



**ORGANIZATION OF MISO STATES, INC.  
Board of Directors Meeting  
Conference Call Minutes  
August 14, 2008**

Approved September 11, 2008

John Norris, President of the Organization of MISO States, Inc. (OMS), called the August 14, 2008 meeting of the OMS Board of Directors to order via conference call at approximately 1:00 p.m. (CDT). The following board members or their proxies participated in the meeting:

Randy Rismiller, proxy for Bob Lieberman, Illinois  
Greg Server, Indiana  
John Norris, Iowa  
Jeff Johnson, proxy for David Armstrong, Kentucky  
Monica Martinez, Michigan  
Burl Haar, proxy for Tom Pugh, Minnesota  
Jeff Davis, Missouri  
Greg Jergeson, Montana  
Tim Texel, proxy for Eugene Bade, Nebraska  
Susan Wefald, North Dakota  
Valerie Lemmie, Ohio  
Jim Melia, proxy for Kim Pizzingrilli, Pennsylvania  
Greg Rislov, proxy for Gary Hanson, South Dakota  
Lauren Azar, Wisconsin

Absent

Manitoba

Agency members participating

Parveen Baig, Jeff Kaman – Iowa  
Rick Bertelson, Jorge Valladares – Kentucky  
Bill Bokram – Michigan  
Brian Dekiep – Montana  
Jerry Lein – North Dakota  
Quanetta Batts – Ohio  
Heather Forney – South Dakota  
John Feit, Randel Pilo – Wisconsin

Others on the call

Bill Smith, Julie Mitchell – OMS Staff  
Richard Doying, David Hadley – MISO  
Peggy Ladd - Ameren  
Doug Hills - Duke Energy

The directors and proxies listed above established the necessary quorum for the meeting of at least eight directors being present.

## **Approval of Minutes from 2008 Board of Directors meetings July 10 & July 28, 2008**

Lauren Azar moved approval of the July 10 and July 28 minutes. Monica Martinez seconded. Randy Rismiller requested clarification on the July 10 minutes on page 4, paragraph 5. He wished to amend the last sentence regarding the Power Point presentation from "follows minutes" to "was distributed." Rick Bertelson requested a note be made that he discussed his attendance at the Knoxville JCPS meeting. Randy Rismiller also requested clarification of Indiana's attendance status in the July 28<sup>th</sup> minutes. Indiana Commissioner Greg Server was present. The corrected July 10 and July 28, 2008 minutes were approved by unanimous voice vote.

## **Treasurer's Report**

Heather Forney gave the Treasurer's Report in Gary Hanson's absence.

The beginning balance as of July 1 for the Wells Fargo Business Performance Savings Account was \$108,888.15. Interest earned for this month was \$155.97. The July 31, 2008 balance was \$109,044.12.

The beginning balance as of July 1 for the Chase Bank One Checking account was \$88,995.99. The total disbursements from the checking account for July 2008 were \$24,948.74. Deposits, interest and adjustments were \$57.65. As of July 31, 2008, the checking account bank balance was \$67,719.77 and the book balance was \$64,104.90 (with 15 checks outstanding).

The total savings and checking account balances as of July 31, 2008 are **\$173,149.02**.

**Greg Jergeson moved adoption of the treasurer's report. Lauren Azar seconded. The treasurer's report was accepted by unanimous voice vote.**

## **Review of the Executive Committee Meeting, July, 2008 – Bill Smith**

There was no July Executive Committee Meeting

## **Administrative Report from Executive Director – Bill Smith**

Bill Smith requested that all Commissioners planning to attend Tuesday night's OMS-MISO dinner notify the OMS office so an accurate count can be given to MISO.

## **BUSINESS**

### **1/3. MISO Advisory Committee Issues/Responses to Stakeholders on Real-Time Sufficiency Tool – Lauren Azar**

- Jerry Lein presented the Interconnection Queue hot topic document from the Transmission Planning and Siting and Pricing Work Groups at Commissioner Azar's request.
- The Board discussed the substantive issues of the document.
- Valerie Lemmie said Ohio had concerns about item #6 regarding cost-allocation. Bill Smith suggested Ohio offer a footnote.

