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July 30, 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; Proposed Witness Schedule**

Dear Ms. Bose:

Attached please find the proposed witness schedule for the hearing in this proceeding, which is identical to the version filed on Friday, July 27, except with the witness summaries attached as well.

Very truly yours,

/s/ Howard H. Shafferman

Howard H. Shafferman
Counsel for New York Independent System Operator, Inc.

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

DMEAST #15433967 v1

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

PROPOSED WITNESS SCHEDULE

To: The Honorable Steven L. Sterner
Presiding Administrative Law Judge

The proposed witness schedule for the hearing in this proceeding is supplied below, which has been circulated among the parties without objection.

August 13 (Monday)

Preliminaries

Capra/Grover (ITC)

August 14-16 (Tuesday through Thursday)

Zwergel (MISO)

Chatterjee/Mallinger (MISO)

Miller (NYTOs)

August 17 (Friday)

recess

August 20 (Monday)

Shavel (ITC)

Kleinbub (ITC)

Wodyka (PJM TOs)

August 21-22 (Tuesday –Wednesday)

Clarke (NYTOs)
Yeomans (NYISO)

Smith (NYISO)

Pike (NYISO)

August 23 (Thursday)

Bresler (PJM)

Sherman/Zugris (FERC)

August 24 (Friday) (as needed)

Sherman/Zugris (FERC)

Respectfully submitted,

/s/

Howard H. Shafferman
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Summary of
Prepared Direct Testimony of Carlo P. Capra
Docket No. ER11-1844-000, Oct. 20, 2010

Mr. Capra addresses the history and the objectives of the PARs installation. He explains that the fundamental purpose of the installation was to control Lake Erie loop flow. He also explains that, in January 2000, The Detroit Edison Company (DECO) requested amendments to its Presidential Permits to add, *inter alia*, the original PAR. The request included a background discussion, which Mr. Capra quotes at length.

The background discussion explained that, beginning in the early 1990s, there were increased loop flows around Lake Erie. Those increased loop flows triggered Transmission Loading Relief (TLR) operations. According to the background discussion, the increased loop flows "significantly imperil" reliable transmission operations. Thus DECO and Ontario Hydro, in the Fall of 1998, made plans to address the increased loop flows, which plans included, *inter alia*, the installation by DECO of the original PAR.

Mr Capra explains that the November 1999 MAAC-ECAR-NPSS ("MEN") Study Committee report addressed the routine and emergency operation of the original PAR. Those operating principles were incorporated into the DOE-issued Presidential Permit for the PAR. Mr. Capra also explains that the April 19, 2001 Presidential Permit was issued to ITC due to the corporate restructuring of DECO, which resulted in the transfer of DECO transmission facilities to ITC.

Finally, Mr. Capra states that the PARs were studied in various interregional forums, *e.g.*, the MEN Study Committee, and explains that the original PAR failed in March 2003 and that the tower for the Bunce Creek-Scott transmission line collapsed soon thereafter. The original PAR would be replaced with two PARs.

Summary of
Prepared Direct Testimony of David B. Grover
Docket No. ER11-1844-000, Oct. 20, 2010

Mr. Grover states that the purpose of his testimony is to (i) provide cost information on the PARs, (ii) describe the calculation and allocation of the revenue requirement for the PARs; and (iii) describe the MISO tariff revisions required for the recovery of PARs costs from other RTOs.

Thus the testimony is divided into three sections: (i) Background and Qualifications; (ii) Cost of the New PARs; and (iii) Cost Allocation, Calculation of Annual Revenue Requirement, and Tariff Revisions.

Cost of the New PARs. Mr. Grover states that the costs of the PARs is estimated to be $41,568,129 and that the annual revenue requirement for the PARs in 2011 is $11,396,027.

Cost Allocation, Calculation of Annual Revenue Requirement, and Tariff Revisions. Mr. Grover summarizes the inter-regional cost allocation for the PARs. He states that Lake Erie loop flow affects transmission operations in MISO, PJM, NYISO and IESO and that proceedings in Docket No. ER08-1281-000 "highlighted the significant regional interest" in the PARs.

Mr. Grover also states that the potential economic savings from the PARs "are widely recognized, significant and potentially far exceed the cost" of the PARs. He explains that the cost allocation proposed in Docket No. ER11-1844-000 is based on the approach FERC has accepted for cost allocation of "cross-border" reliability projects in MISO and PJM.

Finally, Mr. Grover explains that the revenue requirement for the PARs would be calculated in the same manner that other project-specific revenue requirements are calculated for projects subject to region-wide or cross-border cost allocation. The proposed Attachment SS to the MISO tariff is based on Attachment CC for cross-border projects and Attachment GG for region-wide projects.

Mr. Grover also explains that the proposed Schedule 26 to the MISO tariff would describe how the revenue requirement for the PARs would be allocated among MISO, PJM and NYISO. For PJM, the projected annual Schedule 26 charge in 2011 is $2,222,225; for NYISO, $3,521,372.

David Zwergel:

David Zwergel filed testimony to discuss proposed Tariff language addressing how the international Transmission Company d/b/a ITC*Transmission* ("ITC") Phase Angle Regulating Transformer at Bunce Creek ("New PARs") will be operated and what actions the Midwest ISO may take if it determines that operation of the Michigan-Ontario PARs, including the new PARs, results in anomalous market activity. The Midwest ISO is the sole sponsor of this testimony and the associated Attachment SS-1.

