO load zone;

scheduled line = each of the transmission facilities identified in Table 1 below;

Zonal_Reduced_Load_{zone} = the sum of the RTO's load and transmission losses in a zone reduced by the sum of import schedules over scheduled lines to the zone;

Zonal_Total_Load_{zone} = the sum of the RTO's load and transmission losses for the zone; and

Import_Schedules_{scheduled_line,zone} = import schedules over a scheduled line to a zone.

The real-time import schedules over scheduled lines will only reduce the load in the sink load zones identified in Table 1 below:

Table 1. List of Scheduled Lines

<u>Scheduled Line</u>	<u>NYISO Load Zone</u>	<u>PJM Load Zone</u>
<u>Dennison Scheduled Line</u>	<u>North</u>	<u>Not Applicable</u>
<u>Cross-Sound Scheduled Line</u>	<u>Long Island</u>	<u>Not Applicable</u>
<u>Linden VFT Scheduled Line</u>	<u>New York City</u>	<u>Mid-Atlantic Control Zone</u>
<u>Neptune Scheduled Line</u>	<u>Long Island</u>	<u>Mid-Atlantic Control Zone</u>
<u>Northport – Norwalk Scheduled Line</u>	<u>Long Island</u>	<u>Not Applicable</u>

Once import schedules over scheduled lines have been accounted for, it is then appropriate to reduce the net RTO Load by the remaining real-time import schedules at the proxies identified in Table 2 below:

Table 2. List of Proxies*

<u>Proxy</u>	<u>Balancing Authorities Responsible</u>
<u>PJM shall post and maintain a list of its proxies on its OASIS website. PJM shall provide to NYISO notice of any new or deleted proxies prior to implementing such changes in its M2M software.</u>	<u>PJM</u>
<u>NYISO proxies are the Proxy Generator Buses that are not identified as Scheduled Lines in the table that is set forth in Section 4.4.4 of the NYISO's Market Services Tariff. The NYISO shall provide to PJM notice of any new of deleted proxies prior to implementing such changes in its M2M software.</u>	<u>NYISO</u>

*Scheduled lines and proxies are mutually exclusive. Transmission Facilities that are components of a scheduled line are not also components of a proxy (and vice-versa).

$$RTO_Net_Load = \sum_{zone=1}^{all} Zonal_Reduced_Load_{zone}$$

Where:

zone = _____ the relevant RTO load zone;

RTO Net Load = _____ the sum of load and transmission losses for the entire RTO footprint reduced by the sum of import schedules over all scheduled lines; and

Zonal Reduced Load_{zone} = _____ the sum of the RTO's load and transmission losses in a zone reduced by the sum of import schedules over scheduled lines to the zone.

$$RTO_Final_Load = RTO_Net_Load - \sum_{proxy=1}^{all} Import_Schedules_{proxy}$$

Where:

proxy = _____ representations of defined sets of transmission facilities that (i) interconnect neighboring Balancing Authorities, (ii) are collectively scheduled, and (iii) are identified in Table 2 above;

RTO_Final_Load = the sum of the RTO's load and transmission losses for the entire RTO footprint, sequentially reduced by (i) the sum of import schedules over all scheduled lines, and (ii) the sum of all proxy import schedules;

RTO_Net_Load = the sum of load and transmission losses for the entire RTO footprint reduced by the sum of import schedules over all scheduled lines; and

Import_Schedules_{proxy} = the sum of import schedules at a given proxy.

Next, calculate the Zonal Load weighting factor for each RTO load zone:

$$Zonal_Weighting_{zone} = \left(\frac{Zonal_Reduced_Load_{zone}}{RTO_Net_Load} \right)$$

Where:

zone = the relevant RTO load zone;

Zonal_Weighting_{zone} = the percentage of the RTO's load contained within the zone;

RTO_Net_Load = the sum of load and transmission losses for the entire RTO footprint reduced by the sum of import schedules over all scheduled lines; and

Zonal_Reduced_Load_{zone} = the sum of the RTO's load and transmission losses in a zone reduced by the sum of import schedules over scheduled lines to the zone.

Using the Zonal Weighting Factor compute the zonal load reduced by RTO imports for each load zone;

$$Zonal_Final_Load_{zone} = Zonal_Weighting_{zone} \times RTO_Final_Load$$

Where:

zone = the relevant RTO load zone;

Zonal_Final_Load_{zone} = the final RTO load served by internal RTO generation in the zone;

Zonal Weighting_{zone} = the percentage of the RTO's load contained within the zone; and

RTO Final Load = the sum of the RTO's load and transmission losses for the entire RTO footprint, sequentially reduced by (i) the sum of import schedules over all scheduled lines, and (ii) the sum of all proxy import schedules.

Using the Load Shift Factors ("LSFs") calculated above, compute the weighted RTOLSF for each M2M Flowgate as:

$$RTO_LSF_{M2M_Flowgate-m} = \sum_{zone=1}^{all} \left(LSF_{(zone,M2M_Flowgate-m)} \times \left(\frac{Zonal_Final_Load_{zone}}{RTO_Final_Load} \right) \right)$$

Where:

M2M Flowgate-m = the relevant flowgate;

zone = the relevant RTO load zone;

RTO LSF_{M2M Flowgate-m} = the load shift factor for the entire RTO footprint on M2M Flowgate m;

LSF_(zone,M2M Flowgate-m) = the load shift factor for the RTO zone on M2M Flowgate m;

Zonal Final Load_{zone} = the final RTO load served by internal RTO generation in the zone; and

RTO Final Load = the sum of the RTO's load and transmission losses for the entire RTO footprint, sequentially reduced by (i) the sum of import schedules over all scheduled lines, and (ii) the sum of all proxy import schedules.

5.3 Compute RTO Generation Serving RTO Load

Using the real-time generation output in MWs, compute the Generation serving RTO Load. Sum the output of RTO generation within each load zone:

$$RTO_Gen_{zone} = \sum_{unit=1}^{all} Gen_{unit,zone} \text{ for each RTO load zone}$$

Where:

zone = the relevant RTO load zone;

unit = the relevant generator;

RTO_Gen_{zone} = the sum of the RTO's generation in a zone; and

Gen_{unit,zone} = the real-time output of the unit in a given zone.

Next, reduce the RTO generation located within a load zone by the scheduled line real-time export transaction schedules that source from that particular load zone:

RTO_Reduced_Gen_{zone}

$$= RTO_Gen_{zone} - \sum_{\text{scheduled_line}=1}^{\text{all}} Export_Schedules_{\text{scheduled_line,zone}}$$

Where:

zone = the relevant RTO load zone;

scheduled_line = each of the transmission facilities identified in Table 1 above;

RTO_Reduced_Gen_{zone} = the sum of the RTO's generation in a zone reduced by the sum of export schedules over scheduled lines from the zone;

RTO_Gen_{zone} = the sum of the RTO's generation in a zone; and

Export_Schedules_{scheduled_line,zone} = export schedules from a zone over a scheduled line.

The real-time export schedules over scheduled lines will only reduce the generation in the source zones identified in Table 1 above. The resulting generator output based on this reduction is defined below.

$$Reduced\ Gen_{unit} = Gen_{unit,zone} \left(\frac{RTO_Reduced_Gen_{zone}}{RTO_Gen_{zone}} \right)$$

Where:

unit = the relevant generator;

zone = the relevant RTO load zone;

Gen_{unit,zone} = the real-time output of the unit in a given zone;

Reduced Gen_{unit} = each unit's real-time output after reducing the RTO_Net_Gen by the real-time export schedules over scheduled lines;

RTO Reduced Gen_{zone} = the sum of the RTO's generation in a zone reduced by the sum of export schedules over scheduled lines from the zone; and

RTO Gen_{zone} = the sum of the RTO's generation in a zone.

Once export schedules over scheduled lines are accounted for, it is then appropriate to reduce the net RTO generation by the remaining real-time export schedules at the proxies identified in Table 2 above.

$$RTO_Net_Gen = \sum_{zone=1}^{all} RTO_Reduced_Gen_{zone}$$

Where:

zone = the relevant RTO load zone;

RTO Net Gen = the sum of the RTO's generation reduced by the sum of export schedules over all scheduled lines; and

RTO Reduced Gen_{zone} = the sum of the RTO's generation in a zone reduced by the sum of export schedules over scheduled lines from the zone.

$$RTO_Final_Gen = RTO_Net_Gen - \sum_{proxy=1}^{all} Export_Schedules_{proxy}$$

Where:

proxy = representation of defined sets of transmission facilities that (i) interconnect neighboring Balancing Authorities, (ii) are collectively scheduled, and (iii) are identified in Table 2 above;

RTO Final Gen = the sum of the RTO's generation output for the entire RTO footprint, sequentially reduced by (i) the sum of export schedules over all scheduled lines, and (ii) the sum of all proxy export schedules;

RTO_Net_Gen = the sum of the RTO's generation reduced by the sum of export schedules over all scheduled lines; and

Export_Schedules_{proxy} = the sum of export schedules at a given proxy.

Finally, weight each generator's output by the reduced RTO generation:

$$Gen_Final_{unit} = Reduced\ Gen_{unit} \times \frac{RTO_Final_Gen}{RTO_Net_Gen}$$

Where:

unit = the relevant generator;

Gen_Final_{unit} = the portion of each unit's output that is serving the RTO Net Load;

Reduced Gen_{unit} = each unit's real-time output after reducing the RTO_Net_Gen by the real-time export schedules over scheduled lines;

RTO_Final_Gen = the sum of the RTO's generation output for the entire RTO footprint, sequentially reduced by (i) the sum of export schedules over all scheduled lines, and (ii) the sum of all proxy export schedules; and

RTO_Net_Gen = the sum of the RTO's generation reduced by the sum of export schedules over all scheduled lines.

