UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

New York Independent System Operator, Inc.	)	Docket Nos. ER08-1281-005, -006, -007 and -010

MOTION FOR LEAVE TO RESPOND, AND RESPONSE OF THE NEW YORK INDEPENDENT SYSTEM OPERATOR, INC.

Pursuant to Rules 212 and 213 of the Federal Energy Regulatory Commission's ("FERC" or "Commission") Rules of Practice and Procedure,[1] the New York Independent System Operator, Inc. ("NYISO") submit the following response ("Response") to the *Protest of the Independent Market Monitor for PJM* ("Protest") that was submitted in the above-captioned Docket on January 12, 2012. The Protest was submitted in response to the NYISO's *Compliance Notice* ("Notice") that was submitted in the above-captioned Docket on December 22, 2011.

I. NYISO's Right to Respond/Motion for Leave to Respond

The NYISO recognizes that the Commission generally discourages responses to protests. However, the PJM Independent Market Monitor's ("PJM MMU's") Protest seeks affirmative relief from the Commission in response to an informational filing. It asks the Commission to "direct the NYISO to implement an interface pricing method that matches the method successfully implemented by PJM and MISO."[2] The Protest also asks the Commission to require the NYISO to submit "a detailed design document explaining how interface prices will be determined, so that stakeholders and parties to this proceeding have a fair opportunity to

[1] 18 C.F.R. §§ 385.212 and 385.213.

[2] Protest at 5.

evaluate it."[3] Although the PJM MMU's pleading is styled as a "protest" it is, in fact, a motion that requests affirmative relief from the Commission.[4] Rule 213(a)(3) of the Commission's Rules of Practice and Procedure allows an answer to motions seeking affirmative relief from the Commission.[5] The Commission's Rules of Practice and Procedure therefore permit the NYISO to respond to the PJM MMU's Protest.

If and to the extent that the Commission determines that the NYISO's Response is not expressly permitted under Rule 213, the NYISO respectfully requests leave to submit this Response. Although the Commission generally discourages responses to protests, the Commission has allowed responses to protests when they help to clarify complex issues, provide additional information that will assist the Commission, correct inaccurate statements, or are otherwise helpful in developing the record in a proceeding.[6] The NYISO's response meets this standard. The NYISO's response does not introduce new arguments, but instead is submitted for the limited purpose of clarifying certain factual matters and correcting inaccurate statements in the Protest, thereby assisting the Commission in its review and consideration of the issues presented in this proceeding. The NYISO therefore respectfully requests that the Commission exercise its discretion and accept this Response.

[3] Protest at 6.

[4] *See* 18 C.F.R. § 385.212(c)(2).

[5] 18 C.F.R. § 385.213(a)(3).

[6] *See, e.g., Morgan Stanley Capital Group, Inc. v. New York Independent System Operator, Inc.*, 93 FERC ¶ 61,017 at 61,036 (2000) (accepting an answer that was "helpful in the development of the record..... "); *New York Independent System Operator, Inc.*, 91 FERC ¶ 61,218 at 61,797 (2000) (allowing "the NYISO's Answer of April 27, 2000, [because it was deemed] useful in addressing the issues arising in these proceedings ..... "); *Central Hudson Gas & Electric Corp.*, 88 FERC ¶ 61,138 at 61,381 (1999) (accepting prohibited pleadings because they helped to clarify the issues and because of the complex nature of the proceeding).

II. Documents Submitted with this Response

The documents submitted are:

1. this Response;
2. Attachment A—a copy of the NYISO's January 19, 2012 presentation to its NYISO's Market Issues Working Group (the NYISO notes that the +/-sign convention used on slide 10 of the presentation is not consistent with the sign convention described and used on slide 12 of the presentation);
3. Attachment B—a copy of the first weekly notice that the NYISO has issued to its Market Participants and to neighboring markets identifying the NYISO's intent to implement Interface Pricing using the non-conforming Scheduling Mode on January 31, 2012 and setting forth the NYISO's first weekly Unscheduled Power Flow ("UPF") determination;
4. Attachment C—the Affidavit of Robert Pike, the NYISO's Director of Market Design attesting to the accuracy of the facts alleged in this Response; and
5. a Certificate of Service.

III. Response to Protest

A. Summary of Protest

The PJM MMU alleges that the method that the NYISO developed to improve the convergence of interface prices is not consistent with the Commission's December 30, 2010 Order on Rehearing and Compliance ("December Order").[7] The PJM MMU alleges that the December Order required the NYISO to "use information about the actual source and sink of a transaction, regardless of its scheduled path, to determine the price" and that "[t]he methodology

[7] *New York Independent System Operator, Inc*., 133 FERC ¶ 61,276.

… implemented by the NYISO does not meet the Commission's directive."[8] The Protest also alleges that the NYISO has not provided sufficient detail regarding how its pricing will be implemented.

B. Summary of Other Pleadings Submitted and NYISO's Discussions with PJM

The PJM MMU was the only entity that submitted a protest to the NYISO's filing. The New York Transmission Owners submitted a filing indicating their strong support for the interface pricing improvements that the NYISO has developed and plans to implement on January 31, 2012. PJM Interconnection, L.L.C. ("PJM") did not submit comments on the NYISO's submission, nor did the Midwest Independent Transmission System Operator, Inc. ("MISO").

