



Gregory A. Troxell  
Assistant General Counsel  
Direct Dial: 317-249-5821  
E-mail:  
gtroxell@midwestiso.org

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

**Re: Midwest Independent Transmission System Operator, Inc. and PJM Interconnection, L.L.C., Docket Nos. ER04-375-017, ER04-375-018**

Dear Ms. Salas:

PJM Interconnection, L.L.C. ("PJM") and the Midwest Independent Transmission System Operator, Inc. ("Midwest ISO") hereby file, for informational purposes, a combined report on progress towards a joint and common market, and implementation of the Joint Operating Agreement ("JOA") executed by the Midwest ISO and PJM, in accordance with the Federal Energy Regulatory Commission's ("Commission") March 18, 2004, August 5, 2004, and March 3, 2005 orders in Docket No. ER04-375<sup>1</sup> and July 31, 2002 order in Docket Nos. EL02-65, *et al.*<sup>2</sup>

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<sup>1</sup> See 106 FERC ¶ 61,251 (2004) ("March 18 Order"), 108 FERC ¶ 61,143 at PP 58, 59 (2004) ("August 5 Order"), and 110 FERC ¶ 61,226 at P 75 (2005) ("March 3 Order").

<sup>2</sup> See 100 FERC ¶ 61,137 (2002) ("July 31 Order").

On December 30, 2005, February 28, 2006, and June 28, 2006, the RTOs filed the first three informational reports<sup>3</sup> on the progress of the joint and common market.<sup>4</sup> This is the fourth such report.

**I. Modifications to the JOA or Congestion Management Process**

The Midwest ISO and PJM are continually reviewing the JOA and its detailed schedules for potential improvements. Since the start of the Midwest ISO energy markets, the RTOs have continued their regular meetings to discuss various aspects of the JOA and, particularly, Phase II implementation. The RTOs have not identified any necessary changes to the JOA at this stage, other than those that were the subject of previous Commission orders.<sup>5</sup>

**II. Joint and Common Market Elements Achieved**

In their December 30, 2004 filing in Docket Nos. ER04-375-000, *et al.* (the “Phase 2 Filing”), the Midwest ISO and PJM included an extensive discussion of the process and timeline to move beyond market-to-market coordination, towards the development of a joint and common market.

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<sup>3</sup> The “December 30, 2005 Report,” “February 28, 2006 Report,” and “June 28, 2006 Report,” respectively.

<sup>4</sup> WPS Companies filed a February 3, 2006 complaint in response to the December 30, 2005 Report, which was dismissed pursuant to a Commission order issued on March 16, 2006 (114 FERC ¶61,277). In response to the June 28, 2006 Report, WPS filed another complaint, which is currently pending.

<sup>5</sup> For example, the RTOs are developing JOA amendments related to joint planning and transmission expansion pursuant to Commission orders (*see* Committed Initiative discussion in Section III.B.18. below). See also, *Midwest Independent Transmission System Operator, Inc.*, 113 FERC ¶ 61,194 (2005); and *Midwest Independent Transmission System Operator, Inc.*, 114 FERC ¶ 61,106 (2006).

On October 31, 2005, the Midwest ISO and PJM submitted an informational filing in response to the Commission's March 3 Order requiring the RTOs to file "a concrete plan and time line . . . that provides substantive detail and narrative . . . of the elements necessary to comprise a common market, the impediments they anticipate having to overcome and the necessary tasks they expect to accomplish in order to comment common market operations" ("October 31, 2005 Filing"). March 3 Order at Ordering Paragraph (C).

As discussed in the October 31, 2005 Filing, the Midwest ISO market was formed from 27 separate control areas with a total peak load of 112,000 MWs, using a security-constrained economic dispatch system and coordinated market settlements. Concurrently, PJM integrated six large companies into its energy market that now encompasses a 135,000 MW peak load region. Quantification studies in each RTO to measure the substantial benefits resulting from the larger coordinated operations under each of the single markets have been completed and published.<sup>6</sup>

With regard to operating reliability across the border, during Phase 1 of the JOA, the Midwest ISO and PJM developed the Congestion Management Process ("CMP") that required market-based operating entities to report their market flows to the IDC<sup>7</sup> so that when TLRs were issued, both market entities and non-market entities would assist in reducing the congestion by reducing market flow. It also initiated a method to manage

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<sup>6</sup> The studies were discussed at length in the December 30, 2005 Report at pages 3 and 4, and links were provided to access the studies.

<sup>7</sup> The IDC is the NERC Interchange Distribution Calculator used to determine the reduction in transmission transactions necessary to relieve transmission congestion.

loops flows by allocating capacity on critical flowgates to each RTO based on historic flows. This was the first time that any RTO had successfully managed parallel path flows through regional coordination as required by Order No. 2000.

The congestion management obligations of the CMP were incorporated into the JOA, which also obligates the RTOs to exchange critical operating and planning data, to coordinate outages and voltage problems, improve communications, perform market-to-market redispatch and establish emergency procedures. The JOA between the Midwest ISO and PJM implemented many initiatives that are essential elements of the joint and common market.

#### Phase 2 Market-to-Market

Phase 2 of the JOA continued the reliability aspects of Phase 1, but added a new facet to regional coordination by introducing the opportunity for one market-based RTO to request redispatch from the other market-based RTO when that option proved more economic than redispatching internally to solve a transmission constraint. Since the start of the Midwest ISO market in April 2005, this market-to-market coordination has satisfied many of the objectives which, in 2002, were identified as elements of a joint and common market.