5.4 Compute the RTO GTL for all M2M Flowgates

The generation-to-load flow for a particular M2M Flowgate, in MWs, will be determined as:

$$RTO_GTL_{M2M_Flowgate-m} = \sum_{unit=1}^{all} (GSF_{(unit,M2M_Flowgate-m)} - RTO_LSF_{M2M_Flowgate-m}) \times Gen_Final_{unit}$$

Where:

M2M_Flowgate-m = the relevant flowgate;

unit = the relevant generator;

$RTO_GTL_{M2M_Flowgate-m}$ = the generation to load flow for the entire RTO footprint on M2M Flowgate m;

Gen_Final_{unit} = the portion of each unit's output that is serving RTO Net Load;

$GSE_{(unit,M2M_Flowgate-m)}$ = the generator shift factor for each unit on M2M Flowgate m; and

$RTO_LSE_{M2M_Flowgate-m}$ = the load shift factor for the entire RTO footprint on M2M Flowgate m.

5.5 Compute the RTO Interchange Scheduling Impacts for all M2M Flowgates

For each scheduling point that the participating RTO is responsible for, determine the net interchange schedule in MWs. Table 3 below identifies both the participating RTO that is responsible for each listed scheduling point, and the "type" assigned to each listed scheduling point.

Table 3. List of Scheduling Points

<u>Scheduling Point</u>	<u>Scheduling Point Type</u>	<u>Participating RTO(s) Responsible</u>
<u>NYISO-PJM</u>	<u>common</u>	<u>NYISO and PJM</u>
<u>Linden VFT Scheduled Line</u>	<u>common</u>	<u>NYISO and PJM</u>
<u>Neptune Scheduled Line</u>	<u>common</u>	<u>NYISO and PJM</u>
<u>PJM shall post and maintain a list of its non-common scheduling points on its OASIS website. PJM shall provide to NYISO notice of any new or deleted non-common scheduling points prior to implementing such changes in its M2M software.</u>	<u>non-common</u>	<u>PJM</u>
<u>NYISO non-common scheduling points include all Proxy Generator Buses and Scheduled Lines listed in the table that is set forth in Section 4.4.4 of the NYISO's Market Services Tariff that are not identified in this Table 3 as common scheduling points. The NYISO shall provide to PJM notice of any new or deleted non-common scheduling points prior to implementing such changes in its M2M software.</u>	<u>non-common</u>	<u>NYISO</u>

$$\begin{aligned}
 RTO_Transfers_{sched_pt} &= Imports_{sched_pt} + WheelsIn_{sched_pt} - Exports_{sched_pt} \\
 &\quad - WheelsOut_{sched_pt}
 \end{aligned}$$

Where:

sched_pt = the relevant scheduling point. A scheduling point can be either a proxy or a scheduled line;

RTO_Transfers_{sched_pt} = the net interchange schedule at a scheduling point;

Imports_{sched_pt} = the import component of the interchange schedule at a scheduling point;

WheelsIn_{sched_pt} = the injection of wheels-through component of the interchange schedule at a scheduling point;

Exports_{sched_pt} = the export component of the interchange schedule at a scheduling point; and

WheelsOut_{sched_pt} = the withdrawal of wheels-through component of the interchange schedule at a scheduling point.

The equation below applies to all non-common scheduling points that only one of the participating RTOs is responsible for. *Parallel Transfers* are applied to the Market Flow of the responsible participating RTO. For example, the *Parallel Transfers* computed for the IESO-NYISO non-common scheduling point are applied to the NYISO Market Flow.

$$\begin{aligned}
 Parallel_Transfers_{M2M_Flowgate-m} &= \sum_{nc_sched_pt=1}^{all} RTO_Transfers_{nc_sched_pt} \times PTDF_{(nc_sched_pt, M2M_Flowgate-m)}
 \end{aligned}$$

Where:

M2M_Flowgate-m = the relevant flowgate;

nc_sched_pt = the relevant non-common scheduling point. A non-common scheduling point can be either a proxy or a scheduled line. Non-common scheduling points are identified in Table 3, above;

Parallel Transfers_{M2M_Flowgate-m} = the flow on M2M Flowgate m due to the net interchange schedule at the non-common scheduling point;

RTO Transfers_{nc_sched_pt} = the net interchange schedule at the non-common scheduling point, where a positive number indicates the import direction; and

PTDF_(nc_sched_pt, M2M_Flowgate-m) = the power transfer distribution factor of the non-common scheduling point on M2M Flowgate m. For NYISO, the PTDF will equal the generator shift factor of the non-common scheduling point.

The equation below applies to common scheduling points that directly interconnect the participating RTOs. *Shared Transfers* are applied to the Monitoring RTO's Market Flow only. NYISO to PJM transfers would be considered part of NYISO's Market Flow for NYISO-monitored Flowgates and part of PJM's Market Flow for PJM-monitored Flowgates.

$$\begin{aligned} & \text{Shared Transfers}_{M2M_Flowgate-m} \\ &= \sum_{\text{cmn_sched_pt}=1}^{\text{all}} \text{RTO Transfers}_{\text{cmn_sched_pt}} \times \text{PTDF}_{(\text{cmn_sched_pt}, M2M_Flowgate-m)} \end{aligned}$$

Where:

M2M_Flowgate-m = the relevant flowgate;

cmn_sched_pt = the relevant common scheduling point. A common scheduling point can be either a proxy or a scheduled line. Common scheduling points are identified in Table 3, above;

Shared Transfers_{M2M_Flowgate-m} = the flow on M2M Flowgate m due to interchange schedules on the common scheduling point;

RTO Transfers_{cmn_sched_pt} = the net interchange schedule at a common scheduling point, where a positive number indicates the import direction; and

PTDF_(cmn_sched_pt, M2M_Flowgate-m) = the generation shift factor of the common scheduling point on M2M Flowgate m. For NYISO, the PTDF will equal the generator shift factor of the common scheduling point.

5.6 Compute the PAR Effects for all M2M Flowgates

For the PARs listed in Table 4 below, the RTOs will determine the generation-to-load flows and interchange schedules, in MWs, that each PAR is impacting.

Table 4. List of Phase Angle Regulators

<u>PAR</u>	<u>Description</u>	<u>PAR Type</u>	<u>Actual Schedule</u>	<u>Target Schedule</u>	<u>Responsible Participating RTO(s)</u>
<u>1</u>	<u>RAMAPO PAR3500</u>	<u>common</u>	<u>From telemetry</u>	<u>From telemetry*</u>	<u>NYISO and PJM</u>
<u>2</u>	<u>RAMAPO PAR4500</u>	<u>common</u>	<u>From telemetry</u>	<u>From telemetry*</u>	<u>NYISO and PJM</u>
<u>3</u>	<u>FARRAGUT TR11</u>	<u>common</u>	<u>From telemetry</u>	<u>From telemetry[†]</u>	<u>NYISO and PJM</u>
<u>4</u>	<u>FARRAGUT TR12</u>	<u>common</u>	<u>From telemetry</u>	<u>From telemetry[†]</u>	<u>NYISO and PJM</u>
<u>5</u>	<u>GOETHSLN BK_1N</u>	<u>common</u>	<u>From telemetry</u>	<u>From telemetry[†]</u>	<u>NYISO and PJM</u>
<u>6</u>	<u>WALDWICK O2267</u>	<u>common</u>	<u>From telemetry</u>	<u>From telemetry[†]</u>	<u>NYISO and PJM</u>
<u>7</u>	<u>WALDWICK F2258</u>	<u>common</u>	<u>From telemetry</u>	<u>From telemetry[†]</u>	<u>NYISO and PJM</u>
<u>8</u>	<u>WALDWICK E2257</u>	<u>common</u>	<u>From telemetry</u>	<u>From telemetry[†]</u>	<u>NYISO and PJM</u>
<u>9</u>	<u>STLAWRNC PS_33</u>	<u>non-common</u>	<u>From telemetry</u>	<u>0</u>	<u>NYISO</u>
<u>10</u>	<u>STLAWRNC PS_34</u>	<u>non-common</u>	<u>From telemetry</u>	<u>0</u>	<u>NYISO</u>

*Pursuant to the rules for implementing the M2M coordination process over the Ramapo PARs that are set forth in this M2M Schedule.

†Consistent with Schedule C to the Joint Operating Agreement between the Parties.

Compute the PAR control as the actual flow less the target flow across each PAR:

$$PAR_Control_{par} = Actual_MW_{par} - Target_MW_{par}$$

Where:

par = _____ each of the phase angle regulators listed in Table 4, above;

PAR Control_{par} = _____ the flow deviation on each of the pars;

Actual_MW_{par} = _____ the actual flow on each of the pars, determined consistent with Table 4 above; and

Target_MW_{par} = _____ the target flow that each of the pars should be achieving, determined in accordance with Table 4 above.

When the Actual MW and Target MW are both set to “From telemetry” in Table 4 above, the PAR Control will equal zero.

Common PARs

In the equations below, the Non-Monitoring RTO is credited for or responsible for PAR Impact resulting from the common PAR effect on the Monitoring RTO’s M2M Flowgates. The common PAR impact calculation only applies to the common PARs identified in Table 4 above.

Compute control deviation for all common PARs on M2M Flowgate m based on the PAR Control_{par} MWs calculated above:

$$Cmn_PAR_Control_{M2M_Flowgate-m} = \sum_{cmn_par=1}^{all} (PAR_OTDF_{(cmn_par,M2M_Flowgate-m)} \times PAR_Control_{cmn_par})$$

Where:

M2M Flowgate-m = the relevant flowgate;

cmn_par = each of the common phase angle regulators, modeled as Flowgates, identified in Table 4, above;

Cmn PAR Control_{M2M Flowgate-m} = the sum of flow on M2M Flowgate m after accounting for the operation of common pars;

PAR_OTDF_(cmn_par,M2M_Flowgate-m) = the outage transfer distribution factor of each of the common pars on M2M Flowgate m; and

PAR_Control_{cmn_par} = the flow deviation on each of the common pars.