Jeff Webb:

Jeff Webb filed testimony to generally describe the proposed methodology applied to allocate the cost of the ITC Phase Angle Regulating Transformers at Bunce Creek ("New PARs" amongst the Midwest ISO, New York Independent System Operator ("NYISO"), and PJM. This description includes the results of those calculations and studies performed by the Midwest ISO to derive the cost allocation. Jeff Webb's testimony also discusses why this allocation is a just and reasonable method to collect the revenue requirement for the New PARs interregionally.

Digaunto Chatterjee:

Digaunto Chatterjee adopted the testimony and exhibits of MISO witness Jeff Webb, except for the description of his background and qualifications. Mr. Webb previously filedprepared direct testimony in the instant proceeding on October 20, 2010, but was assigned to other projects within MISO. The testimony generally describes the proposed methodology applied to allocate the cost of the ITC Phse Angle Regulating Transformers at Bunce Creek ("New PARs") among the MISO, New York Independent System Operator ("NYISO"), and PJM Interconnection, L.L.C. ("PJM") (collectively "RTO/ISOs"). This description includes the results of those calculations and studies performed by the MISO to derive the cost allocation. The testimony also discusses why this allocation is a just and reasonable method to collect the revenue requirement for the New PARs interregionally. Digaunto Chatterjee's testimony also addresses the distribution factor ("DFAX") analysis performed by MISO, which provides the basis for the allocation of costs of the NEW PARs among MISO, PJM and NYISO. Digaunto Chatterjee re-ran the MISO DFAXanalysis based on the same 2015 forecasted data as in the original MISO DFAX study but with certain corrections.

SUMMARY

Digaunto Chatterjee is Manager, Expansion Planning for Midwest Independent Transmission System Operator, Inc. ("MISO"). Mr. Chatterjee will respond to issues raised regarding the DFAX methodology and address specific allegations raised regarding the reasonableness of inter-regional cost allocation of the ITC PARs. Mr. Chatterjee will provide rebuttals to testimony filed by Zachary Smith ("NYISO"), Richard Miller ("NYTOs"), David Clarke ("NYTOs"), Fredrick ("Stu") Bresler ("PJM"), Donna Zugris ("FERC Staff"), and Kathleen Sherman ("FERC Staff"). Mr. Chatterjee will address the interveners' issues in different parts of this testimony. Common issues raised by different interveners have been separated in pertinent sections as opposed to responding on the same issue multiple times.

Mr. Chatterjee will address the following issues and allegations raised by interveners:

Section I - Zachary Smith:

i. DFAX Study Methodology
    a. Use of hypothetical case to represent actual flows
    b. Use of all PARs on interface vs. using just the B3N PARs
    c. Use of "MISO" Load Duration Curves
    d. Weighting based on load blocks as opposed to Load Duration Curve
    e. Other analytical flaws alleged by Mr. Smith
        i. Impact of other areas outside of MISO, PJM, NYISO and IESO
        ii. Exclusion of impact of Big Rivers and Dairyland Power
        iii. Other alleged study errors

ii. B3N PARs compared to other PARs in Eastern Interconnect

Section II - Fredrick (Stu) Bresler:

i. Allegations of inconsistency with JOA methodology for allocating costs of cross border reliability projects
    a. Allocating cost of replacement of a pre-existing facility
    b. JOA process for determining cross-border facilities eligible for inter-RTO cost allocation
    c. Consistency with basic cost causation or beneficiary pays principles
    d. Status as reliability project driven by NERC or regional reliability criteria
    e. Consistency with application of JOA DFAX methodology
        i. DFAX not calculated on constraint
        ii. Snap shot representation is flawed
        iii. Use of Shoulder and Light Load models without identified constraints under those scenarios
        iv. Did not differentiate between flows which were harmful and helpful

Section III - Richard Miller:

i. No cost allocation to IESO customers

ii. No cost allocation to other MISO customers

Section IV - David Clarke:

i. Fixed snap shot case does not capture benefits of ITC PARs

ii. Does not reflect impact of scheduled transactions or benefits that scheduled transactions will receive as a result of the PARs

iii. Ignores changes in contribution of regions to interface flows resulting from installation of the PARs

iv. Ignores that flows from one region can offset the impacts of the flows from other regions

Section V - Donna Zugris and Kathleen Sherman (FERC Staff):

i. B3N PARs were designed and constructed mainly for benefit of ITC transmission system, and they do not provide distinctive multi-region benefit, as all PARs in the Eastern Interconnection, including those in NYISO and PJM

ii. Cost Allocation Methodology is inconsistent with the Commission-approved DFAX methodology and creates problems with the MISO/ITC proposed methodology

Thomas Mallinger:

Thomas Mallinger filed testimony to provide a background on the Lake Erie loop flows, describe the economic and reliability impacts these flows have had on the Midwest ISO and surrounding markets, and explains how the Michigan-Ontario Phase-Angle Regulators ("PARs") will mitigate the impacts of these flows.

SUMMARY

Thomas Mallinger is a Consulting Advisor in Real-Time Operations for Midwest Independent Transmission System Operator, Inc. ("MISO"). Mr. Mallinger will respond to issues raised regarding operation of the PARs and also sources, impacts, magnitude, and means of mitigating Lake Erie Loop Flow. He will also address allegations raised regarding the operation of the PJM-MISO Joint Operating Agreement. Mr. Mallinger will provide rebuttal to testimony filed by Fredrick (Stu) Bresler (PJM), Richard Wodyka (PJM TOs), Zachary Smith and Wesley Yeomans (NYISO), and Donna Zugris (FERC Staff). Mr. Mallinger will address the interveners' issues in different parts of this testimony. Common issues raised by different interveners have been separated in pertinent sections as opposed to responding on the same issue multiple times.