While the benefits of Phase 1 were primarily reliability-related, Phase 2 has yielded considerable benefits from the standpoint of increasing the efficiency with which the combined market region operates. PJM and the Midwest ISO have estimated the total, annualized benefits of the enhanced coordination made possible by Phase 2 to be

\$50.5 million dollars. These benefits have accrued due to the following impacts resulting from coordinated market operations over the combined area:

- Increased market efficiency as evidenced by reduced price separation between the PJM and Midwest ISO market areas;
- Avoided redispatch cost to PJM as a result of Midwest ISO redispatching for PJM constraints under market-to-market coordination; and
- Avoided redispatch cost to the Midwest ISO as a result of PJM redispatching for the Midwest ISO constraints under market-to-market coordination.

In summary, the PJM-Midwest ISO JOA established the framework for managing congestion seamlessly between the two markets (and with neighboring non-market systems), exchanging critical operating data, coordinating outages and reactive power requirements, performing market-to-market redispatch, and responding to emergency conditions in a coordinated manner. Moreover, significant benefits have been realized through the coordinated market operations of the Midwest ISO and PJM.

The next stage of the joint and common market, identified through the recent stakeholder process, consists of the various joint and common market elements discussed in the October 31, 2005 Filing, the December 30, 2005 Report, the February 28, 2006 Report and the June 28, 2006 Report. When implemented, these changes will build upon the JOA accomplishments to meet the objectives, goals and characteristics of a joint and common market.

### **III. Status Report on Additional Joint and Common Market Elements**

In the October 31, 2005 Filing, the RTOs committed to initiate the processes and to take the steps necessary to implement the additional elements of a joint and common

market identified in the October 31, 2005 Filing as “Committed Initiatives,” and to provide a timeline for each Committed Initiative.

In addition, the RTOs discussed certain initiatives in the October 31, 2005 Filing that require further cost/benefit studies, investigation, or overcoming of obstacles that prevented the RTOs from committing at that time to a definitive implementation plan and schedule (“Further Action Needed Initiatives”).<sup>8</sup> For these initiatives, the RTOs will present their findings to stakeholders for discussions according to the specified timeline.

The RTOs have started the coordination of activities and have developed project plans for the stakeholder processes and other activities necessary to pursue each of the Committed Initiatives. The timeline for most of the Committed Initiatives called for such activities to begin in 2006.

**A. Production Cost Study**

PJM and the Midwest ISO completed a comprehensive analysis of the expected annual production cost savings of a single unit commitment and dispatch over the combined Midwest ISO/PJM market footprint. The results of the production cost study can be accessed at the following link:

<http://www.jointandcommon.com/working-groups/joint-and-common-wg.html>.

The production cost savings reflected in the analysis are inclusive of the benefits that will be achieved through implementation of the various joint and common market initiatives already under development or investigation, and those benefits achieved by market participants’ more experienced with the PJM and the Midwest ISO markets, since

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<sup>8</sup> The initiatives may also require RTO board level approval and/or FERC approval.

the start of the Midwest ISO market. Specifically, the following joint and common market initiatives are expected to increase the convergence of the two markets and achieve a significant portion of these savings:

- PJM implementation of marginal losses;
- Alignment of PJM Operating Reserve and the Midwest ISO Revenue Sufficient Guarantee products;
- Moving Jointly-Owned Units between markets; and
- Alternative border pricing point mechanisms.

The other potential joint and common market initiatives which are being considered could further enhance the convergence of the two markets. In addition, PJM and the Midwest ISO are and will be continuously analyzing and improving the operation of the market-to-market coordination that was implemented as Phase 2 of the JOA. The initiatives described above are expected to achieve a significant portion of the production cost savings estimated in the simulations, at substantially less cost than a single unit commitment and dispatch.

A complete discussion of the details and conclusions of the study were included in the June 28, 2006 Report.

**B. Status of Committed Initiatives for the Joint and Common Market**

The following is a status report on each of the “Committed Initiatives,” which the Midwest ISO and PJM described in the October 31, 2005 Filing. In keeping with the commitment to consider and evaluate new joint and common market initiatives, one new initiative reported in the June 28, 2006 Report (“Constraint Relaxation in Market to Market Process”) has been moved from a “Further Action Needed Initiative” to a “Committed Initiative.”

1. Alignment of FTR Timelines and Products.

In order to achieve FTR market convergence between PJM and the Midwest ISO, the RTOs propose to align their FTR timelines and products. In order to accomplish this initiative, the Midwest ISO plans to align its FTR products with PJM's FTR products and its FTR allocation and auction timeframes with PJM's FTR allocation and auction timeframes.

The current PJM and Midwest ISO FTR processes are significantly different. In order to implement this initiative, the Midwest ISO must review the proposed changes to the Midwest ISO policies, procedures, applications and systems with its stakeholders and obtain stakeholder agreement on such changes.

The Midwest ISO Market Subcommittee voted to approve the general direction of this initiative, including the use of PJM's ARR/FTR process as a starting point to develop a new allocation process for the Midwest ISO. Efforts by the Midwest ISO Transmission Rights Task Force ("TRTF") to develop modified FTR market rules to align the Midwest ISO and PJM FTR markets revealed that significant differences will remain between the two markets even after adoption of the major elements of the PJM ARR/FTR allocation and auction process. Specifically, differences in the product definitions (seasonal in the Midwest ISO and annual in PJM) will require additional effort and potentially further changes in both the Midwest ISO and PJM FTR markets. The Midwest ISO Market Subcommittee has voted to continue development of the modified market rules, as previously approved, and to initiate a new process at the conclusion of the current effort to consider further alignment of FTR products.



The Midwest ISO will bundle its tariff changes that adopt elements of the PJM ARR/FTR allocation and auction process with its Long-Term Transmission Rights Order Compliance filing. This filing is anticipated to occur in January 2007.

Pending regulatory approvals, this effort will be completed in 2007.