Compute the impact of generation-to-load and interchange schedules across all common PARs on M2M Flowgate m as the Market Flow across each common PAR multiplied by that PAR’s shift factor on M2M Flowgate m:

$$Cmn_PAR_MF_{M2M_Flowgate-m} = \sum_{cmn_par=1}^{all} \left(\frac{(PAR_OTDF_{(cmn_par,M2M_Flowgate-m)}) \times (RTO_GTL_{cmn_par} + Parallel_Transfers_{cmn_par})}{(RTO_GTL_{cmn_par} + Parallel_Transfers_{cmn_par})} \right)$$

Where:

M2M Flowgate-m = the relevant flowgate;

cmn_par = the set of common phase angle regulators, modeled as Flowgates, identified in Table 4 above;

Cmn_PAR_MF_{M2M_Flowgate-m} = the sum of flow on M2M Flowgate m due to the generation to load flows and interchange schedules on the common pars;

PAR_OTDF_(cmn_par,M2M_Flowgate-m) = the outage transfer distribution factor of each of the common pars on M2M Flowgate m;

RTO_GTL_{cmn_par} = the generation to load flow for each common par, computed in the same manner as the generation to load flow is computed for M2M Flowgates in Section 5.4 above; and

Parallel_Transfers_{cmn_par} = the flow on each of the common pars caused by interchange schedules at non-common scheduling points.

Next, compute the impact of the common PAR effect for M2M Flowgate m as:

$$\begin{aligned} Cmn_PAR_Impact_{M2M_Flowgate-m} \\ = Cmn_PAR_MF_{M2M_Flowgate-m} - Cmn_PAR_Control_{M2M_Flowgate-m} \end{aligned}$$

Where:

M2M_Flowgate-m = the relevant flowgate;

Cmn_PAR_Impact_{M2M_Flowgate-m} = potential flow on M2M Flowgate m that is affected by the operation of the common pars;

Cmn_PAR_MF_{M2M_Flowgate-m} = the sum of flow on M2M Flowgate m due to the generation to load and interchange schedules on the common pars; and

Cmn_PAR_Control_{M2M_Flowgate-m} = the flow deviation on each of the common pars.

Non-Common PARs

For the equations below, the NYISO will be credited or responsible for PAR Impact on all M2M Flowgates because the NYISO is the participating RTO that has input into the operation of these devices. The non-common PAR impact calculation only applies to the non-common PARs identified in Table 4 above.

Compute control deviation for all non-common PARs on M2M Flowgate m based on the PAR control MW above;

$$NC_PAR_Control_{M2M_Flowgate-m} = \sum_{nc_par=1}^{all} PAR_OTDF_{(nc_par,M2M_Flowgate-m)} \times PAR_Control_{nc_par}$$

Where:

M2M_Flowgate-m = the relevant flowgate;

nc_par = each of the non-common phase angle regulators, modeled as Flowgates, identified in Table 4 above;

NC_PAR_Control_{M2M_Flowgate-m} = the sum of flow on M2M Flowgate m after accounting for the operation of non-common pars;

PAR_OTDF_(nc_par,M2M_Flowgate-m) = the outage transfer distribution factor of each of the non-common pars on M2M Flowgate m; and

PAR_Control_{nc_par} = the flow deviation on each of the non-common pars.

Compute the impact of generation-to-load and interchange schedules across all non-common PARs on M2M Flowgate m as the Market Flow across each PAR multiplied by that PAR's shift factor on M2M Flowgate m:

$$NC_PAR_MF_{M2M_Flowgate-m} = \sum_{nc_par=1}^{all} \left(\frac{(PAR_OTDF_{nc_par,M2M_Flowgate-m}) \times (RTO_GTL_{nc_par} + Parallel_Transfers_{nc_par})}{(RTO_GTL_{nc_par} + Parallel_Transfers_{nc_par})} \right)$$

Where:

M2M_Flowgate-m = the relevant flowgate;

nc_par = the set of non-common phase angle regulators, modeled as Flowgates, identified in Table 4 above;

NC_PAR_MF_{M2M_Flowgate-m} = the sum of flow on M2M Flowgate m due to the generation to load flows and interchange schedules on the non-common pars;

PAR_OTDF_(nc_par,M2M_Flowgate-m) = the outage transfer distribution factor of each of the non-common pars on M2M Flowgate m;

RTO_GTL_{nc_par} = the generation to load flow for each non-common par, computed in the same manner as the generation to load flow is computed for M2M Flowgates in Section 5.4 above; and

Parallel Transfers_{nc_par} = the flow, as computed above where the M2M Flowgate m is one of the non-common pars, on each of the non-common pars caused by interchange schedules at non-common scheduling points.

Next, compute the non-common PAR impact for M2M Flowgate m as:

$$NC_PAR_Impact_{M2M_Flowgate-m} = NC_PAR_MF_{M2M_Flowgate-m} - NC_PAR_Control_{M2M_Flowgate-m}$$

Where:

M2M_Flowgate-m = the relevant flowgate;

NC_PAR_Impact_{M2M_Flowgate-m} = the potential flow on M2M Flowgate m that is affected by the operation of non-common pars;

NC_PAR_MF_{M2M_Flowgate-m} = the sum of flow on M2M Flowgate m due to the generation to load and interchange schedules on the non-common pars; and

NC_PAR_Control_{M2M_Flowgate-m} = the sum of flow on M2M Flowgate m after accounting for the operation of non-common pars.

Aggregate all PAR Effects for Each M2M Flowgate

The total impacts from the PAR effects for M2M Flowgate m is:

$$PAR_Impact_{M2M_Flowgate-m} = Cmn_PAR_Impact_{M2M_Flowgate-m} + NC_PAR_Impact_{M2M_Flowgate-m}$$

Where:

M2M_Flowgate-m = the relevant flowgate;

PAR_Impact_{M2M_Flowgate-m} = the flow on M2M Flowgate m that is affected after accounting for the operation of both common and non-common pars;

Cmn_PAR_Impact_{M2M_Flowgate-m} = potential flow on M2M Flowgate m that is affected by the operation of the common pars; and

NC_PAR_Impact_{M2M_Flowgate-m} = the potential flow on M2M Flowgate m that is affected by the operation of non-common pars.

5.7 Compute the RTO Aggregate Market Flow for all M2M Flowgates

With the RTO_GTL and PAR_IMPACT known, we can now compute the RTO_MF for all M2M Flowgates as:

$$\begin{aligned} RTO_MF_{M2M_Flowgate-m} &= RTO_GTL_{M2M_Flowgate-m} + Parallel_Transfers_{M2M_Flowgate-m} \\ &+ Shared_Transfers_{M2M_Flowgate-m} - PAR_Impact_{M2M_Flowgate-m} \end{aligned}$$

Where:

$M2M_Flowgate-m$ = the relevant flowgate;

$RTO_MF_{M2M_Flowgate-m}$ = the Market Flow caused by RTO generation dispatch and transaction scheduling on M2M Flowgate m after accounting for the operation of both the common and non-common pars;

$RTO_GTL_{M2M_Flowgate-m}$ = the generation to load flow for the entire RTO footprint on M2M Flowgate m;

$Parallel_Transfers_{M2M_Flowgate-m}$ = the flow on M2M Flowgate m caused by interchange schedules that are not jointly scheduled by the participating RTOs;

$Shared_Transfers_{M2M_Flowgate-m}$ = the flow on M2M Flowgate m caused by interchange schedules that are jointly scheduled by the participating RTOs; and

$PAR_Impact_{M2M_Flowgate-m}$ = the flow on M2M Flowgate m that is affected after accounting for the operation of both the common and non-common pars.

6 Preliminary M2M Entitlement Determination Method

M2M Entitlements are the equivalent of financial rights for the Non-Monitoring RTO to use the Monitoring RTO's transmission system within the confines of the M2M process. The Parties worked together to develop the preliminary M2M Entitlement determination method set forth below. Given the PAR controlled nature of the interfaces between the two markets, the Parties' expectation is that the M2M Entitlements will be small on both systems. Before M2M is implemented, both the method of determining M2M Entitlements and the initial M2M Entitlements must be verified by both Parties and vetted with stakeholders.

Each Party shall calculate a M2M Entitlement on each M2M Flowgate and compare the results on a mutually agreed upon schedule.

6.1 M2M Entitlement Topology Model and Impact Calculation

The M2M Entitlement calculation shall be based on a static topological model to determine a non-Monitoring RTO's share of a M2M Flowgate's total capacity based on historic dispatch patterns. The model must include the following items:

1. a static transmission and generation model;
2. generator, load, and PAR shift factors;
3. generator output and load from 2009 through 2011;
4. a PAR impact assumption that the PAR control is perfect; and
5. new or upgraded Transmission Facilities.

The Parties shall calculate the GLDFs using an IDC model that contains a mutually agreed upon static set of: (1) transmission lines that are modeled as in-service; (2) generators; and (3) loads. Using these GLDFs, generator output data from 2009 through 2011, and load data from 2009 through 2011, the Parties shall calculate each Party's MW impact on each M2M Flowgate for each hour in 2009, 2010, and 2011. Using these impacts, the Parties shall create a reference year consisting of four periods ("M2M Entitlement Periods") for each M2M Flowgate. The M2M Entitlement Periods are as follows:

1. M2M Entitlement Period 1: December, January, and February;
2. M2M Entitlement Period 2: March, April, and May;
3. M2M Entitlement Period 3: June, July, and August; and
4. M2M Entitlement Period 4: September, October, and November.

For each of the M2M Entitlement Periods listed above the Non-Monitoring RTO will calculate its M2M Entitlement on each M2M Flowgate for each hour of each day of a week that will serve as the representative week for that M2M Entitlement Period. The M2M Entitlement for each day/hour, for each M2M Flowgate will be calculated by averaging the Non-Monitoring RTO's Market Flow on an M2M Flowgate for each particular day/hour of the week. To calculate the average the Non-Monitoring RTO shall use the Market Flow data for all of the like day/hours, that occurred in that day of the week and hour in the M2M Entitlement Period, in each of the years 2009, 2010, and 2011. When determining M2M Settlements each Party will use the M2M Entitlement that corresponds to the hour of the week and to the M2M Entitlement Period for which the real-time Market Flow is being calculated.