**Susan Wefald moved to adopt the document as representative of the views of the OMS Board. Greg Jergeson seconded the motion. The motion was approved by a majority of the OMS Board by voice vote.**

- Lauren Azar presented the motions on the MISO AC agenda regarding Real-Time Sufficiency Tool. Richard Doying from MISO joined the call to answer questions about this issue.
- John Feit discussed the RTST response document that the OMS staff ad hoc committee on Load Shedding put together.
- Richard Doying then gave an historical background and answered questions.

- The Board discussed the overall consequences of not approving the motion vs. approval of the motion by the AC.
- Wisconsin will not be supporting the motion. Illinois will be supporting the motion to not pursue targeted load shedding at this time. Iowa and Michigan concurred with Illinois.
- The text of the advisory committee motion is "The Advisory Committee supports the recommendation of the Market Subcommittee that targeted load shedding based on a LBA Area being deficient should not be used by the Midwest ISO, and that any deficiency identified by the Midwest ISO within an identified affected deficient region 1 or on a footprint basis should be remedied by load shedding on a pro rata load ratio share basis in the event of an energy emergency."

**John Norris moved to instruct the AC reps to support the motion. Monica Martinez seconded.**

**Illinois – yes  
 Indiana – abstain  
 Iowa – yes  
 Kentucky – yes  
 Manitoba – absent  
 Michigan – yes  
 Minnesota – yes  
 Missouri – abstain  
 Montana – no  
 Nebraska – abstain  
 North Dakota – no  
 Ohio – abstain  
 Pennsylvania – abstain  
 South Dakota – abstain  
 Wisconsin – no**

**Yes – 5; Abstain – 6; No – 3; Absent – 1**

- Bill Smith stated that those states abstaining because they need to consult their commissions have until the AC meeting to report changes in their opinions to the AC reps. Susan Wefald pointed out that the AC reps can divide their votes and John Norris asked them to vote in a manner representative of the OMS position.
- Bill Smith asked the Board if John Feit's memo should be distributed beyond the Board. The Board discussed it and took a voice vote to approve distribution, which passed.
- Lauren Azar then briefed the Board on the motion regarding stakeholder input. It was agreed by the Board that this motion was to be left to the best judgment of the AC representatives.
- It is possible there will be no Advisory Committee meeting in September.

**2. MISO Planning Advisory Committee – Lauren Azar**

There is one motion before the PAC, regarding MTEP '08. Randel Pilo explained the motion to the Board. It was agreed to leave voting up to the discretion of the representation.

**4. Comment on Readiness Certification – Jeff Kaman**

Jeff Kaman gave an update on the certification process for ASM, which is almost complete.

**5. Planning for St. Paul Meetings, August 19-21 – John Norris**

President Norris encouraged all who were able to attend the upcoming meetings in St. Paul. He also reviewed the agendas. He asked that any questions or issues for the OMS Sector meeting with MISO be sent to Bill Smith.

## **6. Preparation of the OMS Budget for 2009**

Budget discussions were tabled until the August 19, 2008 meeting.

### **ANNOUNCEMENTS**

- OMS Executive Committee meeting – **August 28, 2008** at 1:00 pm CDT
- OMS Special Board of Directors meeting, **August 19, 2008** at 10:00 am CDT, in St. Paul
- MISO Advisory Committee, **August 20**, 2008, in St. Paul
- MWDRI Smart Grid Demonstration, **September 5, 2008**, in Chicago
- DOE Congestion workshop, **September 19**, 2008, in Chicago

### **ADJOURNMENT**

The OMS Board of Directors meeting adjourned at 2:45 pm CDT.

## OMS

Organization of MISO States  
Report of the Treasurer  
Gary Hanson, South Dakota Public Utilities Commission  
to the  
Board of Directors  
August 14, 2008  
Report for July 2008

### CASH ON HAND

The beginning balance as of July 1 for the Wells Fargo Business Performance Savings Account was \$108,888.15. Interest earned for this month was \$155.97. The July 31, 2008 balance was \$109,044.12.

The beginning balance as of July 1 for the Chase Bank One Checking account was \$88,995.99. The total disbursements from the checking account for July 2008 were \$24,948.74. Deposits, interest and adjustments were \$57.65. As of July 31, 2008, the checking account bank balance was \$67,719.77 and the book balance was \$64,104.90 (with 15 checks outstanding).