The NYISO discussed PJM's interface pricing methods with PJM staff in the context of developing Market-to-Market Coordination (*see* Docket No. ER12-718), and in order to gain a deeper understanding of how PJM's interface pricing method operates in practice. The NYISO's discussions with PJM assisted the NYISO's efforts to develop and implement a new non-conforming Scheduling Mode that is consistent with the NYISO's market model, and that will produce prices that are fundamentally similar to the prices PJM's interface pricing method produces.

C. Summary of NYISO's Response

Paragraph 31 of the December Order instructed the Commission-jurisdictional RTO/ISOs to concurrently complete interface pricing revisions by the second quarter of 2011.[9] The December Order did not state that the NYISO's implementation was required to perfectly replicate the method or software that PJM and MISO use to develop their interface prices. The

[8] Protest at 1-2.

[9] The Rehearing Order authorized the NYISO to delay its implementation until January 2012.

NYISO's implementation of its interface pricing revisions is consistent with: (1) the interface pricing solution that was described in the January 12, 2010 report that the NYISO submitted to the Commission on behalf of all four of the ISOs and RTOs whose service territories surround Lake Erie[10]; (2) the description of the NYISO's intended implementation of Interface Pricing that was included in the NYISO's January 31, 2011 Rehearing Request in this Docket; and (3) the Interface Pricing method that is summarized on pages 2-3 of the Commission's July 1, 2011 Order on Rehearing ("Rehearing Order").[11]

The NYISO's implementation of Interface Pricing will improve the convergence of prices and schedules among the Commission Jurisdictional ISOs and RTOs at times when actual power flows around Lake Erie do not closely match scheduled power flows. The NYISO's implementation of Interface Pricing also ensures that, if and when actual power flows closely conform to scheduled power flows, New York will generate prices and schedules that account for the convergence between scheduled and actual power flows.

With regard to the sufficiency of the information that the NYISO has made available, the NYISO has reviewed the information PJM posts to explain the methods it uses to determine interface prices. The information that the NYISO has posted appears to be comparable to the information PJM has posted on its web site explaining how PJM's interface prices are calculated. The NYISO believes its implementation of Interface Pricing may be more transparent than PJM's or MISO's, because the NYISO is broadcasting the assumptions and inputs it will use to

[10] Although the January 12, 2010 Report was submitted by the NYISO, the Transmittal Letter and White Paper were prepared by NYISO, PJM, MISO and the Independent Electricity System Operator of Ontario ("IESO") and contained the "collective recommendations" of the four ISOs/RTOs whose service territories surround Lake Erie. *See* the Transmittal Letter for the January 12, 2010 Report at 1-2.

[11] *New York Independent System Operator, Inc*., 136 FERC ¶ 61,011 at P. 3.

develop interface prices on a weekly basis (the Scheduling Mode and the UPF values) to its stakeholders and to neighboring ISOs and RTOs.

D. The NYISO's Implementation of Interface Pricing is Consistent with the Interface Pricing Method Described in the January 12, 2010 Report and the Description Included in the NYISO's Rehearing Request

Interface pricing revisions were addressed on pages 11-12 of the Transmittal Letter and pages 39-40 of the White Paper that was submitted as Attachment A to the January 12, 2010 filing. The ISOs and RTOs described the proposed interface pricing revisions in the following manner:

> Efficient and compatible interface proxy bus prices will improve the interconnected markets' ability to efficiently transfer power within the four ISO/RTO region. Potential improvements to interface pricing methods have been identified both (1) at times when there is no, or limited ability to conform actual power flows around Lake Erie to scheduled power flows, and (2) at times when Phase Angle Regulators ("PARs") and other control devices are able to conform actual power flows to scheduled power flows within reasonable tolerances. In recognition of the overall objective of harmonizing market rules across the region, the NYISO proposes to pursue modifications to its interface pricing method that will apply at times when actual power flows are not consistent with scheduled power flows. Under these circumstances, the NYISO intends to propose adjustments to its external proxy bus pricing to:
>
> - Recognize the incremental distribution of power flows around Lake Erie when evaluating and pricing the marginal impacts of transaction and generation schedules;
> - Evaluate the need for, and scheduling rules surrounding, establishing an additional proxy bus location for the Midwest ISO to acknowledge power deliveries from or to the Midwest region; and
> - Evaluate the continued applicability of the existing circuitous path prohibitions. [Footnote omitted.]
>
> The ISOs and RTOs also recognize the importance of maintaining compatible and efficient interface proxy bus prices when the PARs at the Ontario - Michigan border are ultimately installed and available to mitigate Lake Erie loop flows. These devices are expected to have the ability to adjust actual power deliveries to be more consistent with scheduled power deliveries. Existing interface proxy bus pricing methods may not set accurate prices under all operating scenarios and may require (a) additional pricing points to be created, or (b) the interface price weighting associated with current points to be adjusted, or

(c) adjustments to incremental distribution of power flows to acknowledge power flows that are substantially consistent with the contract path of a transaction.

All of the participating ISOs/RTOs interface proxy pricing methods will need to be able to account for the ability of PARs to manage Lake Erie loop flows.

- At times when actual power flows are consistent with scheduled power flows, the pricing method used will treat power as flowing consistent with the contract path.
- At times when actual power flows do not conform to scheduled power flows (at times when there is loop flow), the interface proxy pricing methods will need to reflect the path over which power is actually flowing, which will not be entirely consistent with the contract path.

In implementing the methods described above, the ISOs and RTOs will also need to evaluate their ability to predict when the PARs will/will not be able to conform power flows to schedules around Lake Erie, and to incorporate the necessary assumptions into each ISO/RTO's respective day-ahead and hour-ahead markets. [Highlighting added.]