6.2 M2M Entitlement Calculation

Each Party shall independently calculate the Non-Monitoring RTO's M2M Entitlement for all M2M Flowgates using the equations set forth in this section. The Parties shall mutually agree upon the initial M2M Entitlement calculations. Any disputes that arise in the M2M

Entitlement calculations will be resolved in accordance with the dispute resolution procedures set forth in section 35.15 of the Agreement.

The RECo load shall be excluded from the M2M Market Flows and M2M Entitlements until such time as the Parties reach agreement regarding how service to RECo load should be handled in the M2M coordination process. When the Parties reach an agreement, the Parties shall file for Commission acceptance the necessary revisions to this Agreement.

The following assumptions apply to the M2M Entitlement calculation:

1. the Parties shall calculate the values in this section using the M2M Entitlement Topology Model discussed in Section 6.1 above, unless otherwise stated; and
2. perfect PAR Control exists for the calculations.

Once the reference year raw entitlements have been calculated (using a formula agreed upon by the Parties) for each hour of the years 2009, 2010 and 2011, the new M2M Entitlement will be determined for a representative week in each M2M Entitlement Period using the method established in Section 6.1 above. In the event of new or upgraded Transmission Facilities, Section 6.3 below sets forth the rules that will be used to adjust M2M Entitlements.

6.2.1 Treatment of Out-of-Area Capacity Resources and Representation of Ontario/Michigan PARs in the M2M Entitlement Calculation Process

6.2.1.1 Modeling of External Capacity Resources

External capacity resources will not be included in the M2M Entitlement calculation until such time as the Parties reach agreement regarding how external capacity resources should be handled in the M2M coordination process. Instead, each Balancing Authority's load will be served by that Balancing Authority's internal resources in the system model that is used to calculate M2M Entitlements.

6.2.1.2 Modeling of the Ontario/Michigan PARs

Two sets of M2M Entitlements will be calculated. In the first set of M2M Entitlements, the Ontario/Michigan interface will be represented as regulating (conforming actual power flows to scheduled power flows at the interface). In the second set of M2M Entitlements, the Ontario/Michigan interface will be represented as not regulating. The RTOs will retain both sets of M2M Entitlement results for future use.

Thirty days prior to the beginning of each M2M Entitlement Period the Parties will review the actual operating history of the Ontario/Michigan PARs for the immediately prior 12 months to determine when the Ontario/Michigan PARs adequately controlled actual power flows to match scheduled power flows.

If the Ontario/Michigan PARs were out-of-service or bypassed for an extended, consecutive period of one month or longer within the immediately prior 12 months, then the

period during which the Ontario/Michigan PARs were out-of-service or bypassed will be excluded from the Ontario/Michigan PAR operating history and a determination regarding whether or not the PARs were regulating will be made based on the Ontario/Michigan PAR operating history that is available for the immediately prior 12 months. However, if the exclusion of period(s) during which the Ontario/Michigan PARs were out-of-service or bypassed results in less than six months operating history being available in the immediately prior 12 months, then the M2M Entitlement set that reflects the modeling of the Ontario/Michigan PARs as not regulating will be used until there is at least six months operating history available for evaluation on the date that the Ontario/Michigan PAR operating history evaluation commences (thirty days prior to an upcoming M2M Entitlement Period).

If the Ontario/Michigan PAR operating history demonstrates that actual power flows at the Ontario/Michigan Interface were within *a mutually agreed upon bandwidth* of scheduled power flows in *a mutually agreed upon minimum percentage* of hours, then the M2M Entitlement set that reflects the modeling of the Ontario/Michigan PARs as regulating will be used for the upcoming M2M Entitlement Period. Otherwise, the M2M Entitlement set that reflects the modeling of the Ontario/Michigan PARs as not regulating will be used for the upcoming M2M Entitlement Period.

If any of the PARs at the Ontario/Michigan interface are out-of-service and expected to continue to be out-of-service for one month or more of an upcoming three month M2M Entitlement period, then the M2M Entitlement set that reflects the modeling of the Ontario/Michigan PARs as non-regulating will be used for that entitlement period.

6.3 M2M Entitlement Adjustment for New Transmission Facilities or Upgraded Transmission Facilities

This section sets forth the rules for incorporating new or upgraded Transmission Facilities, added after the reference year M2M Entitlements have been established, into the M2M Entitlement calculation.

If the cost of a new or upgraded Transmission Facility is borne solely by the Market Participants of the Monitoring RTO for the new or upgraded Transmission Facility, the Market Participants of the Monitoring RTO will exclusively benefit from the increase in transfer capability on the Monitoring RTO's Transmission Facilities. Therefore, the Non-Monitoring RTO's M2M Entitlements shall not increase as result of such new or upgraded Transmission Facilities. Moreover, a Monitoring RTO's M2M Entitlements shall not decrease as a result of such new or upgraded Transmission Facilities.

If Transmission Facilities outside the Balancing Authority Areas of the Parties are added or upgraded and the new or upgraded Transmission Facilities would, individually or in aggregate, cause a change in either Party's aggregate M2M Entitlements of at least 10%, then the Parties may mutually agree to incorporate those Transmission Facilities into the M2M Entitlement calculations.

M2M Entitlement Adjustment Calculation for the Non-Monitoring RTO:

For all M2M Entitlement adjustments, the Non-Monitoring RTO is the non-funding market, and the Monitoring RTO is the funding market.

To the extent a Monitoring RTO's upgrade or new Transmission Facility results in reduced Non-Monitoring RTO's impacts on a Monitoring RTO's M2M Flowgate, the Non-Monitoring RTO's M2M Entitlement will be redistributed to ensure that the Non-Monitoring RTO's aggregate M2M Entitlements on all the Monitoring RTO's M2M Flowgates is not decreased.

The total Non-Monitoring RTO's circulation through the Monitoring RTO shall not result in net increased M2M Entitlement on the Monitoring RTO's system. Therefore, a formula agreed upon by the Parties shall be computed for each hour of the years 2009, 2010, and 2011 to determine the pro-rata adjustment that shall be applied to each Monitoring RTO's M2M Flowgates. Once a new raw entitlement that incorporates the topology adjustment has been calculated (using a formula agreed upon by the Parties) for each hour of the years 2009, 2010 and 2011, the new M2M Entitlement will be determined for each hour and day of the week in each M2M Entitlement Period using the method established in Section 6.1 above.

7 Real-Time Energy Market Coordination

Operation of the Ramapo PARs and redispatch are used by the Parties in real-time operations to effectuate this M2M coordination process. Operation of the Ramapo PARs will permit the Parties to redirect energy to reduce the overall cost of managing transmission congestion and to converge the participating RTOs' cost of managing transmission congestion. Operation of the Ramapo PARs to manage transmission congestion requires cooperation between the NYISO and PJM. Operation of the Ramapo PARs shall be coordinated with the operation of other PARs at the NYISO – PJM interface.

When a M2M Flowgate that is under the operational control of either NYISO or PJM and that is eligible for redispatch coordination, becomes binding in the Monitoring RTOs real-time security constrained economic dispatch, the Monitoring RTO will notify the Non-Monitoring RTO of the transmission constraint and will identify the appropriate M2M Flowgate that requires redispatch assistance. The Monitoring and Non-Monitoring RTOs will provide the economic value of the M2M Flowgate constraint (i.e., the Shadow Price) as calculated by their respective dispatch models. Using this information, the security-constrained economic dispatch of the Non-Monitoring RTO will include the M2M Flowgate constraint; the Monitoring RTO will evaluate the actual loading of the M2M Flowgate constraint and request that the Non-Monitoring RTO modify its Market Flow via redispatch if it can do so more efficiently than the Monitoring RTO (i.e., if the Non-Monitoring RTO has a lower Shadow Price for that M2M Flowgate than the Monitoring RTO).

An iterative coordination process will be supported by automated data exchanges in order to ensure the process is manageable in a real-time environment. The process of evaluating the Shadow Prices between the RTOs will continue until the Shadow Prices converge and an

efficient redispatch solution is achieved. The continual interactive process over the following dispatch cycles will allow the transmission congestion to be managed in a coordinated, cost-effective manner by the RTOs. A more detailed description of this iterative procedure is discussed in Section 7.1 and the appropriate use of this iterative procedure is described in Section 8.

7.1 Real-Time Redispatch Coordination Procedures

The following procedure will apply for managing redispatch for M2M Flowgates in the real-time Energy market:

1. M2M Flowgates shall be monitored per each RTO's internal procedures. When an M2M Flowgate is constrained to a defined limit (actual or contingency flow) by a non-transient constraint, the Monitoring RTO shall consider it as a M2M constraint; limits are verified and updated as required.
2. The Monitoring RTO initiates M2M, notifies the Non-Monitoring RTO of the M2M Flowgate that is subject to coordination and updates required information.
3. The Non-Monitoring RTO shall acknowledge receipt of the notification and one of the following shall occur:
 - a. The Non-Monitoring RTO refuses to activate M2M:
 - i. The Non-Monitoring RTO notifies the Monitoring RTO of the reason for refusal; and
 - ii. The M2M State is set to "Refused"; or
 - b. The Non-Monitoring RTO agrees to activate M2M:
 - i. Such an agreement shall be considered an initiation of the M2M process for operational and settlement purposes; and
 - ii. The M2M State is set to "Activated".
4. The Parties have agreed to transmit information required for the administration of this procedure, as per section 35.7.1 of the Agreement.
5. As Shadow Prices converge and approach zero, the Monitoring RTO shall be responsible for the continuation or termination of the M2M process. Current and forecasted future system conditions shall be considered.¹
6. Upon termination of M2M, the Monitoring RTO shall
 - a. Notify the Non-Monitoring RTO; and
 - b. Transmit M2M data to the Non-Monitoring RTO with the M2M State set to "Closed". The timestamp with this transmission shall be considered termination of the M2M process for operational and settlement purposes.

