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June 29, 2012

By Electronic Filing

Hon. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Subject: **Midwest Independent Transmission System Operator, Inc. and International Transmission Company d/b/a ITC*Transmission*, Docket No. ER11-1844-000, Cross-Answering Testimony of New York Independent System Operator, Inc. Witness Robert Pike**

Dear Ms. Bose:

The New York Independent System Operator, Inc. submits by electronic filing the attached Cross-Answering Testimony of Robert Pike (Exhibit NYI-63 for identification), with verification.

The testimony has been served on all parties as required by Rule 2010 of the Commission's Rules of Practice and Procedure. In addition, two three-hole punched chambers copies are being provided to Presiding Administrative Law Judge Steven Sterner, along with a summary of the testimony and a first amended exhibit list.

Very truly yours,

/s/ Howard H. Shafferman

Howard H. Shafferman

Cc: Parties of Record
Vintricia Alexander. (Law Clerk to Judge Sterner)

HHS/

DMEAST #15269366 v1

DOCKET NO. ER11-1844
EXHIBIT NO. NYI-63

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Midwest Independent Transmission System Operator, Inc. and International Transmission Company d/b/a ITC*Transmission*

Docket No. ER11-1844-000

SUMMARY OF CROSS-ANSWERING TESTIMONY OF ROBERT PIKE (EXHIBIT NYI-63)

Mr. Pike is Director of Market Design for the New York Independent System Operator, Inc. ("NYISO").

Mr. Pike's cross-answering testimony addresses assertions by PJM Interconnection, L.L.C. ("PJM") witness Frederick S. (Stu) Bresler, III in his Answering Testimony ("Bresler Testimony") that, if the Commission does not reject the MISO's proposed DFAX cost allocation analysis outright because it is fatally flawed, then the allocation of the cost of International Transmission Company's ("ITC's") replacement phase angle regulators (the "Replacement PARs") at the Michigan-Ontario interface ("MI/ON Interface") should be based solely on the peak load hour impacts produced by the MISO's hypothetical DFAX analysis. Mr. Pike also responds to the Prepared Direct and Answering Testimony of FERC Staff witness Zugris (at 33) if and to the extent Ms. Zugris's Direct and Answering Testimony can be read to suggest that cost allocation for the Replacement PARs should be based solely on the peak hour impacts produced by the MISO's hypothetical DFAX analysis.

In his testimony, PJM witness Bresler objects to the inconsistency of MISO/ITC's proposed cost allocation method with the method used for new facilities under the Joint Operating Agreement between the MISO and PJM (the "PJM/MISO JOA"). Mr. Pike explains,

in response, that NYISO did not participate in the development of, and is not a party to, the PJM/MISO JOA.

Mr. Bresler's testimony states that the PJM/MISO JOA requires the cost allocation analysis to be performed using peak conditions in order to identify harmful power flows. Mr. Bresler criticizes MISO/ITC's use of all flows at all times, rather than at peak load, as an allocator. In response, Mr. Pike refers to a provision of the PJM/MISO JOA that calls for adjustment of the model to be used for allocating costs of transmission upgrades, based on the conditions driving the need. The Bresler Testimony appears to assume that the need for all transmission upgrades will be driven by peak system conditions. However, as shown in exhibits offered in this proceeding, unscheduled power flows around Lake Erie occur under a variety of system conditions, in all hours of the year. Accordingly, Mr. Pike explains it would not be just or reasonable to allocate the costs of the Replacement PARs based on the expected power flows from a single peak hour of a hypothetical 2015 planning case year.

To illustrate, the PARs at the MI/ON Interface (the "MI/ON PARs") were installed to prevent the interruption of scheduled energy transactions and to facilitate trading between Michigan and Ontario by reducing the number of Transmission Loading Relief ("TLR") actions that disrupt the scheduling of energy transactions between the two regions. Mr. Pike refers to Exhibit NYI-59 showing that not one of the 2213 MI/ON Interface transactions between Ontario and MISO occurred during a peak hour. Thus, allocation of Replacement PARs' costs based on system peak would not be consistent with the trading-related benefits that the PARs are expected to provide to MISO and ITC customers.