The NYISO's January 31, 2011 Rehearing Request also explained how the NYISO proposed to implement the required interface pricing revisions:

Interface Pricing will ensure that the jurisdictional ISOs and RTOs around Lake Erie use similar methods to price interregional transactions, so that differences in pricing methods do not create "seams" that can be exploited. If the Ontario/Michigan PARs are effective in conforming actual power flows to scheduled power flows at the Ontario/Michigan border, then the NYISO believes it will be necessary to have two distinct sets of pricing rules. One set of pricing rules that will apply when the Ontario/Michigan PARs *are* effective in conforming actual power flows to scheduled power flows, and a different set of pricing rules that will apply when the Ontario/Michigan PARs *are not* effective in conforming actual power flows to scheduled power flows.

Paragraph 31 of the Order instructed that "interface pricing revisions be completed concurrently for the Commission-jurisdictional RTO/ISOs by the second quarter of 2011." The NYISO is working to develop new external proxy bus pricing rules that recognize the distribution of power flows around Lake Erie based on the physical configuration of the transmission network.[12] The NYISO anticipates using the new proxy bus pricing rules it is developing at times when

[12] *See* BRM Interface Pricing presentation by Mr. Robert Pike to the NYISO's Business Issues Committee on June 2, 2010. Link to presentation:

http://www.nyiso.com/public/webdocs/committees/bic/meeting_materials/2010-06-02/Agenda_09_BIC_Interface_Price_Revisions.pdf

the PARs are not effective in conforming actual power flows to scheduled power flows at the Ontario/Michigan border.

> The ISOs and RTOs around Lake Erie have begun discussing the need to use a uniform method of determining when the PARs are controlling for purposes of identifying the correct proxy bus pricing rules to use. The ISOs and RTOs also discussed the problems that would be posed if the method used to determine interface prices was permitted to "flip" frequently, or if the trigger mechanism wasn't uniform. The NYISO anticipates that the four Lake Erie ISOs/RTOs will determine how to address these concerns in the upcoming months. [Highlighting added; one footnote omitted.]

On pages 2-3 its Rehearing Order the Commission described Interface Pricing as follows:

- Interface Pricing: the NYISO Report recommended the development and implementation of Interface Pricing revisions to address existing seams between markets that tend to exacerbate loop flows, an initiative that would require that the ISOs and RTOs around Lake Erie use similar methods to price interregional transactions, with one set of pricing rules applicable when the Ontario/Michigan PARs are effective in conforming actual power flows to scheduled power flows, and a different set of pricing rules applicable when the Ontario/Michigan PARs are not effective in conforming actual power flows to scheduled power flows…. [Highlighting added.]

The interface pricing method that the NYISO has developed is consistent with the above descriptions and satisfies all of the goals highlighted above. At times when actual power flows are not consistent with scheduled power flows, the NYISO will implement a Scheduling Mode that recognizes and accounts for (for purposes of both pricing and scheduling) the expected loop flow impacts of transactions scheduled at its IESO (Bruce) and PJM (Keystone) Proxy Generator Buses. The non-conforming Scheduling Mode will also recognize the loop flow impacts of internal New York Control Area ("NYCA") generation dispatch to serve NYCA load. These results are achieved by modeling the Ontario/Michigan interface as an uncontrolled/free-flowing A/C transmission path, like PJM and MISO currently do.

At times when actual power flows are consistent with scheduled power flows, the NYISO retains the ability to employ a conforming Scheduling Mode that incorporates the expectation

that power flows will be largely consistent with the contract path. This implementation is consistent with the proposed implementation of Interface Pricing that was presented to the Commission.

The PJM MMU is correct that the conforming Scheduling Mode is consistent with the interface scheduling and pricing method that the NYISO has used previously. However, the PJM MMU is not correct when it suggests that the NYISO will continue to use the conforming Scheduling Mode at times when actual power flows are not consistent with scheduled power flows.[13] Consistent with the criteria that the NYISO has developed to determine the appropriate scheduling mode to employ,[14] the NYISO intends to implement its interface pricing revisions using the non-conforming Scheduling Mode on January 31, 2012.

The NYISO's implementation of Interface Pricing also addresses the concern that the pricing and scheduling could frequently "flip" between the conforming and non-conforming Scheduling Modes. This concern, at its essence, seeks to balance Market Participants' need for certainty in prices and schedules against the need to provide accurate price signals.

Permitting the method used to determine interface prices and schedules to change within a market day, or between the Day-Ahead and Real-Time Markets would introduce a significant new risk and inefficiencies to the interconnected markets. The transition from one Scheduling Mode to the other within a market day could result in schedules that are inconsistent with market clearing prices. Using different Scheduling Modes in the Day-Ahead and Real-Time Markets for a market day could result in significant uplift when real-time schedules diverge from Day-Ahead

[13] *See* Protest at pp. 4 and 5.

[14] NYISO Technical Bulletin 213 explains that the NYISO will use the conforming Scheduling Mode when actual power flows, measured at the NYISO/IESO interface, have been within +/- 200 MW of scheduled power flows in 65% or more of hours over the past 12 months. Alternatively, the NYISO may use the conforming Scheduling Mode if a significant change in system topology justifies the use of the conforming Scheduling Mode.

schedules due to the different methods of determining market clearing prices. Permitting the Scheduling Mode to change without providing adequate advanced notice to Market Participants will also reduce price certainty and increase the risk of undertaking forward power supply obligations.