¹ Termination of M2M redispatch may be requested by either RTO in the event of a system emergency.

7.2 Real-Time Ramapo PAR Coordination

The Ramapo PARs will be operated to facilitate interchange schedules while minimizing regional congestion costs. When congestion is not present, the Ramapo PARs will be operated to achieve the target flow as established below in Section 7.2.1.

In order to preserve the long-term availability of the Ramapo PARs, a maximum of 20 taps per PAR per day, and a maximum of 400 taps per calendar month will normally be observed.

7.2.1 Ramapo Target Value

A Target Value for flow between the NYISO and PJM shall be determined for each Ramapo PAR (the 3500 PAR and the 4500 PAR) (“Target_{Ramapo}”). These Target Values shall be determined by a formula based on the net interchange schedule between the Parties plus the deviation of actual flows and desired flows across the ABC and JK interfaces and shall be used for settlement purposes as:

$$\begin{aligned} \textit{Target}_{\textit{Ramapo}} &= ((\textit{RamapoInterchangeFactor}) + (\textit{WheelImbalance}) \\ &+ (\textit{RemainingImbalance})) \end{aligned}$$

Where:

$\textit{Target}_{\textit{Ramapo}} =$ _____ Calculated Target Value for the flow on each Ramapo PAR (PAR3500 and PAR4500);

$\textit{RamapoInterchangeFactor} =$ _____ 61% of the net interchange schedule from PJM to NYISO over the AC tie lines distributed evenly across the in-service Ramapo PARs;

$\textit{WheelImbalance} =$ _____ As described in the wheel imbalance formula below, 72% multiplied by the imbalance of the 600/400 MW transactions described in Schedule C to the Agreement distributed evenly across the in-service Ramapo PARs;

$\textit{RemainingImbalance} =$ _____ As described in the remaining imbalance formula below, 28% multiplied by the imbalance of the JK/ABC transactions described in Schedule C to the Agreement distributed evenly across the in-service Ramapo PARs.

The Participating RTOs agree to compute the *WheelImbalance* and *RemainingImbalance* terms above as set forth below.

In accordance with Appendix 3 of Schedule C to the Agreement, the Participating RTOs will mutually agree on the circumstances under which they will allow thirteen percent of PJM to New York interchange schedules to flow over the ABC and JK interfaces. When thirteen percent

of PJM to New York interchange schedules is allowed to flow over the ABC and JK interfaces, the thirteen percent will be captured as a change to the $Actual_{JK}$ and $Actual_{ABC}$ terms below.

The $WheelImbalance$ is the distribution of actual flows over Ramapo that is incorporated in the Ramapo PAR Target Value when the actual flows on the ABC and JK interfaces do not perfectly match the ABC and JK interfaces desired flow.

$$WheelImbalance = 72\% \times \left(\left(Actual_{JK} - (RTE + Auto\ Correction\ Factor_{JK}) \right) - \left(Actual_{ABC} - (RTE + Auto\ Correction\ Factor_{ABC}) \right) \right)$$

Where:

$Actual_{JK} =$ _____ Telemetered real-time flow over the JK interface, where positive indicates flows from NYISO to PJM;

$Actual_{ABC} =$ _____ Telemetered real-time flow over the ABC interface, where positive indicates flows from PJM to NYISO;

$RTE =$ _____ Con Edison real-time election pursuant to Schedule C to the Agreement, where positive indicates flows from the JK interface to the ABC interface;

$Auto\ Correction\ Factor_{JK} =$ _____ The JK interface Auto Correction component of the JK interface real-time desired flow as described in Schedule C to the Agreement, where positive indicates flows from NYISO to PJM; and

$Auto\ Correction\ Factor_{ABC} =$ _____ The ABC interface Auto Correction component of the ABC interface real-time desired flow as described in Schedule C to the Agreement, where positive indicates flows from PJM to NYISO.

The $RemainingImbalance$ is the distribution of actual flows over the western free flow ties that is incorporated in the Ramapo PAR Target Value when the actual flows on the ABC and JK interfaces do not perfectly match the ABC and JK interfaces desired flow.

$$RemainingImbalance = 28\% \times \left(\left(Actual_{JK} - (RTE + Auto\ Correction\ Factor_{JK}) \right) - \left(Actual_{ABC\ s} - (RTE + Auto\ Correction\ Factor_{ABC}) \right) \right)$$

Where:

$Actual_{JK} =$ _____ Telemetered real-time flow over the JK interface, where positive indicates flows from NYISO to PJM;

$Actual_{ABC} =$ _____ Telemetered real-time flow over the ABC interface, where positive indicates flows from PJM to NYISO;

$RTE =$ _____ Con Edison real-time election pursuant to Schedule C to the Agreement, where positive indicates flows from the JK interface to the ABC interface;

$Auto\ Correction\ Factor_{JK} =$ _____ The JK interface Auto Correction component of the JK interface real-time desired flow as described in Schedule C to the Agreement, where positive indicates flows from NYISO to PJM; and

$Auto\ Correction\ Factor_{ABC\ PARS} =$ _____ The ABC interface Auto Correction component of the ABC interface real-time desired flow as described in Schedule C to the Agreement, where positive indicates flows from PJM to NYISO.

7.2.2 Determination of the Cost of Congestion at Ramapo

The incremental cost of congestion relief provided by each Ramapo PAR shall be determined by each of the Parties. These costs shall be determined by multiplying each Party's Shadow Price on each of its M2M Flowgates by each Ramapo PAR's OTDF for the relevant M2M Flowgates.

The incremental cost of congestion relief provided by each Ramapo PAR shall be determined by the following formula:

$$Congestion\$_{(Ramapo,RTO)} = \sum_{M2M\ Flowgates-m \in M2M\ Flowgates_{RTO}} (OTDF_{(M2M\ Flowgate-m,Ramapo)} \times Shadow\$_{M2M\ Flowgate-m})$$

Where:

$Congestion\$_{(Ramapo,RTO)} =$ _____ Cost of congestion at each Ramapo PAR for the relevant participating RTO;

$M2M\ Flowgates_{RTO} =$ _____ Set of M2M Flowgates for the relevant participating RTO;

$OTDF_{(M2M\ Flowgate-m,Ramapo)} =$ _____ The PAR OTDF for each Ramapo PARs on M2M Flowgate-m; and

$Shadow\$_{M2M\ Flowgate-m} =$ _____ The Shadow Price on the relevant participating RTO's M2M Flowgate m.

7.2.3 Desired PAR Changes

If the NYISO congestion costs associated with the Ramapo PAR are greater than the PJM congestion costs associated with the Ramapo PAR, then hold or take taps into NYISO.

If the PJM congestion costs associated with the Ramapo PAR are greater than NYISO congestion costs associated with the Ramapo PAR, then hold or take taps into PJM.

Any action on the Ramapo PARs will be coordinated between the Parties and taken into consideration other PAR actions.

8 Real-Time Energy Market Settlements

8.1 Information Used to Calculate M2M Settlements

For each M2M Flowgate there are two components of the M2M settlement, a redispatch component and a Ramapo PARs coordination component. Both M2M settlement components are defined below.

For the redispatch component, market settlements under this M2M Schedule will be calculated based on the following:

1. the Non-Monitoring RTO's real-time Market Flow on each M2M Flowgate compared to its M2M Entitlement for M2M Flowgates eligible for redispatch on each M2M Flowgate; and
2. the *ex-ante* Shadow Price at each M2M Flowgate.

For the Ramapo PARs coordination component, Market settlements under this M2M Schedule will be calculated based on the following:

1. actual real-time flow on each of the Ramapo PARs compared to its target flow ($Target_{Ramapo}$);
2. Ramapo PAR OTDF for each M2M Flowgate; and
3. the *ex-ante* Shadow Price at each M2M Flowgate.

8.2 Real-Time Redispatch Settlement

If the M2M Flowgate is eligible for redispatch, then compute the real-time redispatch settlement for each interval as specified below.

When $RT_MktFlow_{M2M\ Flowgate-m} > M2M_Ent_{M2M\ Flowgate-m}$

$$\begin{aligned}
 \text{MonRTO_Payment}_{M2M \text{ Flowgate}-m} &= \text{Mon_Shadow}_{M2M \text{ Flowgate}-m} \\
 &\times (\text{RT_MktFlow}_{M2M \text{ Flowgate}-m} - \text{M2M_Ent}_{M2M \text{ Flowgate}-m})
 \end{aligned}$$

When $\text{RT_MktFlow}_{M2M \text{ Flowgate}-m} < \text{M2M_Ent}_{M2M \text{ Flowgate}-m}$,

$$\begin{aligned}
 \text{Non_Mon_Payment}_{M2M \text{ Flowgate}-m} &= \text{Non_Mon_Shadow}_{M2M \text{ Flowgate}-m} \\
 &\times (\text{M2M_Ent}_{M2M \text{ Flowgate}-m} - \text{RT_MktFlow}_{M2M \text{ Flowgate}-m})
 \end{aligned}$$

Where:

$\text{Non_MonRTO_Payment}_{M2M \text{ Flowgate}-m}$ = M2M redispatch settlement, in the form of a payment to the Non-Monitoring RTO from the Monitoring RTO, for M2M Flowgate m;

$\text{MonRTO_Payment}_{M2M \text{ Flowgate}-m}$ = M2M redispatch settlement, in the form of a payment to the Monitoring RTO from the Non-Monitoring RTO, for M2M Flowgate m;

$\text{RT_MktFlow}_{M2M \text{ Flowgate}-m}$ = real-time RTO_MF for M2M Flowgate m;

$\text{M2M_Ent}_{M2M \text{ Flowgate}-m}$ = Non-Monitoring RTO M2M Entitlement for M2M Flowgate m;

$\text{Mon_Shadow}_{M2M \text{ Flowgate}-m}$ = Monitoring RTO's Shadow Price for M2M Flowgate m; and

$\text{Non_Mon_Shadow}_{M2M \text{ Flowgate}-m}$ = Non-Monitoring RTO's Shadow Price for M2M Flowgate m.