2. PJM Move to Marginal Losses.

The Midwest ISO presently includes the impact of marginal losses in its dispatch of energy and Locational Marginal Price calculations while PJM does not. This distinction has the potential to increase the level of price separation at the RTOs' borders. PJM's implementation of Marginal Losses has the potential to reduce this component of price divergence.

In an Order issued on May 1, 2006, the Commission required PJM to implement locational marginal loss method for allocating transmission line losses per section 3.2.5 of the PJM Operating Agreement and Attachment K of the PJM tariff no later than October 2, 2006. In order to provide the parties with additional time in which to resolve remaining issues, the Commission established October 2, 2006, as the date when PJM must implement the locational marginal loss method contained in its tariff.<sup>9</sup>

On Friday, June 2, 2006, PJM filed with the Commission a Motion for Postponement of Effective Date and Request for Shortened Answer Time and Expedited Commission Ruling in the matter of Docket No. EL06-55 until June 1, 2007. On Friday, June 23, 2006, the Commission issued an order granting PJM's request for a

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<sup>9</sup> See *Atlantic City Electric City, et. al. v. PJM Interconnection, L.L.C.*, 115 FERC ¶ 61,132 (2006).

delay in the implementation of marginal losses until June 1, 2007. PJM will implement marginal losses in its dispatch and pricing algorithms on that date. Therefore, pending regulatory approvals, this initiative is now scheduled for implementation by June 1, 2007.

3. Alignment of Operating Reserves/Revenue Sufficiency Guarantee (“RSG”) Products.

In order to reduce the hurdle rates for through-and-out point-to-point transactions between PJM and the Midwest ISO, this initiative will align PJM’s Operating Reserves and the Midwest ISO’s RSG products so that charges are allocated similarly. The RTOs also note that the most direct way to reduce the hurdle rate represented by these charges is to reduce the magnitude of the charges themselves, and the RTOs are committed to doing so. In fact, both PJM’s Operating Reserves and the Midwest ISO’s RSG rates have decreased dramatically in the past several months.

Both the Midwest ISO and PJM provide payments to generators that are committed/scheduled by the RTO in the day-ahead and real-time markets when necessary to cover as-offered costs. There are differences, however, in allocation details between PJM and the Midwest ISO in two major areas. First, PJM allocates Balancing Operating Reserve charges across an entire 24-hour period, while the Midwest ISO allocates its similar charges on an hourly basis. Second, PJM nets deviations from individual transactions to determine deviations from day-ahead schedules while Midwest ISO calculates deviations based on each individual schedule change.

Because hourly allocations increase RSG volatility and lack of netting increases the cost of scheduling transactions in real-time, the Midwest ISO proposed to its

stakeholders the changes that better align these allocation rules. Based on that recommendation, the Midwest ISO Market Subcommittee voted on October 17, 2005 to form an RSG Task Force to consider changes to the Midwest ISO RSG cost allocation, including changes to better align the Midwest ISO RSG cost allocation and the PJM Operating Reserve cost allocation. The Midwest ISO RSG Task Force has met several times, however, any future meetings have been suspended until such time as the FERC issues its order on rehearing of the April 25, 2006 RSG order.<sup>10</sup>

Many of the issues under discussion at the RSG Task Force were included in the Commission's April 25 Order related to RSG cost allocation under the Midwest ISO Energy Market Tariff. The April 25 Order is the subject of several requests for rehearing in Docket No. ER04-691-065. The Midwest ISO RSG Task Force has determined that further development of changes to the Midwest ISO policies, procedures, applications and systems cannot move forward until there is more clarification on the substance of the April 25 Order.

PJM Reserve Markets Working Group is also considering Operating Reserves allocation changes that may have beneficial impacts for PJM/Midwest ISO transactions. PJM stakeholders have not come to resolution on changes to the PJM Operating Reserve allocation mechanism and stakeholder discussions are ongoing.

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<sup>10</sup> *Midwest Independent Transmission System Operator, Inc.*, 115 FERC ¶ 61,108 (2006) ("April 25 Order").

Following Midwest ISO stakeholder approval, Commission approval of the Midwest ISO tariff changes will be required. The same may also be true with respect to any changes to the Operating Reserves construct approved by the PJM stakeholders.

4. Common Search Capabilities.

This initiative implemented one search engine that searches both the PJM and the Midwest ISO's public websites and is accessible from either of their existing websites. This search engine can scan the contents of the PJM, Midwest ISO and joint websites and return results of queries as if only one site was in existence.

The RTOs are using an industry standard "Google" search engine for the joint site which is the same one that PJM has used on its website with positive results. This initiative has been completed and the functionality is being utilized.

5. Link Existing eData/Price Transparency Portal Sites.

This initiative will link the existing PJM eData and Midwest ISO Price Transparency Portal sites together allowing for the exchange of data between the two sites (*e.g.*, LMP, Instantaneous Load, Tie Flows, etc.) and make it available for display and download. The RTOs will need to identify differences in the synchronization of data delivery timeframes and calculations and develop approaches for those differences.

The RTOs have completed the design and construction phases of this initiative and are currently in the testing phase. This effort is on schedule.

6. Joint Website.

Under this initiative, the Midwest ISO and PJM enhanced the joint website that hosts PJM's and the Midwest ISO's common information (*e.g.*, joint meetings, event

calendars, joint documents and reports, etc.). PJM and the Midwest ISO developed a process to maintain the joint website in order to keep it current and determine what information must be included, changed, added or deleted and by whom. Moreover, PJM and the Midwest ISO modified the existing joint website by implementing: (i) a joint meetings notifications capability; (ii) a joint events calendar capability; (iii) a more robust joint document storage, retrieval, and retention capability; and (iv) a more robust joint reporting capability.

The RTOs reviewed the features and function of the enhanced joint website with the stakeholders during the September 8, 2006 JCM Joint Stakeholder webcast. This initiative has been completed and the functionality is being utilized.