The NYISO's implementation of Interface Pricing balances the competing needs of market certainty and providing accurate, predictable price signals. The NYISO's implementation embraces market certainty by: (1) requiring advance notice of the Scheduling Mode that the NYISO intends to employ, including advance notice of any changes to a previously announced Scheduling Mode; and (2) determining and applying a single Scheduling Mode for a three month period, except where the NYISO has reason to expect that the Scheduling Mode will not produce accurate prices and schedules.

The NYISO's implementation of Interface Pricing will produce accurate price signals because it: (A) permits the Scheduling Mode to be modified when a change in system topology makes it clear that the current Scheduling Mode will produce inaccurate prices and schedules; (B) incorporates an Unscheduled Power Flow ("UPF") expectation in the Day-Ahead Market (that ordinarily change on a weekly basis, following notice to Market Participants); and (C) initiates every real-time evaluation using actual power flows (including actual loop flows, measured at the NYISO/IESO border) to determine real-time prices and schedules.

E. The NYISO's Non-Conforming Pricing Mode is Expected to Produce Similar Prices to PJM's Interface Pricing Method

The NYISO's method of implementing its non-conforming Pricing Mode may differ in implementation from PJM's source/sink pricing, but the two methods will produce similar results.

1. Overview of PJM and NYISO methods of scheduling External Transactions

PJM requires Imports, Exports and Wheels Through (collectively "External Transactions") to acquire "physical" ramp and transfer capability reservations. PJM does not perform an up-front economic evaluation to decide which External Transactions to allocate scarce ramp and transfer capability to. Instead, the source-sink pricing that PJM applies in its settlement process is designed to ensure that PJM's Market Participants will make efficient use of the transfer capability and ramp reservations they obtain.

The NYISO allocates scarce transfer capability and ramp resources to External Transactions based on an economic evaluation of transaction Bids/offers. The NYISO does not use a "physical" reservation process to allocate available ramp or transfer capability.

Because the NYISO performs an up-front economic evaluation of competing transactions to allocate transfer capability and ramp, it must determine which External Transactions are eligible to be scheduled *before* it performs its economic evaluation of the associated Bids/offers to ensure it is evaluating External Transactions with similar network impacts on a comparable basis. The NYISO relies on the circuitous path scheduling prohibition that the Commission accepted for filing in this Docket to ensure that transactions are being scheduled directly between adjoining markets. The NYISO determines *ex ante* LBMPs at its Proxy Generator Buses consistent with this expectation.[15]

Contrary to the PJM MMU's assertions,[16] both PJM and NYISO use the NERC Tag in their evaluation of External Transactions. PJM uses the source and sink specified in the NERC

[15] In order to accurately calculate *ex ante* LBMPs, the NYISO must develop an *ex ante* expectation of power flows. PJM employs an *ex post* LMP determination.

[16] Protest at 3 ("rather than utilizing NERC tag information to determine the actual source and sink of the transaction, the NYISO created a method that will use historical data to infer the future performance of the system…").

Tag to determine the appropriate interface price for settlement for each External Transaction. The NYISO uses the source and sink specified in the NERC Tag to determine which proposed External Transactions are eligible to be economically evaluated and scheduled.

The NYISO's method ensures that it assesses an External Transaction's use of transfer and ramp capability in a manner that is consistent with the NYISO's evaluation of the transaction offer and the NYISO's determination of the settlement price (LBMP). The NYISO's method provides strong safeguards to ensure the reliable operation of the interconnected transmission system.

Unlike the PJM MMU, the NYISO is not suggesting, and does not recommend, that PJM or MISO be required to change the methods that they use to schedule and price External Transactions.

2. Comparison of PJM pricing to NYISO's non-conforming Scheduling Mode

NYISO's non-conforming mode is comparable to the method employed by PJM to price power flows. PJM identifies pricing nodes and assigns weightings to the pricing nodes that align PJM's price calculations with expected locational power deliveries. NYISO achieves the same objective through the combination of pricing node selection and weighting assignments applied to specific tie lines. The NYISO's weighting of tie lines reflects historically observed actual power flows and respects existing contractual obligations (including the ConEd/PSEG Wheel Agreement[17] and the *Unscheduled Transmission Services Agreement*[18]). PJM's and NYISO's methods were each developed to ensure interface prices are consistent with expected power

[17] *See* Schedule C of Attachment CC to the NYISO's Open Access Transmission Tariff.

[18] The *Unscheduled Transmission Services Agreement* was submitted by PJM in Docket No. ER01-1115-000 on January 31, 2001.

deliveries.[19] Differences in implementation methods are necessary due to PJM's and NYISO's fundamentally different market systems that were produced by different software vendors.

The NYISO starts the scheduling and price calculation process for each five-minute real-time interval by re-initializing the real-time network model using observed actual power flows over the NYCA tie lines that comprise the NYISO/PJM and NYISO/IESO borders. The observed tie line flows and adjustments due to schedule changes are all accounted for in determining the congestion relief necessary (in MWs) and the marginal cost of providing that relief. All external Proxy Generator Bus prices (and internal NYCA prices) that the NYISO develops dynamically capture the impact on constraint costs as constraints are affected by changes in actual real-time power flows.

PJM selects the interface price for settlement for External Transactions based upon the source or sink information in the associated NERC Tag, regardless of the contract or bid path over which an External Transaction is scheduled, to encourage direct path scheduling. As explained above, the NYISO's scheduling software reviews the NERC Tag of each transaction and rigorously enforces direct path scheduling as part of the bid validation process.