8.3 Ramapo PARs Settlement

For each M2M Flowgate, compute the real-time Ramapo PAR settlement for each interval as specified below.

For each M2M Flowgate, when $\text{Actual}_{\text{Ramapo}} > \text{Target}_{\text{Ramapo}}$,

$$\begin{aligned}
 \text{PJMPayment}_{M2M \text{ Flowgate}-m} &= \text{Shadow}_{M2M \text{ Flowgate}-m} \times \text{OTDF}_{(M2M \text{ Flowgate}-m, \text{Ramapo})} \\
 &\times (\text{Actual}_{\text{Ramapo}} - \text{Target}_{\text{Ramapo}})
 \end{aligned}$$

For each M2M Flowgate, when $Actual_{Ramapo} < Target_{Ramapo}$:

$$NYPayment_{M2M\ Flowgate-m} = Shadow\$_{M2M\ Flowgate-m} \times OTDF_{(M2M\ Flowgate-m, Ramapo)} \times (Target_{Ramapo} - Actual_{Ramapo})$$

Where:

$Actual_{Ramapo}$ = Measured real-time actual flow on each of the Ramapo PARs. For purposes of this equation, a positive value indicates a flow from PJM to the NYISO;

$Target_{Ramapo}$ = Calculated Target Value for the flow on each Ramapo PAR (PAR3500 and PAR4500) as described in Section 7.2.1 above. For purposes of this equation, a positive value indicates a flow from PJM to the NYISO;

$Shadow\$_{M2M\ Flowgate-m}$ = Shadow Price, as computed by the payee, for M2M Flowgate m;

$OTDF_{(M2M\ Flowgate-m, Ramapo)}$ = The PAR OTDF for each Ramapo PARs for M2M Flowgate m;

$PJMPayment_{M2M\ Flowgate-m}$ = Ramapo PARs settlement, in the form of a payment to PJM from NYISO, for M2M Flowgate m; and

$NYPayment_{M2M\ Flowgate-m}$ = Ramapo PARs settlement, in the form of a payment to NYISO from PJM, for M2M Flowgate m.

8.4 Calculating a Combined M2M Settlement

The M2M settlement for each M2M Flowgate shall be the sum of the real-time redispatch settlement and Ramapo PARs settlement

If NYISO is the Monitoring RTO for the M2M Flowgate:

$$M2M\ Settlement_{M2M\ Flowgate\ m_i} = \left(MonRTO\ Payment_{M2M\ Flowgate\ m_i} - Non\ MonRTO\ Payment_{M2M\ Flowgate\ m_i} + NYPayment_{M2M\ Flowgate\ m_i} \right) \times S_i / 3600sec$$

If PJM is the Monitoring RTO for the M2M Flowgate:

$$M2M \text{ Settlement}_{M2M \text{ Flowgate } m_i} = \left(\frac{MonRTO \text{ Payment}_{M2M \text{ Flowgate } m_i} - Non \text{ MonRTO} \text{ Payment}_{M2M \text{ Flowgate } m_i} + PJMPayment_{M2M \text{ Flowgate } m_i}}{3600} \right) \times S_i / 3600 \text{ sec}$$

Where:

$M2M \text{ Settlement}_{M2M \text{ Flowgate } m_i}$ = M2M settlement, defined as a payment from the Non-Monitoring RTO to the Monitoring RTO, for interval i ; and

$Non \text{ MonRTO} \text{ Payment}_{M2M \text{ Flowgate } m_i}$ = Non-Monitoring RTO payment to Monitoring RTO for congestion on M2M Flowgate m for interval i ;

$MonRTO \text{ Payment}_{M2M \text{ Flowgate } m_i}$ = Monitoring RTO payment to Non-Monitoring RTO for congestion on M2M Flowgate m for interval i ;

$PJMPayment_{M2M \text{ Flowgate } m_i}$ = Ramapo PARs settlement, in the form of a payment to PJM from NYISO, for M2M Flowgate m for interval i ;

$NYPayment_{M2M \text{ Flowgate } m_i}$ = Ramapo PARs settlement, in the form of a payment to NYISO from PJM, for M2M Flowgate m for interval i ;
and S_i = number of seconds in interval i .

For the purpose of settlements calculations, each interval will be calculated separately and then integrated to an hourly value:

$$M2M_Settlement_h = \sum_{M2M \text{ Flowgate } m}^{all} \sum_{i=1}^n M2M_Settlement_{M2M \text{ Flowgate } m_i}$$

Where:

$M2M_Settlement_h$ = M2M settlement for hour h ; and

n = Number of intervals in hour h .

Section 10.1 of this M2M Schedule sets forth circumstances under which the M2M coordination process and M2M settlements may be temporarily suspended.

9 When One of the RTOs Does Not Have Sufficient Redispatch

Under the normal M2M coordination process, sufficient redispatch for a M2M Flowgate may be available in one RTO but not the other. When this condition occurs, in order to ensure

an operationally efficient dispatch solution is achieved, the RTO without sufficient redispatch will redispatch all effective generation to control the M2M Flowgate to a “relaxed” Shadow Price limit. Then this RTO calculates the Shadow Price for the M2M Flowgate using the available redispatch which is limited by the maximum physical control action inside the RTO. Because the magnitude of the Shadow Price in this RTO cannot reach that of the other RTO with sufficient redispatch, unless further action is taken, there will be a divergence in Shadow Prices and the LMPs at the RTO border.

A special process is designed to enhance the price convergence under this condition. If the Non-Monitoring RTO cannot provide sufficient relief to reach the Shadow Price of the Monitoring RTO, the constraint relaxation logic will be deactivated. The Non-Monitoring RTO will then be able to use the Monitoring RTO’s Shadow Price without limiting the Shadow Price to the maximum Shadow Price associated with a physical control action inside the Non-Monitoring RTO. With the M2M Flowgate Shadow Prices being the same in both RTOs, their resulting bus LMPs will converge in a consistent price profile.

10 Appropriate Use of the M2M Process

Under normal operating conditions, the Parties will model all M2M Flowgates in their respective real-time EMSs. M2M Flowgates will be controlled using M2M tools for coordinated redispatch and coordinated operation of the Ramapo PARs, and will be eligible for M2M settlements.

10.1 Qualifying Conditions for M2M Settlement

10.1.1 Purpose of M2M. M2M was established to address regional, not local issues. The intent is to implement the M2M coordination process and settle on such coordination where both Parties have significant impact.

10.1.2 Minimizing Less than Optimal Dispatch. The Parties agree that, as a general matter, they should minimize financial harm to one RTO that results from the M2M coordination process initiated by the other RTO that produces less than optimal dispatch.

10.1.3 Use M2M Whenever Binding a M2M Flowgate. During normal operating conditions, the M2M redispatch process will be initiated by the Monitoring RTO whenever an M2M Flowgate that is eligible for redispatch is constrained and therefore binding in its dispatch. Coordinated operation of the Ramapo PARs is the default condition and does not require initiation by either Party to occur.

10.1.4 Most Limiting Flowgate. Generally, controlling to the most limiting Flowgate provides the preferable operational and financial outcome. In principle and as much as practicable, the M2M coordination process will take place on the most limiting Flowgate, and to that Flowgate’s actual limit (thermal, reactive, stability).

10.1.5 Abnormal Operating Conditions. A Party that is experiencing system conditions that require the system operators' immediate attention may temporarily delay implementation of the M2M redispatch process or cease an active M2M redispatch event until a reasonable time after the system condition that required the system operators' immediate attention is resolved.

10.1.6 Transient System Conditions. A Party that is experiencing intermittent congestion due to transient system conditions including, but not limited to, interchange ramping or transmission switching, is not required to implement the M2M redispatch process unless the congestion continues after the transient condition(s) have concluded.

10.1.7 Temporary Cessation of M2M Coordination Process Pending Review. If the net charges to a Party resulting from implementation of the M2M coordination process for a market-day exceed five hundred thousand dollars, then the Party that is responsible for paying the charges may (but is not required to) suspend implementation of this M2M coordination process (for a particular M2M Flowgate, or of the entire M2M coordination process) until the Parties are able to complete a review to ensure that both the process and the calculation of settlements resulting from the M2M coordination process are occurring in a manner that is both (a) consistent with this M2M Coordination Schedule, and (b) producing a just and reasonable result. The Party requesting suspension must identify specific concerns that require investigation within one business day of requesting suspension of the M2M coordination process. If, following their investigation, the Parties mutually agree that the M2M coordination process is (i) being implemented in a manner that is consistent with this M2M Coordination Schedule and (ii) producing a just and reasonable result, then the M2M coordination process shall be re-initiated as quickly as practicable. If the Parties are unable to mutually agree that the M2M coordination process was being implemented appropriately, or of the Parties are unable to mutually agree that the M2M coordination process was producing a just and reasonable result, the suspension (for a particular M2M Flowgate, or of the entire M2M coordination process) shall continue while the Parties engage in dispute resolution in accordance with section 35.15 of the Agreement.

10.1.8 Suspension of M2M Settlement when a Request for Taps on Common PARs to Prevent Overuse is Refused. If a Party requests that taps be taken on any Common PAR to reduce the requesting Party's overuse of the other Party's transmission system, refusal by the other Party or its Transmission Owner(s) to permit taps to be taken to reduce overuse shall result in the Ramapo PAR settlement component of M2M (see Section 8.3 above) being suspended for the requesting Party until the tap request is granted. The refusing Party shall not be relieved of any of its M2M settlement obligations.

10.2 After-the-Fact Review to Determine M2M Settlement

Based on the communication and data exchange that has occurred in real-time between the Parties, there will be an opportunity to review the use of the market-to-market process to verify it was an appropriate use of the M2M coordination process and subject to M2M settlement. The Parties will initiate the review as necessary to apply these conditions and settlements adjustments.