The total savings and checking account balances as of July 31, 2008 are **\$173,149.02**.

# OMS Treasurer Report for Month of July 2008

## Wells Fargo Business Performance Savings Account

Beginning Balance	108,888.15	
Transfer from Checking	0.00	
Interest Earned this Month	<u>155.97</u>	
Ending Balance		109,044.12

## Chase Bank One Checking Account

Beginning Balance	88,995.99	
Total Disbursements	(24,948.74)	
Deposits/Interest/Adjustments	<u>57.65</u>	
Ending Balance		<u>64,104.90</u>

## **Total Savings & Checking Balances as of July 31, 2008**

**173,149.02**

15 checks outstanding at 07/31/08



## Organization of MISO States

100 Court Avenue, Suite 218  
Des Moines, Iowa 50309

Phone: 515-243-0742  
Fax: 515-243-0746  
[www.misostates.org](http://www.misostates.org)

## **OMS Executive Director Report August 17, 2008**

### **FERC and DOE Activity**

1. OMS filed comments on the FERC's inquiry on its annual assessments on June 13 (Docket No. AD08-7).
2. On June 13, the OMS filed comments on the MISO's amended Balancing Authority Agreement. When the ASM market is launched, MISO will become the balancing authority and current control areas operators will function as local balancing authorities (Docket No. ER07-1372-008).
3. On July 17, the OMS filed comments generally supporting the MISO's Interconnection Queue filing (Docket No. ER08-1169-000).
4. On July 2, The OMS co-signed a NARUC brief to the US Court of Appeals for the DC Circuit appealing FERC's view of its jurisdiction over resource adequacy for ISO - New England (Docket No. 07-1375).
5. The OMS filed comments on the MISO Module E financial settlement filing on August 1 (ER08-394-003).
6. **July 1** – FERC Technical Conference on current and future state of regional wholesale electricity markets (AD08-9-000)
7. The DOE will hold its final workshop on factors for consideration in its 2009 congestion study in Chicago on September 17.

### **OMS-MISO Activity:**

1. The Joint Combined System Plan gave a stakeholder progress report August 14 in Cincinnati. It outlines a high-level transmission design through 2025 capable of meeting a 20% wind portfolio. A final report is planned in November-December 2008. The Midwest ISO indicates that this plan may be reviewed annually.

2. The OMS received questions from the MISO Market Subcommittee and the Reliability Subcommittee relating to the appropriate uses of the Real-Time Sufficiency Tool. An ad hoc staff group considered the questions and reported to the OMS Board on August 14. That work allowed the Board to prepare for voting on a related motion at the August Advisory Committee.
3. The Midwest ISO filed its certification of readiness for the Ancillary Services Market on July 25. The OMS did not submit a response.
4. OMS directors are scheduled to meet in retreat on August 19 to continue reviewing the goals and directions of the Organization.
5. The MWDRI will hold a demonstration of Smart Grid technologies for state agency staff on September 5.
6. OMS Office operations were interrupted June 11 because of flood-related power losses in the office building. We returned to the office on June 30. Julie Mitchell has returned to the OMS office following knee surgery.

### **Public Relations**

1. Presentations:
  - On August 1, President Norris spoke to a conference on Wind Development in Ann Arbor, Michigan, sponsored by the Midwest Governors Association and the National Wind Coordinating Committee.
  - Bill Smith gave a comparison of cost allocation factors to the NARUC Electricity Committee on July 22.
2. Pending speaking/meeting invitations:
  - None.

### **Upcoming MISO Filings of Regional Interest**

8/5/2008	ER08-____-000	The Midwest ISO to submit revisions to Section 43.7.2 of the Tariff to clarify the ARR revenue redistribution pursuant to load shifts between market participants within the ARR Zone.	N/A
8/18/2008	ER-08-394-003	The Midwest ISO to submit a compliance filing regarding financial settlement / enforcement provisions based on stakeholder feedback in the RAR filing.	122 FERC ¶ 61,283 (2008)