Although there are, necessarily, some differences between the PJM and NYISO pricing methods, the NYISO's non-conforming Scheduling Mode is designed to, and is expected to, produce prices that are similar to the prices produced by the interface pricing methods that PJM and MISO use. The non-conforming Scheduling Mode accounts for the fact that scheduled power flows around Lake Erie do not closely conform to actual power flows.

[19] The NYISO's method is consistent with the method that the PJM MMU describes as a "best practice" at the bottom of page 5 of its Protest.

F. Documentation of NYISO's Interface Pricing Method

On page 5 of its Protest the PJM MMU alleges that the NYISO's documentation of its revised Interface Pricing method "does not provide sufficient details on how the interface prices will be determined." No other entity has voiced this complaint. The NYISO has reviewed the explanations of PJM and MISO's interface pricing methods that it was able to locate on the PJM and MISO web sites[20] and believes the materials it submitted to the Commission, along with Technical Bulletin 213 and the Market Issues Working Group presentation submitted as Attachment A to this Response, provide information that is, at least, as specific and as helpful as the information that the other RTOs have published. The new NYISO's documents do not explain how the NYISO calculates LBMPs at external Proxy Generator Buses because that information is already set forth in the NYISO's Tariffs.[21]

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[20] **PJM Documents**
Interface Pricing Definition Methodology, http://www.pjm.com/~/media/markets-ops/energy/lmp-model-info/20060929-interface-definition-methodology1.ashx
Pricing Point Guide: Mapping of External Balancing Authorities to Interface Pricing Points, http://www.pjm.com/markets-and-operations/etools/~/media/etools/ees/pricing-point-guide.ashx
Manual 28: Operating Agreement Accounting, Section 2: Interface Pricing, http://www.pjm.com/~/media/documents/manuals/m28.ashx
PJM Open Access Transmission Tariff Appendix K Section 2.6, http://www.pjm.com/documents/~/media/documents/agreements/tariff.ashx

MISO Documents
MISO Business Practice Manual 002: Energy and Operating Reserve Markets, Section 5.1.5 External Interface Price Calculation, https://www.midwestiso.org/Library/BusinessPracticesManuals/Pages/BusinessPracticesManuals.aspx
MISO Module C Energy and Operating Reserve Markets
https://www.midwestiso.org/Library/Tariff/Pages/Tariff.aspx
For Day-Ahead see Section 39.2.9, item h on p. 131
For Real-Time see Section 40.2.15, item h on pp. 231
For Real-Time see Section 40.2.17, item g on p. 240.

[21] *See* Attachment B to the NYISO's Market Administration and Control Area Services Tariff.

IV. Conclusion

WHEREFORE, the New York Independent System Operator, Inc. respectfully requests that the Commission (i) accept this response to the PJM MMU's Protest, (ii) accept the NYISO's Compliance Notice, and (iii) reject the relief requested in the PJM MMU's Protest.

Respectfully submitted,

/s/ Alex M. Schnell
Robert E. Fernandez, General Counsel
Alex M. Schnell
New York Independent System Operator, Inc.

Dated: January 27, 2012

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 Commission Rules of Practice and Procedure, 18 C.F.R. § 385.2010.

Dated at Rensselaer, New York this 27th day of January, 2012.

/s/ Alex M. Schnell

Alex M. Schnell
New York Independent System Operator, Inc.
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518-356-8707