Mr. Mallinger will address the following issues and allegations raised by interveners:

Fredrick (Stu) Bresler:

i. Sources and magnitude of Lake Erie Loop Flow
ii. Impact of loop flow
iii. Means to manage loop flow
iv. Allegations regarding JOA methodology

Richard Wodyka:

i. Reliability problems related to loop flow
ii. Means to manage loop flow

Donna Zugris:

i. Purpose and effect of PARs

ii. Means to manage loop flow

iii. PARs operations

Zachary Smith:

i. Purpose and effect of PARs

Wesley Yeomans:

i. PARs operations

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. ER11-1844-002

PREPARED DIRECT AND ANSWERING TESTIMONY OF RICHARD B. MILLER

FILED ON BEHALF OF THE
NEW YORK TRANSMISSION OWNERS

SUMMARY OF TESTIMONY

As conceded by the International Transmission Company (ITC), the question of the extent to which one region can unilaterally seek to allocate the costs of facilities in its region to other regions over their objection is an issue of first impression. (NYT-1, pg. 11) There is no dispute that Order No. 1000 would prohibit the Midwest Independent Transmission System Operator, Inc. / ITC filing to allocate to the New York Independent System Operator, Inc. (NYISO) the costs of the Michigan-Ontario Phase Angle Regulators (Replacement PARs), even if they were new facilities. Effectively, ITC seeks to be the only entity ever to be able to unilaterally allocate the costs of its facilities to other regions over their objection. Moreover, ITC makes its proposal even though MISO determined that the cost of the Replacement PARs cannot be reallocated outside of ITC's service area. (NYT-1, pg. 12) When MISO made this determination, it stated that it has consistently followed the policy that the cost sharing mechanism in the tariff at the time of project approvals will be applied for the life of the investment. (NYT-1, pg. 8)

The ITC proposal is also inconsistent with sound cost allocation policy. First, the Commission should only permit inter-regional cost allocation where both regions individually and collectively agree to cost allocation as part of an approved planning process, and even then it should be limited to investment in new facilities that are not replacements for existing facilities. (NYT-1, pgs. 5-14) As I will discuss in my testimony, there is no applicable inter-regional planning process or agreement between the MISO/ITC and the NYISO that would authorize the collection of these costs and there can be no claim that anything comparable has taken place. Second, there should not be any change in the method of allocating the costs of pre-existing facilities particularly where, as here, it would be inconsistent with cost causation principles, *i.e.*, the reasons the costs were incurred in the first place. Indeed, MISO/ITC made the decision to invest in these facilities in 2007 well before it sought to impose the costs on other regions after 2008. (NYT-1, pgs. 14-16) Third, MISO/ITC's proposal is unduly discriminatory because it does not allocate costs to the rest of MISO customers because the MISO does not permit a change in the original cost allocation methodology (that allocates costs only to Michigan customers) in the case of replacement facilities. (NYT-1, pgs. 16-19) The MISO/ITC proposal is also discriminatory because it does not allocate costs to the Independent Electricity System Operator (IESO) even though its own study alleges that IESO receives 55% of the benefit of the Replacement PARs. The proposal is also discriminatory because it does not seek to charge the parties that initiate the scheduled transactions that cause the loop flow.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Midwest Independent Transmission System Operator, Inc.,	)	Docket No. ER11-1844-000

SUMMARY OF PREPARED ANSWERING AND REBUTTAL TESTIMONY OF DR. IRA H. SHAVEL ON BEHALF OF INTERNATIONAL TRANSMISSION COMPANY

In his Prepared Answering and Rebuttal Testimony, Dr. Shavel responds to and rebuts testimony filed in this proceeding by other witnesses regarding the impacts of Lake Erie loop flow. Dr. Shavel explains that loop flow is a serious problem for RTO operations and for markets (pp. 2-12). In particular, he explains what loop flow is; how MISO, PJM, NYISO and IESO have recognized the problems associated with loop flow; the negative effects of loop flow, including congestion and disruption to markets for Financial Transmission Rights and Transmission Congestion Rights; and the use of Transmission Loading Relief to address loop flow. Dr. Shavel concludes that the PARs are needed to control loop flow and will, among other things, reduce Transmission Loading Relief. Dr. Shavel also explains the importance of the Michigan-Ontario PARs (pp. 12-16). Finally, he discusses PJM's PARs analysis (pp. 16-18).

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Midwest Independent Transmission System Operator, Inc.,	)	Docket No. ER11-1844-000

SUMMARY OF
PREPARED ANSWERING AND REBUTTAL TESTIMONY
OF OLIVER KLEINBUB ON BEHALF OF
INTERNATIONAL TRANSMISSION COMPANY

In his Prepared Answering and Rebuttal Testimony, Mr. Kleinbub responds to and rebuts the testimony filed in this proceeding by other witnesses questioning the reliability of ITC's PARs. Mr. Kleinbub explains that the PARs are proven technology which has been in use for more than fifty years and that PARs are deployed and operated successfully and reliably throughout the United States. He explains further that ITC's PARs were manufactured by SMIT Transformers, a reputable company with nearly 100 years of experience in the manufacture of power equipment, and that there is no reason to believe that the PARs are unreliable or prone to failure. He points out finally, that it is unreasonable to assume that the issues that occur during the start up phase of any facility are likely to repeat themselves in the future.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Midwest Independent Transmission System Operator, Inc.	)	**Docket No. ER11-1844-002**