# OMS Executive Director Report

September 11, 2008

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August 2008	ER05-6-044, <i>et al.</i> EL04-135-046, <i>et al.</i> EL02-111-064, <i>et al.</i> EL03-212-060, <i>et al.</i>	The Midwest ISO and PJM Interconnection to submit their economic cross-border cost allocation proposals in compliance with the Commission's Order on Cross-Border Facilities Cost Allocation.	122 FERC ¶¶ 61,084 at P 29 (2008)
Fall 2008	ER08-__-000	The Midwest ISO to submit proposed revisions to Schedule 17 regarding the Redesign of the Cost Adder Schedules.	N/A
Fall 2008	ER08-__-000	The Midwest ISO to submit proposed revisions to Section 43.7.2 of the Tariff to address use of Auction Revenue Rights ("ARRs") for state and other similar retail choice programs.	N/A
1/29/2009	ER06-18	The Midwest ISO to submit an informational filing regarding the effectiveness of RECB 1 and 2 cost recovery mechanisms.	118 FERC 61,209 (2007) and 07/30/08 Notice granting extension of time

## Other upcoming dates:

- Next OMS Executive Committee meeting: **August 28, 2008** at 1:00 pm CDT
- Next OMS regular Board of Directors meeting: **September 11, 2008** at 1:00 pm CDT
- September 5: MWDRI Smart Grid demonstration 10:00 – 4:00, Chicago
- September 17: DOE congestion study workshop, Chicago.
- September 26: OMS quarterly discussion with Independent Market Monitor, 2:30 CDT
- October 14: OMS Annual Meeting, Carmel
- October 23: MWDRI Smart Grid workshop

**Midwest ISO Advisory Committee Meeting  
St. Paul, Minnesota  
August 20, 2008  
10:00 A.M. CDT  
DIAL IN NUMBER: (800) 216-0480**

**DRAFT Meeting Agenda**

		<u>Starting</u>
<b>A. Standing Items</b>		
1. Call to Order, Representative Roll Call (Peggy Ladd)	5 min	10:00
2. Review of Agenda (Peggy Ladd)	5 min	10:05
3. Approval of March Meeting Minutes (Peggy Ladd) √	5 min	10:10
4. Action Items from Previous AC Meetings (Alison Johnson)	5 min	10:15
<b>B. Discussion Items</b>		
1. Sector Hot Topic – Transmission Interconnection Queue Progress	90 min	10:20
10 Minutes per Sector, including minority opinions		
PM		
IPP		
VITO		
Public Consumer Advocates		
Eligible End Use		
MSAT		
Munis/ Coop/TDU		
OMS		
Coordinating Members		
Environmental/Other Advocates		
2. State of the Market improvements (Richard Doying)	10 min	11:50
3. Real Time Sufficiency Tool Update √ (Mike Shields)	20 min	12:00
<b>LUNCH</b>	<b>45 min</b>	<b>12:20</b>
<b>C. Standing Committee/Other Stakeholder Committee Reports</b>		
1. Planning Subcommittee (Julie Voeck)	10 min	1:05
▪ RECB Task Force		
▪ MTEP 08		
2. Steering Committee (David Hastings)	10 min	1:15
3. Stakeholder Governance Working Group √ (Bob McKee)	10 min	1:25
▪ Stakeholder input process for MISO's FERC Filings		
▪ Clarification of Chair Voting		
4. Organization of Midwest ISO States (Bill Smith)	5 min	1:35
5. EARTF Update (Dennis Kramer)	10 min	1:40

**Midwest ISO Advisory Committee Meeting  
St. Paul, Minnesota  
August 20, 2008  
10:00 A.M. CDT  
DIAL IN NUMBER: (800) 216-0480**

3. 2008 Advisory Committee Items (Peggy Ladd)	20 min	1:50
<ul style="list-style-type: none"> <li>○ 2008 Management Plan Review</li> <li>○ Hot Topics - Discussion <ul style="list-style-type: none"> <li>○ Hot Topics Schedule for 2008 <ul style="list-style-type: none"> <li>▪ FTR Allocation and Auction (Oct. 15)</li> <li>▪ RECB (Dec. 3)</li> </ul> </li> </ul> </li> <li>○ December Hot Topic Drafting Team Volunteers (RECB)</li> <li>○ September Advisory Committee</li> </ul>		
D. New Business (All)	5 min	2:10
E. Recap		
1. Issues/Assignments (Alison Johnson)	5 min	2:15