Attachment A

January 19, 2012 Presentation to NYISO Market Issues Working Group

by

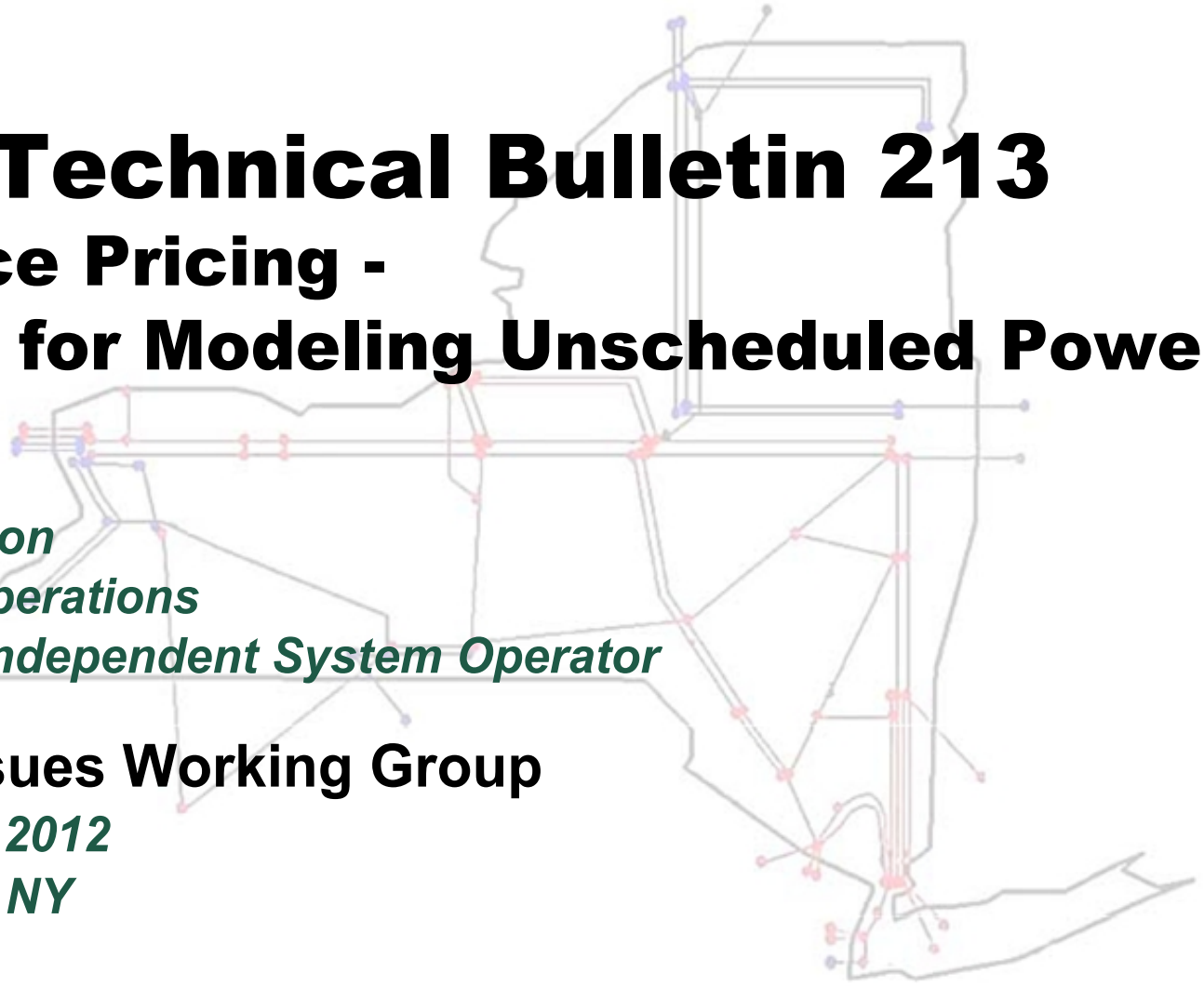
Emilie Nelson
Director, Operations
New York Independent System Operator, Inc.

(The NYISO notes that the +/-sign convention used on slide 10 of the presentation is not consistent with the sign convention described and used on slide 12 of the presentation)

Draft Technical Bulletin 213
Interface Pricing -
Method for Modeling Unscheduled Power

Emilie Nelson
Director, Operations
New York Independent System Operator

Market Issues Working Group
January 19, 2012
Rensselaer, NY



DRAFT - FOR DISCUSSION PURPOSES ONLY

Background - Timeline

- On January 12, 2010, the NYISO filed a report with FERC describing the Broader Regional Markets suite of solutions, including Interface Pricing, to address loop flows
- On June 2, 2010, the NYISO described what Interface Pricing entailed at the BIC
- On September 16, 2011, the NYISO provided an overview of concepts, examples and an implementation timeline for Interface Pricing at MIWG

Background - Timeline Cont.

- The NYISO completed its software implementation of Interface Pricing in Q4 2011
- The NYISO submitted a Compliance Notice to FERC to confirm its timely development of new interface pricing software on December 22, 2011 in Docket No. ER08-1281
- The FERC order requires NYISO to implement Interface Pricing by the end of January 2012

Background - Concept Overview

- **Interface Pricing provides the NYISO the capability to implement two distinct methods of pricing and scheduling called "Scheduling Modes".**
  - ***If actual power flows through the New York Control Area ("NYCA") are expected to closely conform to scheduled power flows, the NYISO's pricing and scheduling will incorporate that expectation.***
  - ***If the NYISO expects significant unscheduled power flows, the NYISO's pricing and scheduling will anticipate and account for those unscheduled power flows.***

Draft Technical Bulletin 213

- **The intent of Draft Technical Bulletin 213 is to describe the following:**
  - ***NYISO's method to determine the appropriate Scheduling Mode***
  - ***NYISO's process to determine the expected Unscheduled Power Flow (UPF) value to be used in the Day-Ahead Market, and***
  - ***Explain how the Scheduling Mode impacts the Day-Ahead and Real-Time Markets.***

Walk Through:
Draft Technical Bulletin 213

Expected Scheduling Mode for Feb. 2012 - April 2012

Draft TB 213 describes the following analysis to determine the Scheduling Mode:

- **"Approximately thirty days prior to the beginning of each quarter, the NYISO will evaluate operating history to determine if actual power flows ordinarily conformed to scheduled power flows for the prior 12 months.**
  - ***If the operating history demonstrates that actual average hourly power flows at the NYISO/IESO Interface were within +/-200 MWs of scheduled power flows in at least 65% of hours, then the Scheduling Mode will be set to "Conforming" for the upcoming quarter. Otherwise, the Scheduling Mode will be set to "Non-Conforming" for the upcoming quarter.***
- **The ISO retains the discretion to make adjustments to the Scheduling Mode when historic operation is not expected to provide an accurate prediction of future performance."**
  - ***The NYISO now has the capability to modify the Scheduling Mode to provide a more accurate representation of the power system for the purposes of scheduling and pricing. For example, if the Ontario-Michigan PARs were to enter service and they were effective in conforming actual power flows to schedule flows, the NYISO would be able to change the Scheduling Mode to Conforming.***