SUMMARY OF PREPARED DIRECT AND ANSWERING TESTIMONY OF RICHARD A. WODYKA ON BEHALF OF THE PJM TRANSMISSION OWNERS

The Prepared Direct and Answering Testimony of Richard A. Wodyka consists of testimony and twelve other exhibits on behalf of the PJM Interconnection, L.L.C. ("PJM") Transmission Owners ("TOs"). Mr. Wodyka responds to the Midwest Independent Transmission System Operator, Inc's ("MISO") and the International Transmission Company's ("ITC") proposed allocation of the cost to PJM of ITC Phase Angle Regulating Transformers ("PARs") at Bunce Creek on the Michigan-Ontario border and the prepared direct testimony MISO and ITC submitted in support of the proposed cost allocation.

Mr. Wodyka testifies that the MISO/ITC joint filing that proposes to allocate a portion of the cost of the ITC PARs to PJM is inconsistent with the design, planning, and expected operation of the interconnected transmission system, which necessitate an inter-regional approach to addressing loop flows.[1] Mr. Wodyka explains that the interconnected transmission systems in the Eastern Interconnection achieve significant benefits by pooling both generation and demand resources.[2] Loop flows, including the Lake Erie loop flows, are a natural occurrence on an interconnected transmission system,

[1] Exhibit No. PTO-1 at 7-23.

[2] *Id.* at 8-9.

and result from the operation of that interconnected system.[3] By following the mandatory reliability standards of the North American Electric Reliability Corporation ("NERC") and engaging in coordinated system planning and analysis of loop flows, utilities and Regional Transmission Organizations ("RTOs"), including PJM and MISO, have a long history of coordinated management of loop flows.[4] As Mr. Wodyka explains, there are many different ways to address loop flows and to the extent that a physical solution, such as PARs, is used, the costs of that solution should be borne by the constructing utility.[5] MISO and ITC provide no evidence that would justify the allocation of costs for the ITC PARs to PJM. MISO/ITC's unilateral implementation and cost allocation of the PARs is inconsistent with the coordinated review and planning utilities have undertaken in the past to address loop flows, while also accounting for the benefits of the interconnected nature of the transmission system and maintaining reliability.

Mr. Wodyka also concludes that the MISO/ITC joint filing contravenes the PJM/MISO Joint Operating Agreement ("JOA") and the provisions of the MISO Tariff implementing the JOA, which were developed to address inter-regional issues, including loop flows.[6] The JOA includes the Congestion Management Process ("CMP") collaboratively developed by PJM and MISO to manage and compensate each other for loop flows and other congestion-related problems between PJM and MISO.[7] Any effects on the Lake Erie loop flow caused by PJM are already accounted for in the CMP.[8]

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[3] *Id.* at 9-13.

[4] *Id.* at 13-20.

[5] *Id.* at 21-22

[6] *Id.* at 23-33.

[7] *Id.* at 24-25.

[8] *Id.* at 26-27, 31-33.

Mr. Wodyka also explains that, in the JOA, MISO and PJM have agreed on a process for developing inter-regional transmission facilities that may be eligible for inter-regional cost allocation and that the JOA is the only means by which costs associated with such facilities in MISO may be allocated to PJM.[9] The ITC PARs do not meet the criteria set forth in the JOA for interregional allocation of their costs.[10] Mr. Wodyka concludes that the ITC PARs were not developed pursuant to the JOA process and that MISO and ITC ignored the requirements of the JOA in their proposed allocation of the costs of the ITC PARs.[11]

Finally, Mr. Wodyka concludes that MISO/ITC failed to consider important factors that the Commission requires be taken into account for purpose of cost allocation in proper inter-regional planning and MISO/ITC's proposed cost allocation does not comply with the Commission's policy on cost causation.[12] More specifically, MISO/ITC failed to identify any impacts of the Lake Erie loop flow on the reliability of its own transmission system or to consider whether the operation of the PARs would have any reliability or economic impact on PJM.[13] Mr. Wodyka also points out that MISO/ITC have provided no evidence that PJM has any more than a minimal impact on the Lake Erie loop flow and failed to justify the allocation of costs attributable to the Independent Electricity System Operator to PJM.[14] Therefore, Mr. Wodyka concludes that MISO/ITC cannot justify the allocation of the cost of the ITC PARs to PJM.

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[9] *Id.* at 33-44.

[10] *Id.* at 33-37.

[11] *Id.* at 44.

[12] *Id.* at 44-53.

[13] *Id.* at 44-47.