10.3 Access to Data to Verify Market Flow Calculations

Each Party shall provide the other Party with data to enable the other Party independently to verify the results of the calculations that determine the M2M settlements under this M2M Coordination Schedule. A Party supplying data shall retain that data for two years from the date of the settlement invoice to which the data relates, unless there is a legal or regulatory requirement for a longer retention period. The method of exchange and the type of information to be exchanged pursuant to section 35.7.1 of the Agreement shall be specified in writing. The Parties will cooperate to review the data and mutually identify or resolve errors and anomalies in the calculations that determine the M2M settlements. If one Party determines that it is required to self report a potential violation to the Commission's Office of Enforcement regarding its compliance with this M2M Coordination Schedule, the reporting Party shall inform, and provide a copy of the self report to, the other Party. Any such report provided by one Party to the other shall be Confidential Information.

11 M2M Change Management Process

11.1 Notice

Prior to changing any process that implements this M2M Schedule, the Party desiring the change shall notify the other Party in writing or via email of the proposed change. The notice shall include a complete and detailed description of the proposed change, the reason for the proposed change, and the impacts the proposed change is expected to have on the implementation of the M2M coordination process, including M2M settlements under this M2M Schedule.

11.2 Opportunity to Request Additional Information

Following receipt of the Notice described in Section 10.1, the receiving party may make reasonable requests for additional information/documentation from the other Party. Absent mutual agreement of the parties, the submission of a request for additional information under this Section shall not delay the obligation to timely note any objection pursuant to Section 10.3, below.

11.3 Objection to Change

Within ten business days after receipt of the Notice described in Section 10.1 (or within such longer period of time as the parties mutually agree), the receiving Party may notify in

writing or via email the other Party of its disagreement with the proposed change. Any such notice must specifically identify and describe the concern(s) that required the receiving party to object to the described change.

11.4 Implementation of Change

The Party proposing a change to its implementation of the M2M coordination process shall not implement such change until (a) it receives written or email notification from the other Party that the other Party concurs with the change, or (b) the ten business day notice period specified in Section 10.3 expires, or (c) completion of any dispute resolution process initiated pursuant to this Agreement.

Attachment III

PJM Certificate of Concurrence

CERTIFICATE OF CONCURRENCE

This is to certify that the PJM Interconnection, L.L.C. assents and concurs with the revisions to the Joint Operating Agreement Among and Between New York Independent System Operator, Inc. ("NYISO) and PJM Interconnection, L.L.C. ("PJM") filed by NYISO in Docket No. ER08-1281-007. PJM hereby files this Certificate of Concurrence in lieu of filing the rate schedule specified below.

Tariff Designations:

NYISO OATT 35 Attachment CC

PJM Rate Schedule No. 45

Respectfully submitted,

PJM Interconnection, L.L.C.

By: /s/ James M. Burlew

James M. Burlew
Regulatory Counsel
PJM Interconnection, L.L.C.

Dated: December 30, 2011

Attachment IV

NYISO Services Tariff – clean version

5.1 Control Area Services

The ISO will provide Control Area Services in accordance with the standards and criteria of NERC and NPCC, the Reliability Rules of the NYSRC, and Good Utility Practice. The Control Area Services provided by the ISO include, but are not limited to, the following:

- (a) Developing and implementing procedures to maintain the reliability of NYS Power System;
- (b) Coordinating operations with other Control Area operators;
- (c) Arranging for reserve sharing agreements with other ISOs and other Control Areas to enhance reliability during abnormal operating conditions;
- (d) Coordinating the outage schedules for generating units within the NYCA to maintain system reliability;
- (e) Committing adequate generation resources to ensure the reliability of the NYS Power System;
- (f) Taking command and control of the NYCA resources during Emergency conditions and coordinating operations with Transmission Owners;
- (g) Maintaining and Operating a central control center and performing the functions of the NERC security control center for the NYCA under Emergency operating conditions;
- (h) Defining the Installed Capacity requirements for LSEs, inclusive of individual customers taking services directly from the ISO, within the NYCA;
- (i) Determining Locational Installed Capacity requirements for LSEs to ensure the reliable operation of the NYCA;
- (j) Administering of an Installed Capacity Market;

- (k) Training the operating personnel of the ISO and Transmission Owner control rooms; and
- (l) Administering the mandatory NERC reliability compliance process.

5.1.1 Customer Compliance with Reliability Standards; Penalties

5.1.1.1 Customer Compliance with Reliability Standards:

In accordance with applicable requirements in this Tariff and the ISO Procedures, all Customers shall conform to all applicable reliability criteria, policies, standards, rules, regulations and other requirements of NERC, NPCC, NYSRC, any applicable regional council, or their successors, the ISO's specific reliability requirements and ISO Procedures, and applicable operating guidelines and all applicable requirements of federal and state regulatory authorities. Failure to conform to these requirements may subject a Customer to direct assignment of penalties assessed against the ISO by FERC, NERC, NPCC or any other federal or state regulatory authority as a result of such Customer's failure to conform.

5.1.1.2 Direct Assignment of Penalty Costs:

The ISO's compliance with applicable reliability criteria, policies, standards, rules, regulations and other requirements is sometimes dependent on timely, accurate and adequate information and/or action on the part of a Customer. If the ISO is found to be non-compliant with respect to any applicable reliability criteria, policies, standards, rules, regulations and other requirements as a result of a Customer's actions or failure to act in violation of an obligation imposed by the ISO Tariffs, ISO Procedures, or ISO Related Agreements, the ISO may seek to directly assign to the Customer the cost of a penalty imposed on the ISO as a consequence of its non-compliance. If the Customer is found to be non-compliant with respect to any applicable

reliability criteria, policies, standards, rules, regulations and other requirements as a result of the ISO's actions or failure to act in violation of an obligation imposed by the ISO Tariffs, ISO Procedures, or ISO Related Agreements, the Customer may seek to directly assign to the ISO the cost of a penalty imposed on the Customer as a consequence of the ISO's non-compliance. Any direct assignment of penalty costs must first be approved by FERC, as provided in Schedule 6.11 of the OATT.

5.1.1.3 ISO's Recovery of Penalty Costs Through Schedule 11:

If direct assignment to a particular Customer is not possible or if the ISO is directly responsible for a violation because of its own action or inaction, the ISO may seek to recover such penalty costs in Schedule 6.11 Section 6.11.3 of the ISO OATT. Any inclusion of penalty costs in Schedule 6.11 must first be approved by FERC on a case-by-case basis, as provided in Schedule 6.11 of the ISO OATT. Prior to seeking FERC authorization for recovery of a penalty in Schedule 6.11 Section 6.11.3 of the ISO OATT, the ISO shall consult with the Management Committee and any appropriate subcommittee or working groups designated by the Management Committee, regarding the recovery and allocation of such penalty before filing at FERC. Any recommendation by the Management Committee regarding a proposed penalty recovery shall be reported by the ISO to FERC in any ISO filing seeking penalty recovery.

5.1.2 Incorporation of Certain Business Practice Standards

- (a) Pursuant to Commission Order No. 676-E, the ISO incorporates by reference the following business practice standards developed by the North American Energy Standards Board's Wholesale Electric Quadrant.

Open Access Same-Time Information Systems (OASIS), Version 1.5 (WEQ-001, Version 002.1, March 11, 2009, with minor corrections applied May 29, 2009 and September 8, 2009) , except as provided below;

Coordinate Interchange (WEQ-004, Version 002.1, March 11, 2009, with minor corrections applied May 29, 2009 and September 8, 2009), except as provided below;

Area Control Error (ACE) Equation Special Cases Standards (WEQ-005, Version 002.1, March 11, 2009, with minor corrections applied May 29, 2009 and September 8, 2009);

Manual Time Error Correction (WEQ-006, Version 001, Oct. 31, 2007, with minor corrections applied on Nov. 16, 2007);

Inadvertent Interchange Payback (WEQ-007, Version 002.1, March 11, 2009, with minor corrections applied May 29, 2009 and September 8, 2009);

Transmission Loading Relief - Eastern Interconnection (WEQ-008, Version 002.1, March 11, 2009, with minor corrections applied May 29, 2009 and September 8, 2009);

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Public Key Infrastructure (PKI) (WEQ-012, Version 002.1, March 11, 2009, with minor corrections applied May 29, 2009 and September 8, 2009); and

Measurement and Verification of Wholesale Electricity Demand Response (WEQ-015, 2008 Annual Plan Item 5(a), March 16, 2009).

(b) The ISO is not required to comply with the following Standards:

Open Access Same-Time Information Systems (OASIS), Version 1.5 (WEQ-001, Version 002.1, March 11, 2009, with minor corrections applied on May 29, 2009 and September 8, 2009): Standards 001-2, *et seq.* through 001-12, *et seq.*, 001-13.1.2 *et seq.*, 001-13.1.3(b), 001-13.1.3(c); 001-14.2, *et seq.*, 001-15.2.1, *et seq.*, 001-17.5 through 001-22, *et seq.* and Appendices 001-A, 001-B, and 001-D;

Open Access Same-Time Information Systems (OASIS) Standards & Communication Protocols, Version 1.5 (WEQ-002, Version 002.1, March 11, 2009 with minor corrections applied May 29, 2009 and September 8, 2009): Standard 002, *et seq.*

Open Access Same-Time Information Systems (OASIS) Data Dictionary, Version 1.5 (WEQ-003, Version 002.1, March 11, 2009, with minor corrections applied May 29, 2009 and September 8, 2009);

Coordinate Interchange (WEQ-004, Version 002.1, March 11, 2009, with minor corrections applied May 29, 2009 and September 8, 2009): Standards 004-3, 004-3.1, 004-8.2, 004-11.1(a), 004-18, *et seq.*, and Appendices 004-A, and 004-C to the extent they govern physical transmission reservations; and

Open Access Same-Time Information Systems (OASIS) Implementation Guide, Version 1.5 (WEQ-013, Version 002.1, March 11, 2009, with minor corrections applied May 29, 2009 and September 8, 2009): Standard 013, *et seq.*

Attachment V

NYISO Services Tariff – blacklined version

5.1 Control Area Services

The ISO will provide Control Area Services in accordance with the standards and criteria of NERC and NPCC, the Reliability Rules of the NYSRC, and Good Utility Practice. The Control Area Services provided by the ISO include, but are not limited to, the following:

- (a) Developing and implementing procedures to maintain the reliability of NYS Power System;
- (b) Coordinating operations with other Control Area operators;
- (c) Arranging for reserve sharing agreements with other ISOs and other Control Areas to enhance reliability during abnormal operating conditions;
- (d) Coordinating the outage schedules for generating units within the NYCA to maintain system reliability;
- (e) Committing adequate generation resources to ensure the reliability of the NYS Power System;
- (f) Taking command and control of the NYCA resources during Emergency conditions and coordinating operations with Transmission Owners;
- (g) Maintaining and Operating a central control center and performing the functions of the NERC security control center for the NYCA under Emergency operating conditions;
- (h) Defining the Installed Capacity requirements for LSEs, inclusive of individual customers taking services directly from the ISO, within the NYCA;
- (i) Determining Locational Installed Capacity requirements for LSEs to ensure the reliable operation of the NYCA;
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- (k) Training the operating personnel of the ISO and Transmission Owner control rooms; and
- (l) Administering the mandatory NERC reliability compliance process.