7. Moving Jointly-Owned Units (“JOUs”) Between Markets.

The RTOs developed a joint approach using best practices to provide market participants who own jointly-owned units (JOUs are generation assets jointly owned by PJM and Midwest ISO market participants) with the ability to sell their share of generation into the day-ahead and real-time market in either the market where the JOU owner is a market participant, or the market where the JOU physically exists.

Both the Midwest ISO and PJM made other changes based on the analysis of treatment of these units. These included changes to procedures, manuals, and systems to accommodate the modifications found in the analysis and include items, such as accommodating treatment of JOUs in the calculation of ramp, reserves, etc.

This initiative was previously introduced by the RTOs’ stakeholders because aligning the treatment of JOUs between RTOs makes sense, regardless of the joint and

common market stakeholder process. The ability of market participants to choose in which markets the output of their units is sold and take advantage of price differentials that may exist at these units' buses will benefit both the participants and the markets as a whole.<sup>11</sup>

This initiative allows owners of JOUs, where individual shares of those units are already pseudo-tied into the RTO and the owner of such share is a market participant, to adjust the pseudo-tie value. This leaves that share of the output of the unit in the RTO where the unit is physically located. The RTOs completed the final test on March 31, 2006. In addition, the RTOs have completed their implementation and the functionality is currently being utilized.

8. Common Long-Term Transmission Queue.

Under this initiative, the Midwest ISO and PJM will create a common long-term transmission service queue. This initiative will impact only annual cross-border Firm Transmission Service Requests. Through this initiative, the Midwest ISO and PJM will eliminate the potential for customers obtaining long-term "useless" partial path service reservations through a joint study of matched partial paths and will provide a single response to cross-border Long-Term Transmission Service Requests. These studies will be performed either by the Midwest ISO or PJM and will evaluate the request on behalf of both Transmission Providers. The customer will be given the flexibility of selecting a joint study for a cross-border request or have two separate studies, as is done today.

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<sup>11</sup> As the prices at the RTOs' borders converge, this value to the market participants and the market will decrease.

In order to complete this initiative, it will be necessary to determine differences in existing PJM and the Midwest ISO processes and define a common long-term transmission queue process. Moreover, PJM and the Midwest ISO will need to obtain agreement among their respective stakeholders if there are changes to the long-term transmission queue process.

Business practice documentation, including the PJM Manual for Transmission Service (“M-2”), the PJM Regional practices, and Midwest ISO Tariff Business Practices, Module B, are being updated to describe (a) the process by which transmission customers could elect a joint study; and (b) the revised process for the study of long-term service.

The RTOs have identified business rule differences that affect long-term reservations. The RTOs have developed a draft of a business process, and are working on revisions to this document. A staff meeting was held on February 14, 2006, to map out future activities, which includes the continued development of a joint process and stakeholder review opportunities. PJM and the Midwest ISO presented the interim results of the plan for queue coordination at a stakeholder meeting held on April 21, 2006. The RTOs are finalizing the common long-term queue process and conducting reviews with their respective stakeholders. The Midwest ISO reviewed the plan for conducting a common study with its Planning Subcommittee on October 5, 2006.

Pending stakeholder approval of the revised business practices, this initiative is on schedule.

9. Midwest ISO Ramp Viewer.

The Midwest ISO has completed the project to give its market participants the ability to reserve ramp and view available ramp in the Midwest ISO region. This provides participants with the ability to reserve ramp prior to purchasing transmission and arranging energy deals, and allows them to view information on changes in net interchange, which is necessary in order to make economic decisions.

This initiative was completed on May 15, 2006, and is currently being utilized by market participants.

10. Central Location to View Both Ramp Viewers.

For this initiative, the Midwest ISO and PJM will develop a central location where both the Midwest ISO and PJM ramp reservations can be viewed and accessed. The Midwest ISO and PJM will need to make system changes to display both RTOs' ramp data in a common area. The system changes will create a common data area and establish data interfaces to keep the ramp data current. The Midwest ISO and PJM will also coordinate to bring the RTOs' business rules in alignment and make the appropriate manual changes.

There may be security issues associated with posting dynamic information to a common website. PJM and the Midwest ISO's security teams will need to develop a strategy to address this concern.

This initiative is on track and scheduled for implementation in 2007.



11. Common Ramp Portal.

This initiative builds upon the previous initiative. The Midwest ISO and PJM will develop a common portal to allow market participants to view and reserve ramp in both RTOs simultaneously. In order to pursue this project, additional security concerns with transferring information from a central location must be addressed. PJM and the Midwest ISO's security teams will need to develop a strategy to address this concern. Also, the RTOs' stakeholders will need to approve the development of this moderately expensive tool.

The Midwest ISO and PJM also will need to make significant system changes to allow for the reserving of ramp in both RTOs from the same interface. The system changes will enhance the common ramp viewer and establish data interfaces to keep the ramp data current.

This initiative is on track and scheduled for implementation in 2008.

12. Alignment of OASIS Business Practices.

This project aligns the timing requirements associated with Transmission Service Requests on each node. By aligning the timing requirements associated with submitting Transmission Service Requests; this will accommodate the near simultaneous submission of cross-border transmission requests on both the Midwest ISO and PJM OASIS. The common long-term transmission service queue initiative aligns the timing requirements for long-term firm requests. This initiative aligns the timing requirements for other Transmission Service Requests. This project will require identification of the policies, procedures and terminology which comprise the Midwest ISO's and PJM's OASIS

Business Practices and, to the extent possible, aligns such policies, procedures and business practices.