[14] *Id.*

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

PREPARED DIRECT AND ANSWERING TESTIMONY
OF
DAVID C. CLARKE

FILED ON BEHALF OF THE
NEW YORK TRANSMISSION OWNERS

SUMMARY OF TESTIMONY

In their joint rate filing, the Midwest Independent System Operator and the International Transmission Company (MISO/ITC) propose to allocate the costs of certain phase angle regulators (ITC PARs or Replacement PARs) that affect flows on the Michigan-Ontario interface (MI-ON interface) to certain adjoining, PJM, and non-adjoining, NYISO, regions using a static load flow approach. This approach is fatally flawed for several reasons. First, the alleged benefits of the ITC PARs affect and are affected by a wide range of factors throughout a broad geographic region and depend on facts that change frequently-- therefore, the fixed snap-shot of the hypothetical future year 2015 used in their study will not accurately depict the flows over the interface in any one year over the proposed 48 year life of the facilities except as the result of pure coincidence. (NYT-19, pg. 7-9, 11). Second, it is also highly unlikely that the 2015 hypothetical snap-shot of flows over this interface would represent the flows over the interface in the 1998-2001 frame when DTE/ITC planned, constructed and financed the PARs. (NYT-19,

pgs. 8-10). Third, the MISO DFAX study does not reflect the impact of schedule transactions across the interface or the benefit that scheduled transactions will receive as a result of the PARs. (NYT-19, pgs. 10-11). Fourth, the proposed cost allocation does not reflect the impacts on loop flow over the Michigan Ontario interface of any other regions outside of the MISO footprint except NYISO and PJM. (NYT-19, pg. 10). The fifth reason is that the DFAX study does not capture and ignores the fact that flows from one region can offset the impacts of the flows from other regions. (NYT-19, pg. 16). The MISO/ITC proposal also ignores the majority of the flow results of the MISO's own DFAX study and does not propose to allocate costs to MISO's other customers or to IESO's customers. The final reason that the proposal is flawed is that the MISO study ignores the fact that the percentage contribution to flows over the interface does not equal the impact on each region that may result from the installation of the 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

SUMMARY OF TESTIMONY OF WESLEY J. YEOMANS (EXHIBIT NYI-1)

Mr. Yeomans is Vice President of Operations for the New York Independent System Operator, Inc. ("NYISO").

By submitting testimony addressing the merits of the MISO/ITC filing, 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.

In Section III of his testimony, Mr. Yeomans provides an introduction to phase angle regulators ("PARs") and transmission loading relief procedures ("TLRs") (page 3, line 21 through page 9, line 2). Each is a key concept in this proceeding, and in the testimony of NYISO witnesses. Mr. Yeomans explains the function of PARs (page 3, line 22 through page 4, line 20), and provides an overview of the history of the PARs at issue in this proceeding (the "Replacement PARs") and the failed PAR (the "Original PAR") that they replaced, as well as the PARs (the "Hydro One PARs") on the Ontario side of the Michigan-Ontario interface (the

"MI/ON Interface")[1] (page 4, line 22 through page 5, line 14). He then explains TLRs, and how they are implemented (page 5, line 16 through page 7, line 23), and the importance of accurate modeling of the MI/ON PARs in the NERC Interchange Distribution Calculator (page 8, line 2 through page 9, line 2).

In Section IV of his testimony, Mr. Yeomans responds to the claims of the Midwest Independent Transmission System Operator, Inc. ("MISO") and the International Transmission Company ("ITC") regarding the expected effectiveness of the MI/ON PARs in fully mitigating Lake Erie unscheduled power flow (or "loop flow") (page 9, line 4 through page 10, line 17). Mr. Yeomans notes that neither MISO nor ITC submitted studies or workpapers supporting the claimed effectiveness of the MI/ON PARs (page 10, lines 1 through 7), and that the PARs on all four transmission lines connecting Michigan and Ontario have never been in service at the same time (page 10, lines 9 through 17).

In Section V of his testimony, Mr. Yeomans addresses the operating rules for the MI/ON PARs agreed to by MISO and the Independent Electricity System Operator (Ontario) ("IESO") in 2011 (page 10, line 19 through page 13, line 3). The MISO-IESO "Operating Instruction" provides a operational target that actual power flows over the MI/ON Interface are to be maintained within a +/-200 MW "Control Band" of the power flows that have been scheduled over the MI/ON Interface to the maximum extent practical (page 11, line 15 through page 12, line 10). Mr. Yeomans provides data showing that without *any* control by the MI/ON PARs, the flows were within that Control Band about one-half of the time over the past year (page 12, line 12 through page 13, line 3).

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[1] The Replacement PARs and the Hydro One PARs are referred to collectively in NYISO testimony as the "MI/ON PARs."

Section VI of Mr. Yeomans' testimony explains that, despite the proposal of MISO/ITC to collect more than half of the cost of the Replacement PARs from NYISO and PJM customers, MISO and ITC do not propose to assume an obligation to serve those customers (page 13, line 5 through page 16, line 16). MISO asserts that NYISO and PJM customers will be required to pay the proposed PAR charges even when the Replacement PARs or Hydro One PARs are out of service (page 13, line 9 through page 15, line 17). ITC disclaims any service obligation whatsoever (page 15, lines 19 through 27). Mr. Yeomans indicates that in order to be permitted to charge NYISO and PJM customers for the costs of the Replacement PARs, MISO and ITC should be required to meet the performance expectations created in the their direct testimony; namely, that the MI/ON PARs will fully mitigate unscheduled Lake Erie power flows in at least 74% of all hours, and reduce unscheduled power flows by at least 600 MW at times when the MI/ON PARs are not able to fully mitigate those flows (page 16, lines 2 through 16).

In Section VII, Mr. Yeomans explains that the MISO-IESO Operating Instruction does not require MISO and IESO to operate the MI/ON PARs to mitigate 600 MW of unscheduled power flows at time when those flows exceed the +/-200 MW Control Band (page 16, line 18 through page 19, line 23).