Expected Scheduling Mode for Feb. 2012 - April 2012

- **For the upcoming quarter, February 2012 - April 2012, the historical period from January 1, 2011 through December 31, 2011 was reviewed.**
  - ***During this period, 4249 of the 8760 hours have an average loop flow value within the +/-200MW threshold, or 48.5%.***
  - ***Given that 48.5% is less than the 65% threshold described in Draft TB213, the Scheduling Mode for February 2012 - April 2012 will be set to Non-Conforming***

UPF Value

Draft TB 213 describes the following analysis to determine the UPF:

- **"The treatment of the NYISO/PJM and NYISO/IESO scheduled interchange in the calculation of the expected UPF will be based on the Scheduling Mode.**
  - ***When the Scheduling Mode is set to "Conforming", the expected UPF will be calculated based on all observed differences between NYISO/IESO scheduled interchange and actual power flows, i.e. "Lake Erie Circulation".***
  - ***When the Scheduling Mode is set to "Non-Conforming", the expected UPF will be calculated based on observed Lake Erie Circulation less the estimated power flow contribution associated with NYISO/PJM and NYISO/IESO scheduled interchange."***

UPF Value

- **To provide an idea of the differences in the UPF value based on Conforming and Non-Conforming Scheduling Modes, please consider the following average 30-Day MW Values:**

	Conforming		Non-Conforming	
Date Range	On Peak	Off Peak	On Peak	Off Peak
11/19/2011 - 12/18/2011	-18	180	-66	148
11/26/2011 - 12/25/2011	52	194	14	184
12/3/2011 - 1/1/2012	108	235	78	240
12/10/2011 - 1/8/2012	65	242	44	258

- The small differences between the Conforming and Non-Conforming values imply that NYISO/PJM and NYISO/IESO scheduled interchange have a small impact on unscheduled power flows.

Draft Communication to MPs

- **The NYISO intends to replace the historical weekly TIE list announcement of the Lake Erie circulation assumption for the Day-Ahead Market for the upcoming week, with an announcement that communicates the following:**
  - ***Scheduling Mode for the upcoming week***
  - ***On and Off Peak UPF values based on both Conforming and Non-Conforming modes***
  - ***The Scheduling Mode anticipated for the upcoming quarter based on the 12-month historical review that is completed approximately 30 days in advance of the quarter. The NYISO plans to include this update in the first TIE list announcement after performing the calculation.***
  - ***Links to Lake Erie Circulation data available at www.nyiso.com***

Draft Communication to MPs

The Unscheduled Power Flow (UPF) value used in the Day-Ahead Market (DA M) evaluation is updated weekly, based on the average hourly loop flows observed over the past 30 days.

For purposes of determining the UPF value for us e in the Day-Ahead M arket, "On Peak" includes Monday -Saturday HB07 - HB 22 and "Off Peak" includes Monday - Saturday HB23 - HB06 & Sunday HB 00 - HB23.

As requested by ISO stakeholders, the ISO retains the discretion to make ad-hoc adjustments when the 30 day past average is not an accurate prediction of Lake Erie circulation for us e in the Day-Ahead Market.

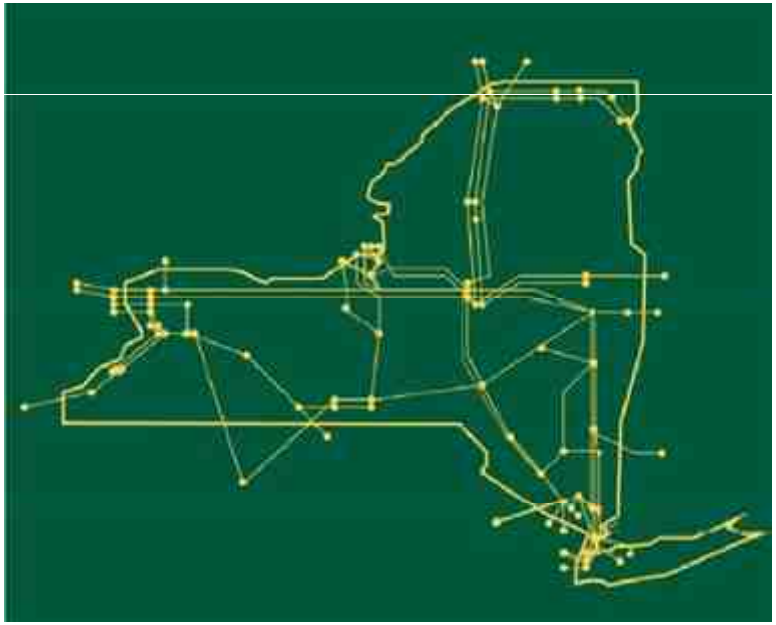
UPF (MW) updates in the DAM for the past 12 weeks:

Date	Scheduling Mode	Conforming		Non-Conforming	
		On Peak	Off Peak	On Peak	Off Peak
10/26/ 11	Conforming	0	-50	N/A	N/A
11/02/ 11	Conforming	-50	-50	N/A	N/A
11/09/ 11	Conforming	-50	-50	N/A	N/A
11/16/ 11	Conforming	-50	-50	N/A	N/A
11/23/ 11	Conforming	0	-100	N/A	N/A
11/30/ 11	Conforming	50	-150	N/A	N/A
12/07/ 11	Conforming	100	-100	N/A	N/A
12/14/ 11	Conforming	100	-150	N/A	N/A
12/21/ 11	Conforming	0	-200	N/A	N/A
12/29/ 11	Conforming	-50	-200	N/A	N/A
01/05/ 12	Conforming	-150	-250	N/A	N/A
01/11/ 12	Conforming	-50	-250	-50	-250

Note: Positive values of UPF indicate counter-clockwise loop flows around Lake Erie.