The RTOs' have obtained the necessary stakeholders' approvals and filed for Commission approval of necessary PJM and Midwest ISO tariff revisions. The Midwest ISO's Tariff revisions were approved by the Commission on October 24, 2006.<sup>12</sup>

Accordingly, Section 1.6, "Table Summary: Transmission Service Submittals," of the PJM Regional Practices (posted at <http://oasis.pjm.com/rpd.html>), as well as Appendix A of the Midwest ISO Tariff Business Practices and Module B of the EMT, will be updated to reflect the revised timing requirements for the submittal of Transmission Service Requests. The RTOs will modify their applications and systems to implement this initiative.

Pending regulatory approval of PJM's tariff revisions, this project is on schedule.

13. Common Treatment of Dynamic Schedules/Pseudo-ties.

This initiative will provide market participants with flexibility to allow their existing dynamically scheduled generating units to participate in their current market configuration and to align the treatment of these entities identically in each region.

This initiative will require the RTOs to determine the efforts required by stakeholders to modify their systems to accommodate the changes to PJM and the Midwest ISO's procedures, applications and systems which are related to dynamic schedules. Moreover, the Midwest ISO and PJM will need to make business rule and procedural changes to accommodate a common treatment of Dynamic Schedules/Pseudo-ties and

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<sup>12</sup> See the Commission's Letter Order issued on October 24, 2006 in Docket No. ER06-1554-000.

make the appropriate manual changes to reflect the updated procedures for market participants. The Midwest ISO and PJM also will need to make some minor system changes to accommodate this treatment in ramp, interchange, etc.

Application modifications have been delivered by the software vendor and are currently being tested by the RTOs.

The RTOs are on schedule for completing this initiative in 2006.

14. Emergency Energy Agreement.

Under this initiative, the Midwest ISO and PJM need to replace existing emergency energy agreements between former control area operators of PJM and the Midwest ISO with an emergency energy agreement between the RTOs. These agreements were in place to facilitate the sale of energy during emergency conditions. While these agreements existed prior to RTO development, PJM and the Midwest ISO may not be parties to them. The new emergency energy agreements will be closely aligned with existing PJM agreements and with former control area-to-control area agreements.

Legal, regulatory and corporate structure issues associated with replacing the prior emergency energy agreements with new RTO agreements may be an obstacle to complete these agreements in the short term. The Midwest ISO reviewed its proposal for Emergency Energy Agreements with its stakeholders at the Midwest ISO's Advisory Committee Meeting in August and the Market Subcommittee meeting on September 12, 2006. Based on objections from the Midwest ISO stakeholders, the approach for this initiative is being reassessed.

Pending additional stakeholder discussions and ultimate regulatory approvals, this project is behind schedule.

15. Black Start and Restoration.

Under this initiative, the Midwest ISO is developing a cost-based structure very similar to the current PJM cost-based black start procurement process included in Schedule 6A of the PJM tariff. Future coordination could potentially include joint restoration system plans leading to joint evaluation of critical black start resources.

An obstacle to this initiative is the potentially low number of actual units which may reasonably qualify for black start in both PJM and Midwest ISO. The RTOs will need to determine the actual number of units which reasonably qualify for black start in both regions.

A new tariff schedule will be proposed for the Midwest ISO tariff to compensate generators for black start services. The PJM tariff will need to be changed to reflect black start units identified in both RTOs. These changes would reflect black start compensation and other related matters. In addition, the Midwest ISO and PJM systems will need to change to reflect this coordination, as well as make the appropriate manual changes to reflect the updated procedures for market participants.

Pending stakeholder and regulatory approvals, this project is on schedule for a 2007 implementation.

16. Joint Expansion Planning (Coordinated System Plan).

This initiative consists of the joint expansion planning process through which the RTOs will develop the Coordinated System Plan (“CSP”) (as provided for in the JOA) to evaluate impacts on the other RTO’s facilities and identify any needed system upgrades.

The RTOs have developed a scope document and reviewed the scope with the stakeholders through an IPSAC meeting. Development of a year 2011 joint planning base system model has been completed. The RTOs plan to complete joint generator deliverability, N-2 and common market analysis by October 2006 and produce a report of such efforts by year end. In addition, a joint PJM/Midwest ISO IPSAC stakeholder meeting was held on July 25, 2006, to review preliminary results. Another joint PJM/Midwest ISO IPSAC stakeholder meeting will be scheduled in the near future to review the results of the Coordinated System Plan.

Pending stakeholder and regulatory approvals, this proposal is on schedule.

17. Common Deliverability Studies.

This initiative addresses the use of common generation deliverability studies to determine if units are deliverable in both RTOs, and if they are not deliverable in both RTOs, what system constraints limit the deliverability.

The common deliverability studies to be completed in 2006 will be for informational purposes. If the Midwest ISO and PJM decide to implement a common deliverability process, modification would be required of the Midwest ISO tariff (Attachment X), the PJM tariff and the PJM Operating Agreement, as well as internal Midwest ISO and PJM deliverability study procedures.

Pending stakeholder and regulatory approvals, this proposal is on schedule.

18. Cross Border Cost Sharing of Expansions.

The Midwest ISO and PJM have made previous filings with the Commission to reflect the Joint Expansion Planning. On May 17, 2005, in compliance with the Commission's November 18, 2004 Order in separate but related proceedings,<sup>13</sup> PJM and the Midwest ISO filed with the Commission revisions to the JOA, the Midwest ISO tariff, the PJM tariff and the PJM Operating Agreement (the "May 17 Filing"). These revisions complied with the Commission's directive to file a proposal for allocating to the customers in each RTO the cost of new transmission facilities that are built in one RTO but which provide benefits to customers in the other RTO.<sup>14</sup> The Midwest ISO and PJM will need to make business rules and procedural changes as well as appropriate manual changes to reflect the updated planning coordination.