Section VIII reviews provisions of the MISO-IESO Operating Instruction that permit MISO and IESO to favor their own customers and interests, versus those of NYISO and PJM (page 20, line 1 through page 23, line 22). The operating instruction provides protections to MISO and IESO that are not available, or not available on an equivalent basis, to NYISO and PJM (page 20, lines 3 through 17). This disparity applies in cases of control area emergencies (page 20, line 19 through page 22, line 8), and in cases of unforeseen operational or market outcomes (page 22, line 10 through page 23, line 8). Further, proposed Attachment SS-1 to the

MISO tariff allows MISO to temporarily suspend normal operations of the MI/ON PARs in the event of anomalous MISO market results related to the MI/ON PARs, without according similar rights to NYISO or PJM for anomalous market results in their respective markets (page 23, lines 10 through 22).

Section IX reviews the outage history of the PARs at the MI/ON Interface from 2001 to the present (page 23, line 24 through page 31, line 3). The Original PAR and the Hydro One PARs have experienced significant operational difficulties during that period (page 23, line 25 through page 27, line 17). Indeed, when the Replacement PARs were placed into service on April 5, 2012, not all of the Hydro One PARs were in service, and the history of the MI/ON PARs indicates that they are prone to failure (page 27, line 19 through page 29, line 12). Mr. Yeomans explains that this calls into serious question the MISO/ITC claim that the MI/ON PARs can control Lake Erie unscheduled power flows by 600 MW and for 74 percent of the time (page 29, line 14 through page 30, line 10). Notably, ITC chose a different manufacturer for the Replacement PARs from the one utilized for the Original PAR and the Hydro One PARs that have experienced significant failures (page 30, line 8 through page 31, line 3).

Mr. Yeomans evaluates, in Section X of his testimony, the ability of the MI/ON PARs to mitigate Lake Erie unscheduled power flows when one or more of the Hydro One PARs is out of service (page 31, line 5 through page 39, line 16). He reviews a series of examples and diagrams illustrating why the ability to mitigate unscheduled power flows is limited, and reviews admissions by MISO that the ability to mitigate will be reduced (page 31, line 8 through page 37, line 2). Based his review of data for prior recent periods when the MI/ON PARs were not in operation, and for the first month of operations of the MI/ON PARs with one of the Hydro One PARs out of service, it appears that the performance of the available PARs has not improved

upon the performance that the NYISO recorded for periods when the MI/ON PARs were not available (page 37, line 4 through page 38, line 15). The Replacement PARs are not capable of mitigating Lake Erie unscheduled power flows if they are operated without any of the Hydro PARs in operation (page 39, lines 1 through 16).

In Section XI, Mr. Yeomans explains that all interconnected facilities benefit neighbors (page 39, line 18 through page 40, line 18). PARs are not a "special class" of transmission facilities of extraordinary value; they are no different from other transmission facilities that provide mutual transmission security benefits for neighboring ISOs/RTOs (page 39, line 18 through page 40, line 6). Finally, the Replacement PARs do not provide unique benefits that no other PARs can provide (page 40, lines 10 through 18).

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 TESTIMONY OF ZACHARY G. SMITH (EXHIBIT NYI-38)

Mr. Smith is Manager of Transmission Studies for the New York Independent System Operator, Inc. ("NYISO").

By submitting testimony addressing the merits of the MISO/ITC filing, 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.

In Section III of his testimony, Mr. Smith provides background on the "DFAX analysis" that is the basis for the cost allocation proposed by the Midwest Independent Transmission System Operator, Inc. ("MISO") and the International Transmission Company ("ITC") in this proceeding (page 3, line 17 through page 8, line 2). Mr. Smith explains that the DFAX analysis uses a computer model of the electric network to measure the effect of the load of each transmission zone on the transmission circuits being analyzed (page 3, line 18 through page 4, line 7). MISO's DFAX study tested a hypothetical 2015 case. MISO's DFAX analysis measured the total change in MW flow on the four transmission circuits that comprise the

Michigan/Ontario Interface ("MI/ON Interface") for power transfers between each studied region's generation and that region's loads. The studies were performed on a region-by-region basis (they were not performed simultaneously) and all four of the transmission lines that comprise the MI/ON Interface were permitted to flow freely, without PAR controls. (page 4, line 9 through page 5, line 23).

Mr. Smith explains that it was not appropriate for MISO to base its DFAX analysis on the contribution to flows across the entire MI/ON Interface (which consist of four circuits). Instead, MISO's analysis should only have considered impacts on the "B3N" circuit, on which the PARs built by ITC that are at issue in this proceeding (the "Replacement PARs"), are located (page 6, lines 2 through 9). The study MISO performed understates MISO's expected use of the MI/ON PARs because MISO power flows from Michigan to Ontario on two of the circuits, and loops back to Michigan on the two other circuits, but the MISO's method inappropriately nets these two flows against each other (page 6, line 11 through page 7, line 6). The DFAX analysis should have set the Replacement PARs on the B3N circuit to "inactive" and the Hydro One PARs to "inactive," producing a more focused assessment of generation-to-load impacts on that circuit, as shown in a table (page 7, line 8 through page 8, line 1).

In Section IV of his testimony, Mr. Smith assesses the use of load duration curves in the DFAX analysis (page 8, line 3 through page 13, line 6). He explains that a load duration curve shows the number of hours of the year that a utility's or region's load is at or above a given percentage of peak load (page 8, lines 4 through 12). Mr. Smith explains why it was improper for the DFAX analysis to have used the MISO's load duration curve for all regions, rather than the load duration curves for each of the regions to which Replacement PAR costs are proposed to be allocated (page 9, line 3 through page 12, line 7). Applying MISO's load duration curve to

New York penalizes the NYISO in the calculation of the overall weighted participation (page 12, line 9 through page 13, line 6).