Mr. Pike also points out that Mr. Bresler's examination of the adverse impacts on PJM of operation of the MI/ON PARs to conform actual power flows to scheduled power flows is premised on an hour-by-hour, rather than peak hour, analysis.

Mr. Pike agrees with the conclusions reached by Commission Staff witness Zugris on pages 35 and 36 of her testimony, with one possible exception. In that passage of testimony, Ms. Zugris states that the DFAX method used by MISO is not consistent with the DFAX cost allocation rules set forth in the PJM/MISO JOA. While the statement may be accurate, Mr. Pike reiterates that NYISO does not agree (a) that the terms of a JOA that PJM and MISO negotiated to govern their interaction should be applied to the NYISO, (b) that the PJM/MISO JOA instructs the use of a cost allocation method that is based on system peak conditions in all circumstances, or (c) that it would be appropriate to use the system peak allocation that MISO developed to allocate costs for all 8,760 hours of the year over the useful life of the Replacement PARs.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Midwest Independent Transmission System Operator, Inc. and International Transmission Company d/b/a ITC*Transmission*

Docket No. ER11-1844-000

CROSS-ANSWERING TESTIMONY OF ROBERT PIKE

I. SUMMARY OF TESTIMONY

A summary precedes my testimony.

II. WITNESS IDENTITY AND QUALIFICATIONS

Q. Please state your name, title and business address.

A. My name is Robert Pike. I am the Director of Market Design for the New York Independent System Operator, Inc. ("NYISO"). My business address is 10 Krey Boulevard, Rensselaer, New York 12144. My qualifications are described in the Testimony of Robert Pike that was filed on May 11, 2012 in this proceeding.

Q. What topics do you address in your cross-answering testimony?

My cross-answering testimony addresses assertions by PJM Interconnection, L.L.C. ("PJM") witness Frederick S. (Stu) Bresler, III in his Answering Testimony ("Bresler Testimony") that, if the Commission does not reject the MISO's proposed DFAX cost allocation analysis outright because it is fatally flawed, then the allocation of the cost of International Transmission Company's ("ITC's") replacement phase angle

regulators (the "Replacement PARs") at the Michigan-Ontario interface ("MI/ON Interface") should be based solely on the peak load hour impacts produced by the MISO's DFAX analysis. I also briefly respond to one statement in the Prepared Direct and Answering Testimony of Federal Energy Regulatory Commission ("FERC" or "Commission") Staff witness Zugris.

Q. In what context are you addressing this topic?

A. By submitting cross-answering testimony, the NYISO is not conceding that the Commission has legal authority under the Federal Power Act to accept the MISO/ITC filing, that the Commission has made the findings necessary to permit the NYISO to recover PAR-related charges it receives from MISO from the NYISO's customers, or that the collection of any or all the proposed charges – under any circumstance – is just and reasonable and not unduly discriminatory or preferential.

III. NYISO RESPONSE TO PJM'S ANSWERING TESTIMONY

Q. In the unlikely event that the Commission were to ultimately determine that costs associated with the Replacement PARs should be allocated to NYISO and PJM customers, does PJM agree with the MISO/ITC proposed cost allocation method?

A. No. The Bresler Testimony (at 29) states that the MISO/ITC proposed cost allocation method is inconsistent with the cost allocation method for new facilities under the Joint Operating Agreement between the MISO and PJM (the "PJM/MISO JOA").