In an order dated November 21, 2005,<sup>15</sup> the Commission conditionally accepted the May 17 Filing but also directed the RTOs to begin a stakeholder process to develop a cross-border cost allocation proposal to be filed by December 1, 2006,<sup>16</sup> for economic transmission projects.<sup>17</sup> Economic transmission planning stakeholder meetings were held

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<sup>13</sup> *Midwest Independent Transmission System Operator, Inc., et al.*, 109 FERC ¶ 61,168 (2004) ("November 18 Order").

<sup>14</sup> November 18 Order at P 60.

<sup>15</sup> *Midwest Independent Transmission System Operator, Inc., et al.*, 113 FERC ¶ 61,194 (2005) ("November 21 Order").

<sup>16</sup> This filing was originally due on June 1, 2006; however, in a Notice issued May 31, 2006, the Commission granted the RTOs' request for a six-month extension of time to submit a compliance filing.

<sup>17</sup> In advance of final JOA amendments, the RTOs were nonetheless able to jointly study and resolve the NIPSCO complaint regarding West to East flows by

on March 8, 2006, May 9, 2006, and September 21, 2006. Additional meetings will be scheduled to continue to discuss economic planning cross-border cost allocations following the RTOs completion of additional evaluations to assist stakeholders in evaluating the various options under consideration.

In the November 21 Order, the Commission also directed the RTOs to provide, within 90 days, supplemental information regarding the joint RTO planning model and the timeline for the mid-cycle review, and to correct the noted discontinuity in the Midwest ISO tariff.<sup>18</sup> On April 20, 2006,<sup>19</sup> the RTOs filed separate competing compliance filings posing to allocate between them the cost responsibility for constructing reliability transmission facilities because the RTOs' stakeholders were unable to reach consensus on how to apply the transfer distribution factor ("DFAX") calculation to determine the impact of flows in on RTO on a constraint in the other RTO.

On September 21, 2006, the Commission ordered staff to convene a technical conference to address the issues raised in the competing proposals for cross-border cost allocation for reliability expansion and to report back to the Commission on their findings

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recommending a cost allocation methodology and alternative engineering solutions to the affected transmission owners. *See* Final Report and Recommendations of Transmission Study - *Northern Indiana Public Service Co. v. Midwest Independent Transmission System Operator, Inc.*, January 17, 2006, Docket No. EL05-103-000.

<sup>18</sup> *See* November 21 Order at PP 16, 17, 19 and 39.

<sup>19</sup> While the Commission directed compliance filings within 90 days of November 21, 2005, the Commission granted two extensions of time to file on March 6, 2006, and March 22, 2006.

within 150 days of the order. This technical conference has been scheduled for December 5, 2006.<sup>20</sup>

Resolving the cross-border cost allocation for reliability expansion is a precondition to this initiative.

19. Constraint Relaxation in Market-to-Market Process.

This initiative was first reported as a “Further Action Needed Initiative” to the Commission in the RTOs’ June 28, 2006 Report, and subsequently was reviewed with the stakeholders at the September 8, 2006 JCM Joint Stakeholder meeting. As a result of that review, the proposal has been moved to a “Committed Initiative.”

For this initiative, the RTOs are evaluating steps to improve the coordination of congestion management on a reciprocal coordinated flowgate (“RCF”) between the Midwest ISO and PJM markets and improve the convergence of shadow prices calculated on the RCF in the separate markets that is set forth in the ICP.<sup>21</sup>

The market-to-market process for managing real-time congestion on an RCF coordinates the use of RCFs between RTOs and seeks to achieve the convergence of the shadow prices on RCFs in the RTOs’ real-time markets. The monitoring and non-monitoring RTOs manage congestion on an RCF through an iterative process:

- The monitoring RTO determines the shadow price that results from enforcing the RCF constraint on its system and the level of relief that it will request from the non-monitoring RTO.

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<sup>20</sup> Notice of Technical Conference, issued October 13, 2006, Docket Nos. ER05-6-044, *et al.*

<sup>21</sup> JOA, Attachment 3, “Interregional Coordination Process,” Sheet Nos. 254–266.



- The non-monitoring RTO modifies the flow limit on the RCF in its UDS to provide the requested level of relief. It also sets the penalty for violating the revised flow limit to the shadow price calculated by the monitoring RTO.

The use of the monitoring RTO's shadow price as the penalty for violating the flow limit in the non-monitoring RTO's dispatch ensures that the non-monitoring RTO only provides relief if the cost is less than the marginal cost to the monitoring RTO of adjusting its flow to enforce the limit on the RCF. If the non-monitoring RTO cannot reduce its flow on the RCF to satisfy the revised flow limit as set forth above, the monitoring RTO will further reduce its flow on the RCF to the extent needed to enforce the limit. As such, the monitoring RTO's marginal cost of enforcing the flow should be reflected in the LMPs calculated in the non-monitoring RTO.

Pursuant to this initiative, the RTOs are investigating mechanisms by which greater shadow price convergence may be achieved in these circumstances and are developing an implementation schedule for this initiative.

### **C. Status of Further Action Needed Initiatives**

As discussed above and in the October 31, 2005 Filing, in addition to Committed Initiatives, while under consideration for possible implementation, additional proposals require further cost/benefit studies, investigation, or overcoming of obstacles that prevented the RTOs from committing to a definitive implementation plan and schedule ("Further Action Needed Initiatives") at the time of the October 31, 2005 Filing. The RTOs have committed to report back to the stakeholders regarding each of the Further Action Needed Initiatives on the specified timeline set forth in the October 31, 2005 Filing. Four of the original initiatives set forth in the October 31, 2005 Filing are under review. Three

initiatives first discussed in the June 28, 2006 Report are also undergoing further analysis. The following is a status report on each of the “Further Action Needed Initiatives,” which the Midwest ISO and PJM continue to investigate:

1. Cross-Border FTRs in the Allocations.

As a potential additional step to converge the PJM and Midwest ISO FTR markets, the Midwest ISO and PJM are studying an initiative to align the processes by which FTRs/ARRs are allocated in the two markets. This initiative is dependent upon the implementation of the initiative to align PJM and Midwest ISO FTR timelines and products (*See* section III.B.1. above). The RTOs are on schedule to begin analysis on this initiative in 2007.