In Section V of his testimony, Mr. Smith addresses the three load blocks used in MISO's DFAX analysis (page 13, line 8 through page 16, line 2). He explains that a load block indicates the number of hours that the system load levels are within a given range (page 13, lines 9 through 16). Mr. Smith explains MISO's use of only three load blocks was inappropriate because such a simplistic construct cannot depict a region's electricity usage accurately over the 8760 hours in a given year (page 14, lines 1 through 18). Mr. Smith explains that the use of just three load blocks penalizes New York by mis-assigning a significant portion of the NYISO's participation (flows) to higher load hours (page 14, line 20 through page 15, line 19). Instead, the MISO should have conducted the DFAX analysis for each region based on that region's load level for each hour of the year (page 15, line 21 through page 16, line 2).

Section VI of Mr. Smith's testimony explains other flaws in the DFAX analysis (page 16, line 4 through page 19, line 18). These include ignoring the cumulative contribution of regions other than MISO, NYISO, PJM and IESO to unscheduled Lake Erie power flows. Mr. Smith points out that the multitude of small "contributors" illustrates that if regions are permitted to assess charges to each other on the basis of asserted "benefits" in the absence of regional agreements, this "chain reaction" and ensuing litigation will have no logical stopping place (page 16, line 5 through page 19, line 6). Other flaws include: (i) failing to include an amount of PJM generation and an amount of MISO generation, (ii) additional generation was incorrectly added to the NYISO and (iii) additional loads were incorrectly added to the NYISO (page 19, lines 8 through 18).

In Section VII, Mr. Smith indicates why a 1998 study referenced in the MISO/ITC filing did not represent a coordinated planning effort to design the PAR originally installed on the B3N circuit (the "Original PAR")[1] as a multi-regional facility, or to allocate the costs of the Original PAR among the regions that participated in the study (page 20, line 1 through page 21, line 14). NYISO has never participated in the MISO's MTEP planning process, whether with respect to the PARs at the MI/ON Interface or otherwise (page 21, lines 16 through 18).

Section VIII presents NYISO's modification of the MISO's DFAX study in order to rebut claims by MISO and ITC that the Replacement PARs (operating together with the three "Hydro One PARs" on the Ontario side of the MI/ON Interface) will provide a unique, multi-region benefit (page 21, line 20 through page 25, line 10). The NYISO's modification to the MISO's DFAX study shows that all PARs in the Eastern Interconnection affect power flows over the MI/ON Interface. The PARs at the MI/ON Interface are not unique in this regard (page 22, line 2 through page 25, line 2). If the other PARs in the Eastern Interconnection were removed from service, the modified DFAX analysis that the NYISO performed suggests that unscheduled Lake Erie power flows would be substantially higher than they are today (page 25, lines 4 through 10).

[1] The Original PAR failed, and was replaced by the Replacement PARs, the cost allocation for which is at issue in this proceeding.

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.

SUMMARY OF PREPARED ANSWERING TESTIMONY OF FREDERICK S. (STU) BRESLER, III ON BEHALF OF PJM INTERCONNECTION, L.L.C.

Frederick S. (Stu) Bresler, III is Vice President, Market Operations, for PJM Interconnection, L.L.C. ("PJM"). Mr. Bresler's testimony explains that, for several reasons, PJM should not be allocated any costs for International Transmission Company's d/b/a ITC*Transmission* ("ITC") phase angle regulators ("ITC PARs") at the Michigan-Ontario border as jointly proposed by ITC and the Midwest Independent Transmission System Operator, Inc. ("MISO" and jointly "MISO/ITC").

First, Mr. Bresler testifies that the Joint Operating Agreement Between the Midwest Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C. ("JOA") is the only agreement in place between MISO and PJM that permits cross-border cost allocation for transmission facilities.[1] The JOA authorizes such allocation for qualified reliability and market efficiency projects that have a demonstrable benefit to both regions. However, the ITC PARs fail to meet the criteria to be eligible for cross-border allocation as either a reliability project or a market efficiency project.

Second, Mr. Bresler explains that, through the market-to-market coordination process under the JOA, MISO and PJM already have agreed on the means by which each party will compensate the other for any adverse effects resulting from loop flows placed on the other's system.[2] Recognizing that loop flows are a natural occurrence and a part of interconnected operations, the JOA permits PJM and MISO to place loop flows on

[1] *See* Exhibit PJM-1 at 9-18.

[2] *See* Exhibit PJM-1 at 19-21.

each other's systems. But, at times when congestion is present due to excess loop flows, a party may initiate the JOA's market-to-market process to resolve the congestion and receive compensation for the adverse effects of the excess loop flows attributable to the other party.

Third, Mr. Bresler testifies that PJM has never agreed to the installation and operation of the ITC PARs on a flow to schedule basis, as MISO/ITC claim.[3] PJM has consistently advocated a market-based solution designed to minimize congestion on all systems around Lake Erie, rather than the command and control solution of blocking loop flows even when they cause no adverse effects. Such inefficient use of the transmission system will cause congestion and result in higher market prices in the PJM region.

Fourth, Mr. Bresler describes how MISO/ITC's cost allocation methodology is fundamentally flawed.[4] Contrary to MISO/ITC's claims, the proposed cost allocation methodology is not consistent with the JOA's methodology for allocating costs associated with cross-border reliability projects. MISO/ITC's methodology fails to overcome the threshold issue of identifying a problem (i.e., reliability violation or constraint) and then allocating costs to parties that caused the problem based on their relative contribution to that problem. As a result, MISO/ITC's methodology did not determine which flows were harmful and allocate costs based only on those harmful flows. Instead, MISO/ITC assumed that all flows were harmful and proposed to allocate costs based on all flows, regardless of whether they caused any harm.