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5.1.1.1 Customer Compliance with Reliability Standards:

In accordance with applicable requirements in this Tariff and the ISO Procedures, all Customers shall conform to all applicable reliability criteria, policies, standards, rules, regulations and other requirements of NERC, NPCC, NYSRC, any applicable regional council, or their successors, the ISO's specific reliability requirements and ISO Procedures, and applicable operating guidelines and all applicable requirements of federal and state regulatory authorities. Failure to conform to these requirements may subject a Customer to direct assignment of penalties assessed against the ISO by FERC, NERC, NPCC or any other federal or state regulatory authority as a result of such Customer's failure to conform.

5.1.1.2 Direct Assignment of Penalty Costs:

The ISO's compliance with applicable reliability criteria, policies, standards, rules, regulations and other requirements is sometimes dependent on timely, accurate and adequate information and/or action on the part of a Customer. If the ISO is found to be non-compliant with respect to any applicable reliability criteria, policies, standards, rules, regulations and other requirements as a result of a Customer's actions or failure to act in violation of an obligation imposed by the ISO Tariffs, ISO Procedures, or ISO Related Agreements, the ISO may seek to directly assign to the Customer the cost of a penalty imposed on the ISO as a consequence of its non-compliance. If the Customer is found to be non-compliant with respect to any applicable

reliability criteria, policies, standards, rules, regulations and other requirements as a result of the ISO's actions or failure to act in violation of an obligation imposed by the ISO Tariffs, ISO Procedures, or ISO Related Agreements, the Customer may seek to directly assign to the ISO the cost of a penalty imposed on the Customer as a consequence of the ISO's non-compliance. Any direct assignment of penalty costs must first be approved by FERC, as provided in Schedule 6.11 of the OATT.

5.1.1.3 ISO's Recovery of Penalty Costs Through Schedule 11:

If direct assignment to a particular Customer is not possible or if the ISO is directly responsible for a violation because of its own action or inaction, the ISO may seek to recover such penalty costs in Schedule 6.11 Section 6.11.3 of the ISO OATT. Any inclusion of penalty costs in Schedule 6.11 must first be approved by FERC on a case-by-case basis, as provided in Schedule 6.11 of the ISO OATT. Prior to seeking FERC authorization for recovery of a penalty in Schedule 6.11 Section 6.11.3 of the ISO OATT, the ISO shall consult with the Management Committee and any appropriate subcommittee or working groups designated by the Management Committee, regarding the recovery and allocation of such penalty before filing at FERC. Any recommendation by the Management Committee regarding a proposed penalty recovery shall be reported by the ISO to FERC in any ISO filing seeking penalty recovery.

5.1.2 ~~Interregional Congestion Management Pilot Program~~

~~The following procedures shall govern the redispatch of generation to alleviate transmission congestion on selected pathways on the transmission systems operated by the ISO and PJM Interconnection, L.L.C. (“PJM”) pursuant to an Interregional Congestion Management Pilot Program (“Pilot Program”). The procedures shall be used solely when, in the exercise of Good Utility Practice, the ISO or PJM determines that the redispatch of generation units on the other's transmission system would reduce or eliminate the need to resort to Transmission Loading Relief or other transmission-related emergency procedures.~~

~~5.1.2.1 Identification of Transmission Constraints~~

- ~~(a) On a periodic basis determined by the ISO and PJM, the ISO and PJM shall identify potential transmission operating constraints that could result in the need to use Transmission Loading Relief or other emergency procedures in order to alleviate the transmission constraints.~~
- ~~(b) In addition to the identification of such potential transmission operating constraints, the ISO and PJM shall identify generation units on the other's system, the redispatch of which would eliminate the identified transmission constraints.~~
- ~~(c) From the identified transmission constraints, the ISO and PJM shall agree in writing on the transmission operating constraints and redispatch options that shall be subject to this Section 5.1.2. In reaching such agreement, the ISO shall endeavor reasonably to limit the number of transmission constraints that are subject to this Section 5.1.2 so as to minimize potential cost shifting among Market Participants in the ISO and PJM Control Areas resulting from the redispatch of generation under the Pilot Program. The ISO shall post the transmission operating constraints that are subject to the Pilot Program on its website.~~

5.1.2.2—Redispatch Procedures

~~If (i) a transmission constraint subject to this Section 5.1.2 occurs and continues or reasonably can be expected to continue after the exhaustion of all economic alternatives that are reasonably available to the transmission system on which the constraint occurs and (ii) the ISO or PJM, as applicable, has determined that it must use either Transmission Loading Relief or other emergency procedures, then (iii) the affected entity may request the other to redispatch one or more of the previously identified generation units to eliminate the transmission constraint. Upon such request, the ISO or PJM, as applicable, shall redispatch such generation if it is then subject to its dispatch control and such redispatch is consistent with Good Utility Practice.~~

5.1.2.3—Locational Based Marginal Price

~~In the event that a Generator is redispatched by the ISO in response to a request from PJM under Section 5.1.2, the Generator's bid for the Energy made available by the redispatch shall not be included in the determination of the Locational Based Marginal Price at that Generator's bus.~~

5.1.2.4—Generator Compensation

~~Generators that have increased or decreased generation output above or below the level that would otherwise represent the economic dispatch level as a result of a request made pursuant to the Pilot Program (the "MWh Adjustment") shall be compensated, on an interval by interval basis, based on the following formulas:~~

~~(a) — For a positive MWh Adjustment: Payment to Generator = MWh Adjustment *~~

~~(unit offer price — marginal price at the generator bus). In addition the Generator~~

~~shall be paid any applicable Minimum Generation Bid, Start-Up Bid, and Energy~~

~~Bid price costs not covered by the LBMP revenue for the 24 hour day or not covered by the marginal price, as appropriate.~~

- ~~(b) For a negative MWh Adjustment: Payment to Generator = MWh Adjustment * (marginal price at the generator bus - unit offer price). In addition the Generator shall be paid any applicable minimum generation, start-up and Energy Bid price costs not covered by the LBMP revenue for the 24 hour day or not covered by the marginal price, as appropriate.~~
- ~~(c) MWh adjustment payments to Generators pursuant to this subsection shall not be considered LBMP revenue for purposes of calculating minimum generation, start up and Energy bid price guarantees.~~

~~5.1.2.5 Settlements~~

- ~~(a) If PJM redispatches generation, the ISO shall include in its monthly accounting and billing a payment to PJM for the costs of such redispatch as determined in accordance with Section 5.1.2.4~~
- ~~(b) If the ISO redispatches generation under the Pilot Program, then it shall include in its monthly accounting and billing a credit to each redispatched Generator calculated in accordance with Section 5.1.2.4. The ISO shall invoice PJM and PJM shall collect from its market participants and pay to the ISO an amount equal to all such credits to Generators.~~
- ~~(c) Unless there is a separate Emergency Energy Transaction accompanying a generation adjustment under the Pilot Program there shall be no adjustment in interchange between the ISO and PJM as a result of redispatch under the Pilot Program. In the event that an Emergency Energy Transaction accompanies a~~

~~generation adjustment under the Pilot Program, compensation for the Emergency Energy Transaction shall be at the rates for emergency purchases and sales which have been approved by the Commission, as they may be amended from time to time.~~

~~5.1.2.6~~ **Incorporation of Certain Business Practice Standards**

- (a) Pursuant to Commission Order No. 676-E, the ISO incorporates by reference the following business practice standards developed by the North American Energy Standards Board's Wholesale Electric Quadrant.

Open Access Same-Time Information Systems (OASIS), Version 1.5 (WEQ-001, Version 002.1, March 11, 2009, with minor corrections applied May 29, 2009 and September 8, 2009) , except as provided below;

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Public Key Infrastructure (PKI) (WEQ-012, Version 002.1, March 11, 2009, with minor corrections applied May 29, 2009 and September 8, 2009); and

Measurement and Verification of Wholesale Electricity Demand Response (WEQ-015, 2008 Annual Plan Item 5(a), March 16, 2009).

(b) The ISO is not required to comply with the following Standards:

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Open Access Same-Time Information Systems (OASIS) Standards & Communication Protocols, Version 1.5 (WEQ-002, Version 002.1, March 11, 2009 with minor corrections applied May 29, 2009 and September 8, 2009): Standard 002, *et seq.*

Open Access Same-Time Information Systems (OASIS) Data Dictionary, Version 1.5 (WEQ-003, Version 002.1, March 11, 2009, with minor corrections applied May 29, 2009 and September 8, 2009);

Coordinate Interchange (WEQ-004, Version 002.1, March 11, 2009, with minor corrections applied May 29, 2009 and September 8, 2009): Standards 004-3, 004-3.1, 004-8.2, 004-11.1(a), 004-18, *et seq.*, and Appendices 004-A, and 004-C to the extent they govern physical transmission reservations; and

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