2. Alternative Border Pricing Point Calculations.

PJM and the Midwest ISO are evaluating the suggestion to add additional pricing point options for transactions between PJM and the Midwest ISO by allowing market participants to submit transactions based on physical flow effects on localized transactions. Stakeholders believe that this would provide greater flexibility and a greater opportunity to trade between PJM and the Midwest ISO than only one proxy for each RTO.

PJM and the Midwest ISO are concerned that this proposal may create gaming opportunities because of the difficulty (if not impossibility) in verifying that the physical MWs associated with a particular transaction are actually source/sinking in the physical location represented by more specific pricing points. An alternative still under consideration would be to weight the individual nodes that are combined to constitute the

single interface pricing point currently used by each RTO (*i.e.*, real time weighing of proxy bus components). Such an approach would provide a better indication of the impact of transmission constraints on trade between the two RTOs, and would achieve the greatest level of price transparency between PJM and the Midwest ISO, as well as the greatest level of price transparency possible with regard to trade between the regions.

The RTOs are on schedule for reporting back to stakeholders on this initiative.

3. Shared Regulation Market.

PJM and the Midwest ISO recognize that this proposal would create a larger area over which a market is operated and thus, a more efficient market. The implementation of a shared regulation market between PJM and the Midwest ISO would require real time, two-second exchange of energy between the two regions. Before this initiative can be evaluated and implemented, however, it is necessary for control area consolidation and reserve market issues in the Midwest ISO to be resolved.

The RTOs are on schedule for reporting back to stakeholders on this initiative.

The analysis for this initiative is scheduled to begin in 2007.

4. Coordinated OASIS.

The RTOs are currently exploring options that will provide the user with a single or consolidated response to a cross-border Transmission Service Request prior to the user making a commitment on either the Midwest ISO or PJM OASIS node. Once the options and cost benefits are further defined they will be presented to the stakeholders for comments. It was noted in previous reports that the initiative to align OASIS business practices (*See* section III.B.12. above) may result in enough significant benefits which

may negate the value of this initiative. This analysis is expected to be complete by the end of 2006.

5. Dynamic Dispatchable Schedules/Real-Time Dynamic Schedules.

This “Further Action Needed Initiative,” as identified in the June 28, 2006 Report, is currently under evaluation by the RTOs as a potential joint and common market initiative. Within this initiative, there are two alternatives. These alternatives were identified by the Midwest ISO’s Independent Market Monitor in the 2005 State of the Market Report, which was presented to the Midwest ISO Advisory Committee of the Midwest ISO Board of Directors.

In Attachment 3 to the JOA, “Interregional Coordination Process (“ICP”) provides a description of the market-to-market coordination process that was implemented concurrently with the implementation of side-by-side LMP-based energy markets in the PJM and the Midwest ISO regions.<sup>22</sup> As more fully described in the ICP,<sup>23</sup> the Midwest ISO and PJM price the value of imports and exports at each other’s borders through the use of proxy prices. These proxy prices are utilized to represent the movement of generators in the RTO in response to imports or exports and value them based upon an average of a selection of generators. This price is then used to calculate the value of purchases and sales market participants transact at the border. During the initial year of operation of the Midwest ISO Energy Market, there has been improving convergence on the prices at the Midwest ISO and PJM proxy busses. There is, however,

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<sup>22</sup> JOA, Attachment 3, Sheet Nos. 254–266.

<sup>23</sup> A description of the current proxy bus modeling process used by PJM and the Midwest ISO is posted on each RTO’s OASIS.

still some volatility, and the RTOs have identified this area as a potential improvement in the joint and common market.

In order to achieve potential further convergence of these proxy prices, the Midwest ISO and PJM have added a “Further Action Needed Initiative” to the joint and common market efforts, which has two alternatives: an RTO managed economic Dynamic Schedule and Dynamic Dispatchable transactions between RTOs, both of which are more fully described as follows:

(i) RTO Managed Dynamic Schedule

An RTO managed Dynamic Schedule would allow the Midwest ISO and PJM to construct a mechanism that would permit the transfer of economic energy during times of significant price deltas between the Midwest ISO and PJM proxy busses. The amount of economic energy transfer between the two RTOs would be driven by the difference in price between the two proxy busses. The larger the delta between the proxy busses, the more energy will be directed to flow between the two RTOs.

(ii) Dynamic Dispatchable Transactions

Dynamic Dispatchable Transactions are already an established tool in both RTO systems. These have been used very sparingly by market participants up to this point. The investigation into utilizing these types of vehicles, for driving the convergence of the proxy busses, will center on the use of market participants’ offers, to price these transactions, in each RTO. The corresponding markets would then utilize these offers very similarly to the way a generation offer is utilized in the dispatch.

The schedule for evaluating and reporting back to the RTOs' stakeholders on this initiative is still under development. PJM and the Midwest ISO will develop the schedule and include it in subsequent 120-day reports.

6. Investigation of Loop Flows Across the Combined Footprint.

This "Further Action Needed Initiative," which was documented in the June 28, 2006 Report, is currently under evaluation by the RTOs as a potential joint and common market initiative. Unscheduled energy flow or "loop flow" is the result of the difference between the amount of energy scheduled to flow across an interface versus the amount of energy that actually flows across the interface between two control areas. This difference in energy flow is created as a result of energy schedules being made on a "contract path" basis between directly connected control areas. The actual energy flows across interfaces is based on Ohm's Law, which states that electricity takes the path of least resistance in a parallel circuit.