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[3] *See* Exhibit PJM-1 at 22-25.

[4] *See* Exhibit PJM-1 at 26-36.

Finally, Mr. Bresler details how PJM is harmed by the planned flow to schedule operation of the ITC PARs.[5] Mr. Bresler explains that he analyzed actual flow data from the 2010 and 2011 calendar years to determine the effects that the ITC PARs would have had on the PJM region. His analysis revealed that the operation of the ITC PARs, which forces flows that previously traveled around the north side of Lake Erie to travel through MISO, PJM, and other southern systems, increases west-to-east congestion on PJM's system. The total cost impacts of the ITC PARs' operation on the PJM region for 2010 would have been approximately $11.4 million and, for 2011, approximately $16.1 million. PJM expects that this magnitude of annual harm to the PJM region from the operation of the ITC PARs will continue for the foreseeable future.

[5] *See* Exhibit PJM-1 at 37-43.

Exhibit No. S-1

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Midwest Independent Transmission System Operator, Inc.	**)**	**Docket No. ER11-1844-002**

Summary of the
Prepared Direct and Answering Testimony of
KATHLEEN L. SHERMAN
Witness for the Staff of the
Federal Energy Regulatory Commission

Ms. Sherman presents Staff's analysis of the filing made by Midwest Independent Transmission Operator, Inc. (MISO) to permit its member International Transmission Company (ITC) to allocate to, and collect costs from, New York Independent System Operator (NYISO) and PJM for replacement facilities at the Michigan/Ontario interface (Replacement PARs). ITC claims that the Replacement PARs will benefit NYISO and PJM. She finds that recovery of the proposed charges from NYISO and PJM is not appropriate.[1] She concludes that ITC should not be permitted to unilaterally allocate the costs of the ITC Replacement PARs, which were planned and constructed within the MISO region, to any other region.[2] Thus, neither PJM nor NYISO should be allocated any cost for the Replacement PARs.[3]

[1] Ex. S-1 at 13-14, 21.
[2] *Id.* at 18.
[3] *Id.* at 21.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Midwest Independent Transmission System Operator	**)**	**Docket Nos. ER11-1844-002**

SUMMARY OF PREPARED DIRECT AND ANSWERING TESTIMONY
OF
DONNA ZUGRIS

ON BEHALF OF
THE FEDERAL ENERGY REGULATORY COMMISSION STAFF

Donna Zugris' direct and answering testimony addresses, from an engineering perspective, the Midwest Independent Transmission System Operator, Inc. (MISO) and International Transmission Company (ITC) proposed allocation to New York Independent Transmission Operator (NYISO) and PJM Interconnection, LLC (PJM) of costs associated with the ITC Replacement Phase Angle Regulating Transformers (PAR)s at Bunce Creek on the Michigan-Ontario (MI-ON) border. Ms. Zugris' testimony explains that, for several reasons, NYISO and PJM should not be allocated any costs for ITC Replacement PARs.

First, Ms. Zugris provides a description of PARs at the MI-ON Interface and explains the history of the ITC Replacement PARs, and concludes that: (1) the ITC Replacement PARs were designed and constructed mainly for the benefit of the ITC transmission system; and (2) the ITC Replacement PARs do not provide a distinctive,

multi-region benefit, as all PARs in the Eastern Interconnection, including those in NYISO and PJM, would impact the loop flows at the MI-ON Interface, and therefore it is not reasonable for parties outside of the ITC zone, like NYISO and PJM, to be allocated costs for the ITC Replacement PARs.[1]

Second, Ms. Zugris explains the concept of loop flows and discusses the current loop flow mitigation methods around Lake Erie.[2] She explains that (1) loop flows are a natural phenomenon in the Eastern Interconnection; and (2) market solutions implemented by NYISO were able to manage loop flows during the unusual conditions experienced in 2008 better the MI-ON PARs. She concludes that it is unreasonable that NYISO and PJM be allocated costs for the ITC Replacement PARs, when both implemented effective market solutions which appear to be superior to the physical solution provided by the PARs.[3]

Third, Ms. Zugris describes how the exclusive operation of the ITC Replacement PARs by MISO and IESO may favor MISO and IESO customers to the disadvantage of NYISO and PJM customers, which may even be economically harmed.[4] She concludes that as NYISO and PJM have no decision-making authority regarding the operation of the ITC Replacement PARs, and PJM may even be economically harmed from their

[1] Ex. S-6 at 8-16.

[2] Ex. S-6 at 16-26.

[3] Ex. S-6 at 25-26.

[4] Ex. S-6 at 26-29.

operation, it is unreasonable to be requested to pay part of their costs.[5]

Finally, Ms. Zugris discusses MISO/ITC proposed cost allocation methodology for the ITC Replacement PARs.[6] She explains how that methodology is inconsistent with the Commission-approved DFAX methodology, and provides her opinion regarding the problems with the MISO/ITC proposed methodology.[7]

[5] Ex. S-6 at 29-30.

[6] Ex. S-6 at 30-36.

[7] *Id.*

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 these proceedings.

Dated at Washington, D.C. this 30th day of July, 2012.

/s/ Pamela S. Higgins

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