Q. Is the NYISO a signatory to the PJM/MISO JOA?

A. No.

Q. Did the NYISO participate in the development of the PJM/MISO JOA?

A. No.

Q. Has the NYISO agreed to abide by the terms of the PJM/MISO JOA?

A. No.

Q. Have PJM or MISO shown that it is appropriate to apply the terms of a JOA that PJM and MISO negotiated to the NYISO?

A. No.

Q. What model(s) did MISO use to perform its DFAX analysis?

A. According to MISO's Webb/Chatterjee testimony (at 8), the MISO's DFAX analysis relies on planning models from the 2010 Midwest ISO Transmission Expansion Plan for the planning year 2015, consisting of a roll-up of modeling data (including company loads) compiled by MISO transmission owners. Eastern Interconnection Reliability Assessment Group (ERAG) – Multiregional Modeling Working Group modeling data was used to represent the PJM, NYISO and Ontario systems. In other words, MISO's DFAX analysis was performed based on a hypothetical 2015 planning case that incorporated projections of expected load growth, along with expected generation and transmission additions. Questions about the MISO's DFAX analysis should be directed to NYISO witness Zachary G. Smith.

Q. Does PJM explain its concerns with the MISO/ITC proposed cost allocation method?

A. Yes. The Bresler Testimony states that "MISO/ITC's cost allocation methodology fails to overcome the threshold principle of identifying a problem, *i.e.*, a reliability violation or constraint, and then allocating costs to the parties that caused the problem based on their relative contribution to that problem." *See* Bresler Testimony at 29. The MISO/ITC proposed method "is based on the incorrect premise that all flows are harmful and each party should be allocated costs based on the total amount of flows placed on the MI-ON interface, regardless of whether harm is present and regardless of whether any reliability violation is being addressed." *See* Bresler Testimony at 29-30.

Q. Does the Bresler Testimony suggest (1) that the PJM/MISO JOA requires modeling to be based on peak conditions, and (2) that MISO's modeling of system peak conditions is likely to be more accurate than MISO's attempt to incorporate all hours of the year in its DFAX analysis?

A. Yes. The Bresler Testimony (at 33) states "…MISO/ITC's use of all flows at all times to establish a forward-looking cost allocation methodology fails to provide a levelizing adjustment for variances from actually experienced conditions in actual operation and therefore can result in skewed results. There is zero chance that MISO/ITC's estimate of flows will accord with actual conditions due to the high variability in the many factors that affect flows on a transmission system. This is in stark contrast to the Commission-accepted cost allocation methodology under the JOA, which identifies reliability violations at peak load conditions. Peak load

conditions are used to identify the harmful flows, and costs are allocated according to the model and distribution that corresponds to the conditions under which the violation was identified."

Q. Have you reviewed Section 9.4.3.2.1(a) of Exhibit PJM-2; Article IX of the PJM/MISO Coordinated Regional Transmission Expansion Planning process, which is part of the PJM/MISO JOA and cited on pages 28 and 29 of the Bresler Testimony?

A. Yes.

Q. Do you agree that the method specified in Section 9.4.3.2.1(a) (*Cost Allocation for Cross-Border Baseline Reliability Projects*) of Exhibit PJM-2 instructs the use of system peak conditions in all circumstances?

A. No. That section of the PJM/MISO JOA specifies that "the model [used should be] adjusted for the conditions driving the need" for a transmission system upgrade. The Bresler Testimony appears to assume that the need for all transmission upgrades will be driven by peak system conditions. However, unscheduled power flows around Lake Erie occur under a variety of system conditions, in all hours of the year. *See, e.g.*, Exhibit No. NYI-4 and Exhibits 1 and 2 to MISO witness Mallinger's Direct Testimony, which chart actual, historical, unscheduled power flows.

Q. Does the NYISO agree that using the expected power flows from a single peak hour of a hypothetical 2015 planning case year would be a just and reasonable method of allocating the cost of the Replacement PARs for all 8,760 hours of the year, over the useful life of the Replacement PARs?