The Midwest ISO and PJM have observed increases in loop flows through their systems. These unscheduled flows have generally increased around 1,000 MW (about 200%) on the TVA-PJM and MECS-PJM interfaces, approximately 500 MW (about 100%) on the NY-PJM interface and 600 MW (about 60%) on the Michigan-Ontario interface. The Midwest ISO and PJM staff believe that these loop flows are contributing to FTR revenue deficiency as these flows take up space on flowgates. Additionally, the 2006/2007 annual Auction Revenue Rights allocation was negatively impacted by the increasing loop flow trend.

The Midwest ISO and PJM staffs are currently investigating the impact of loop flows on FTR revenue adequacy. Once this relationship is better understood, the Midwest ISO and PJM will be able to use tools such as interregional market coordination and NERC TLR to limit the amount of unscheduled flow observed on their transmission systems. In addition, PJM and the Midwest ISO have exchanged energy tag information with each other and have obtained energy tag information from the IESO and TVA. This information is presently being analyzed in an attempt to identify major sources of circulation in the Eastern Interconnection. NYISO energy tag data is to be provided by October 31, 2006. Additional tag information from neighboring utilities will be requested as needed.

Through this initiative, PJM has completed the first stage of this loop flow analysis and its impacts on the PJM system and found significant loop flow impacts from transactions scheduled into and out of PJM to and from control areas to its south. As a result of this analysis, PJM has adjusted the pricing of interchange transactions on its southern border by consolidating its Southeast and Southwest interface pricing points into a single South interface pricing point with different prices for imports and exports. PJM is continuing to evaluate the impact of this change to determine whether further adjustments are necessary.

The schedule for evaluating and reporting back to the RTOs' stakeholders on this initiative is scheduled to be completed by the end of 2006.

7. Reporting Market Flow Thresholds and Netting in the IDC.

This “Further Action Needed Initiative,” which was documented in the June 28, 2006 Report, is currently under evaluation by the RTOs as a potential joint and common market initiative. PJM and the Midwest ISO raised two TLR process issues with the NERC Operating Reliability Subcommittee (“ORS”) in the spring of 2006. One issue involves the netting of impacts when determining relief requirements during TLR. The other issue involves the market flow threshold used in the IDC. These two issues were originally discussed as part of revisions to NERC Standard IRO-006 that would remove the regional differences by the market areas (Midwest ISO, PJM and SPP). The NERC ORS agreed to participate in a Task Force with representatives from several companies, which had implemented a Congestion Management Process similar to the Midwest ISO-PJM process. This task force analyzed the impacts and approved a recommendation on these two initiatives to the ORS.

The netting of impacts used in the IDC has been discussed previously with the NERC ORS, and the NERC ORS has given its support for netting. Netting has not been pursued in the past because of extensive IDC changes that are required. Up until recently, there was no good mechanism to net tags. A proposal was made at a recent NERC ORS meeting to provide a credit for non-firm redispatch made prior to calling TLR. This crediting mechanism can be applied to counter-flow tags to implement netting of impacts in the IDC. By considering netting in the IDC, relief obligations will be assigned to entities that are actually contributing to the loading problem.

The threshold being used in the IDC to report market flows to the IDC is not consistent with the threshold being used to set TLR relief on tags and gen-to-load impacts



from non-market entities. Also, the threshold differences between transactions and market flow puts more of a financial burden on PJM's and the Midwest ISO's market participants to redispatch generation to control congestion on flow gates at a higher threshold than scheduled transactions. A threshold change was requested by PJM and the Midwest ISO Reliability Coordinators because they have experienced difficulty accomplishing relief on flowgates where PJM and the Midwest ISO generators have a very small market flow impact and either do not have any generation that can be redispatched or would need to redispatch a large amount of generation in order to accomplish a small amount of relief. PJM and the Midwest ISO must address this situation. To ignore it, PJM and the Midwest ISO will receive relief assignments they cannot accomplish, and this will require multiple calls for TLR by other Reliability Coordinators when PJM and the Midwest ISO do not accomplish the relief they were assigned. If PJM and the Midwest ISO attempt to accomplish relief on flowgates using generators that have a very small flow impact, they will incur large redispatch costs for small amounts of relief, or they will not be able to provide the relief regardless of cost.

On September 20, 2006, the NERC ORS supported a Midwest ISO and PJM recommendation to change the market flow threshold from 0% to 3% for a twelve month evaluation period. Discussions are underway with NERC on submission of a Standards Authorization Request ("SAR"). which will allow a twelve-month field test using a 3% market flow threshold. Analysis work is continuing on the netting of impacts used in the IDC issue.

An implementation schedule for changing the market flow threshold reported to the IDC is dependent on approval of the proposed SAR submitted to NERC.

**D. No Action Initiatives**

In the October 31, 2005 Filing, the RTOs reported that they and their stakeholders evaluated certain “No Action Initiatives.” Those initiatives could not be justified on a cost/benefit basis and lacked sufficient stakeholder support to pursue at this time. As a result, those initiatives were not recommended for further consideration at the time of the October 31, 2005 Filing. The No Action Initiatives are more fully described in the October 31, 2005 Filing (pages 45-49 and Attachment D). The RTOs have not identified any changes to the status of the No Action Initiatives at this stage.

**V. Conclusion**

PJM and the Midwest ISO respectfully request that the Commission accept the foregoing Status Report.

Respectfully submitted,

/s/ *Gregory A. Troxell*

Gregory A. Troxell  
Counsel for Midwest Independent  
Transmission System Operator

Submitted on behalf of the Midwest  
Independent Transmission System Operator,  
Inc. and PJM Interconnection, L.L.C.