The Scheduling Mode for the next quarter, February 2012 - A pril 2012, will be Non-Conforming based on historical observation.

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.



www.nyiso.com

Attachment B

Copy of NYISO's Weekly Notice to
Market Participants and Neighboring Control Areas
Identifying Scheduling Mode and
Expected Unscheduled Power Flows

From: NYISO Technical Information Exchange
To: Kirkpatrick, Roger;
Subject: TIE List Announcement for Lake Erie Circulation Assumption 1/25/12
Date: Monday, January 23, 2012 11:20:55 AM

Dear Market Participant,

The Unscheduled Power Flow (UPF) value used in the Day-Ahead Market (DAM) evaluation is updated weekly, based on the average hourly loop flows observed over the past 30 days.

For purposes of determining the UPF value for use in the Day-Ahead Market, "On Peak" includes Monday -Saturday HB07 - HB22 and "Off Peak" includes Monday - Saturday HB23 - HB06 & Sunday HB00 - HB23.

As requested by ISO stakeholders, the ISO retains the discretion to make ad-hoc adjustments when the 30 day past average is not an accurate prediction of Lake Erie circulation for use in the Day-Ahead Market.

UPF (MW) updates in the DAM for the past 12 weeks:

Date	Scheduling Mode	Conforming		Non-Conforming	
		On Peak	Off Peak	On Peak	Off Peak
11/09/11	Conforming	-50	-50	N/A	N/A
11/16/11	Conforming	-50	-50	N/A	N/A
11/23/11	Conforming	0	-100	N/A	N/A
11/30/11	Conforming	50	-150	N/A	N/A
12/07/11	Conforming	100	-100	N/A	N/A
12/14/11	Conforming	100	-150	N/A	N/A
12/21/11	Conforming	0	-200	N/A	N/A
12/29/11	Conforming	-50	-200	N/A	N/A
01/05/12	Conforming	-150	-250	N/A	N/A
01/11/12	Conforming	-50	-250	N/A	N/A
01/19/12	Conforming	0	-200	N/A	N/A
01/25/12	Conforming	0	-200	-50	-250

Note: Positive values of UPF indicate counter-clockwise loop flows around Lake Erie.

The Scheduling Mode for the next quarter, February 2012 - April 2012, will be Non-Conforming based on historical observation. The

Lake Erie circulation information is shown on the NYISO website in the following location:

http://www.nyiso.com/public/markets_operations/market_data/power_grid_data/index.jsp

Check the box "Lake Erie Circulation DAM" for the Lake Erie circulation assumption modeled in the DAM.

Check the box "Lake Erie Circulation RT" for the Real-Time Lake Erie circulation values.

Both checkboxes are found in the "Power Grid Data" directory under "Interface Flows."

If you should have any questions please contact Customer Relations at 518-356-6060.

Regards,

Customer Relations

Attachment C

Affidavit of Robert Pike
Director of Market Design
New York Independent System Operator, Inc.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

New York Independent System Operator, Inc.	)	**Docket Nos. ER08-1281-005**
	)	**ER08-1281-006**
	)	**ER08-1281-007**
	)	**ER08-1281-010**

Affidavit of Robert Pike

January 27, 2012

1. My name is Robert Pike. I am the New York Independent System Operator, Inc.'s ("NYISO's") Director of Market Design. I joined the New York Power Pool, the predecessor organization to the NYISO, in January of 1993. I have worked for the NYISO since its inception in December of 1999.

2. As the NYISO's Director of Market Design in the Market Structures Department, I am responsible for overseeing market design efforts at the NYISO.

3. The Market Structures Department is responsible for designing and developing new market rules, including the NYISO's new interface pricing rules. The Market Structures Department worked with many other NYISO departments, including the Information Technology, Operations and Legal Departments to develop the interface pricing rules that the NYISO described to the Commission in its December 22, 2011 Compliance Notice and that the NYISO intends to activate on January 31, 2012.

4. I have reviewed and I am familiar with the *Motion for Leave to Respond and Response of the New York Independent System Operator, Inc.* ("Response") to the protest submitted by the Independent Market Monitor for PJM Interconnection, L.L.C. ("PJM"). Market Structures Department personnel provided much of the factual information that is included in the NYISO's Response.

5. I participated in discussions with PJM staff regarding PJM's interface pricing methods in the context of developing Market-to-Market Coordination. In those discussions I gained an understanding of how PJM's interface pricing method operates.

6. The facts asserted in the Response explaining how the NYISO's revised interface pricing rules will operate, and why the revised interface pricing rules are expected to produce prices that are consistent with the prices produced by the interface pricing methods that PJM and the Midwest Independent Transmission System Operator, Inc. employ, are true and correct to the best of my information, knowledge and belief.

7. This concludes my affidavit.

ATTESTATION

I am the witness identified in the foregoing Affidavit of Robert Pike dated January 27, 2012 (the "Affidavit"). I have read the Affidavit and am familiar with its contents. The facts set forth therein are true to the best of my knowledge, information, and belief.

Robert Pike

January 27, 2012

Subscribed and sworn to before me

this 27 day of January, 2012

PAMELA J MEAD
Notary Public, State of NY
No. 01ME5062365
Qualified in Columbia Cty
Commission Expires 6/24, 2014

Notary Public

My commission expires: 6/24/2014