A. No. The suggestion that the NYISO, which was projected to serve approximately 35,000 MW of peak load in the MISO's DFAX analysis, is expected to have a peak

unscheduled power flow impact, measured at the MI/ON Interface, that is nearly ten times the peak impact of PJM, which was projected to serve approximately 169,000 MW of peak load in the MISO's DFAX analysis, and more than twice the peak impact of MISO, which was projected to serve approximately 108,000 MW of peak load in the MISO's DFAX analysis, is not credible. The Bresler Testimony recommends the use of an allocation method under which PJM would be assigned the least possible responsibility for the Replacement PARs, but does not include any evidence indicating that peak hour unscheduled power flow impacts would accurately track cost causation over the year, or over the expected useful life of the Replacement PARs. The testimony of NYISO witness Zachary G. Smith (at 13-16) instead finds that – if any Replacement PARs costs are to be allocated outside of MISO (which NYISO strenuously opposes) − a more accurate approach to discerning each region's impact on loop flow would be based on an hour-by-hour calculation for each region, for each hour of the year.

Q. Would it be appropriate to base the cost allocation of the Replacement PARs solely on the peak hour of the year?

A. No. If peak load conditions are used to calculate the cost allocation, but PJM, MISO and NYISO customers are expected to contribute to the costs of the Replacement PARs based on their operation during all hours of the year, the cost allocation would be inconsistent with the expected contribution to Lake Erie unscheduled power flows in 8,759 hours out of the 8,760 hours in a year, or more than 99.9% of the time.

Q. What types of obligations are frequently assigned using a system peak allocation method?

A. Obligations that are directly related to meeting peak demand are often allocated based on peak usage. For example, in New York the NYISO apportions the obligation to procure generating capacity in the NYISO's Installed/Unforced Capacity Market based on each Load Serving Entity's peak load that is expected to coincide with the New York Control Area peak load. *See* section 5.11.1 of the NYISO's Market Administration and Control Area Services Tariff.

Q. Why wouldn't it be appropriate to allocate the cost of the Replacement PARs based solely on system peak conditions?

A. Such an allocation would be inappropriate because the problem that the PARs installed by ITC and Hydro One at the MI/ON Interface (the "MI/ON PARs") were designed to address is not a peak-specific phenomenon. Unscheduled Lake Erie power flows occur 365 days/year, 24 hours/day. As I explained on pages 7-10 of my Testimony filed May 11, 2012 in this proceeding, and as ITC witness Capra explained on pages 5-6 of his Direct Testimony, one of the primary reasons ITC and Hydro One installed the MI/ON PARs was and is to prevent the interruption of scheduled energy transactions and to facilitate trading between Michigan and Ontario by reducing the number of Transmission Line Relief ("TLR") actions that disrupt the scheduling of energy transactions between these two regions. NYISO Exhibit NYI-59 identifies all 2213 of the transactions that were scheduled over the MI/ON Interface between Ontario and MISO between January 1, 2009 and December 31, 2011 that were curtailed or removed via TLR actions. *Not one* of the

2213 instances in which TLR actions curtailed or removed transactions that were scheduled over the MI/ON Interface occurred during or affected a peak hour in 2009, 2010 or 2011. PJM's proposal to allocate the entire cost of the Replacement PARs based on system peak would not be consistent with the trading-related benefits that the Replacement PARs are expected to provide to MISO and ITC customers.

Q. How did the Bresler Testimony calculate the impact that operating the MI/ON PARs on a flow-to-schedule basis would have on PJM?

A. Pages 37 to 43 of the Bresler Testimony describe analysis that PJM witness Bresler conducted to determine how the operation of the MI/ON PARs to conform actual power flows to scheduled power flows would be expected to financially impact PJM. Pages 40-41 of the Bresler Testimony explains how the analysis was conducted:

> For ***each hour of 2010 and 2011 (8,760 hours in each calendar year)***, I retrieved the actual flow across the MI-ON interface as well as the scheduled value…. Using these values, I then ***calculated the loop flow in each hour by subtracting the scheduled flow from the actual flow***. Because this loop flow would still need to travel from its source to its sink if the ITC PARs were in place, I estimated the resulting impacts of these loop flows traveling along paths alternate to the MI-ON interface. For flow in the Michigan to Ontario direction, the only alternative path for the circulation is from MISO through PJM into NYISO. For flow in the Ontario to Michigan direction, the only alternative path is from NYISO through PJM and into MISO.
>
> Therefore, ***the impact on the PJM market may be calculated as the increased flow through PJM resulting from the ITC PARs operation multiplied by the locational marginal price difference at the points where that flow enters and leaves the PJM system***. Thus, for flow in the Michigan to Ontario direction, the PJM impact can be calculated as the PJM interface price for NYISO minus the PJM interface price for MISO times the MW of flow. Similarly, for flow in the Ontario to MISO direction, the PJM impact can be calculated as the PJM interface price for MISO minus the PJM interface price for NYISO times the MW value of circulation. ***MW values of flows in a given direction where the interface price at the entry point in PJM was***

> ***lower than the interface price at the exit point would represent a cost to PJM due to the increase in congestion. MW values of flows in a direction where the interface price at the entry point is higher than the interface price at the exit point would represent a benefit to PJM because the flow would act to reduce congestion***, partially offsetting the harmful impacts. These additional flows that would occur across the PJM system would displace otherwise economic energy flows. Because all market participants pay for congestion costs based on the marginal price of that congestion, represented by LMP, the cost of supporting these additional flows can be straightforwardly calculated as the MW quantity times the LMP differential.
>
> Thus, ***to determine the dollar impact of the ITC PARs for each hour in 2010 and 2011, I multiplied the hourly value of Michigan – Ontario loop flow by the difference between the NYISO and MISO interface prices for that hour. The hourly Michigan – Ontario values were positive if in the Michigan to Ontario direction, and negative if in the Ontario to Michigan direction***.
>
> I then calculated the ***hourly impact to PJM*** ("PJM Impact") as the product between the MW of loop flows and the difference in the interface prices. A positive result of the hourly calculation of the PJM Impact represented an additional cost to PJM, while a negative result represented a savings to PJM…. [Emphasis added.]

Q. Did PJM's analysis use peak hour impacts to estimate the expected harm to PJM of operating the MI/ON PARs on a flow-to-schedule basis in 2010 and 2011?

A. No. PJM calculated the expected harm or benefit of operating the MI/ON PARs on a flow-to-schedule basis for each and every hour of 2010 and 2011. The NYISO expects that PJM's analysis would produce very different results had PJM simply taken the peak hour of 2010 and 2011 and extrapolated the impacts calculated for those two hours over the entire respective calendar years. PJM has not shown that power flows in the peak hour of a year are representative of the operational impacts of the MI/ON PARs over the course of an entire year, or over the expected life of the Replacement PARs.

Q. Does the NYISO agree with the conclusions reached by Commission Staff witness Zugris on pages 35 and 36 of her Prepared Direct and Answering Testimony?

A. Yes, with one possible exception. On page 35, lines 13-15 of her Prepared Direct and Answering Testimony, Commission Staff witness Zugris notes that the DFAX method used by MISO in this proceeding is not consistent with the Commission-approved DFAX cost allocation rules set forth in the PJM/MISO JOA. While Commission Staff witness Zugris's statement may be an accurate statement, for the reasons explained above, the NYISO does not agree (a) that the terms of a JOA that PJM and MISO negotiated to govern their interaction should be applied to the NYISO, (b) that the PJM/MISO JOA instructs the use of a cost allocation method that is based on system peak conditions in all circumstances, or (c) that it would be appropriate to use the system peak allocation that MISO developed to allocate costs for all 8,760 hours of the year over the useful life of the Replacement PARs.

IV. CONCLUSION

Q. Does this conclude your testimony?

A. Yes.

AFFIDAVIT OF ROBERT PIKE

State of New York §
§
County of Rensselaer §

I, Robert Pike, being duly sworn, depose and state that I prepared the Cross-Answering Testimony of Robert Pike and the statements contained therein are true and correct, to the best of my knowledge, information and belief.

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

SUBSCRIBED AND SWORN BEFORE ME, this 29th day of June, 2012.

Pamela Mead
Notary Public for the State of New York

My Commission Expires on: 6/24/2014

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