Rotating Agenda Team for September:	Paul Jett Ryan Kind Grant Smith
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# **Real Time Sufficiency Tool Motion for the August 20 Advisory Committee Meeting**

(August 12, 2008)

## **I. Background**

Several motions related to the use of the Real Time Sufficiency Tool (RTST) were developed jointly by Doug Hils, Chair of the Real Time Sufficiency Tool (RTST) Task Team, and Mike Shields, Chair of the Market Subcommittee (MSC) for consideration at the August 5 MSC meeting. The purpose of these motions were to provide the Midwest ISO and the Advisory Committee with more specific information with regard to the MSC preferences relative to the development and use of the RTST, in particular on the use of this tool under the most severe step of RTO-EOP-002 during an energy emergency to facilitate targeted load shedding first to deficient LBA Areas within an affected deficient region<sup>1</sup> prior to moving to pro-rata load shedding.

The results of the MSC voting on these motions are provided in section II below. Based on these votes, a motion has been prepared (see Appendix A) requesting that the Advisory Committee endorse the recommendation made by the Market Subcommittee to NOT support the use of targeted load shedding under RTO-EOP-002 in the Midwest ISO.

In addition to the RTST motions listed below, there were other motions (some presented by Integrys Energy) providing further direction to the RTST Task Team on targeted load shedding and making recommendations on the status and reporting relationships of the RTST Task Team. These motions, and the voting results, are included in Appendix B.

More information on the RTST and on the motions related to the RTST that had been addressed in previous Market Subcommittee meetings can be found in the presentations made by Doug Hils and Mike Shields at the June 18 Advisory Committee meeting (these presentations, along with a draft RTST Business Practices Manual and a second illustrative RTST presentation developed by Doug Hils to explain the mechanics of targeted load shedding were also posted with the August 5 MSC meeting materials).

## **II. MSC/RTST Task Team Motions on the use of the RTST for targeted load shedding**

The three motions listed below related to targeted load shedding were voted on at the August 5 Market Subcommittee meeting. All Market Participants were able to separately vote on all three motions. The purpose of the second motion (motion 1b) was to address the suggestion made by the Independent Market Monitor (IMM) that targeted load shedding might be useful to provide an additional incentive for Load Serving Entities to

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<sup>1</sup> *By definition, the affected deficient region could be just one LBA, a group of LBAs, or all LBAs in the entire Midwest ISO footprint*

comply in meeting their Resource Adequacy Requirements on a month-ahead basis as defined under Module E (although the IMM was against the use of targeted load shedding based on any identified real-time deficiency).

**a. Motion 1a:**

“The Market Subcommittee believes that targeted load shedding based on a LBA Area being deficient should **not** be used by the Midwest ISO, and that any deficiency identified by the Midwest ISO within an identified affected deficient region<sup>1</sup> or on a footprint basis should be remedied by load shedding on a pro rata load ratio share basis in the event of an energy emergency.”

*Results of MSC Voting: 31 in favor, 5 against, and 4 abstentions*

**b. Motion 1b:**

“Consistent with the recommendation of the IMM, the Market Subcommittee believes that targeted load shedding should only be used to target an LSE that was deficient in meeting their required planning reserves as identified in the month-ahead resource adequacy reporting. Otherwise, targeted load shedding should not be used by the Midwest ISO and any deficiency identified by the Midwest ISO within an identified affected deficient region<sup>1</sup> or on a footprint basis should be remedied by load shedding on a pro rata load ratio share basis in the event of an energy emergency.”

*Results of MSC Voting: 3 in favor, 32 against, and 4 abstentions*

**c. Motion 1c:**

“The Market Subcommittee believes that targeted load shedding should be used by the Midwest ISO in the event of an energy emergency where firm load shedding is deemed to be necessary by the MISO ISO within an identified affected deficient region<sup>1</sup> or on a footprint basis, with any deficient LBA Area required to shed load first to the extent needed to remedy their real-time deficiency as determined by the RTST.”

*Results of MSC Voting: 3 in favor, 35 against, and 3 abstentions*

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<sup>1</sup> By definition, the affected deficient region could be just one LBA, a group of LBAs, or all LBAs in the entire Midwest ISO footprint

## Appendix A – RTST motion for the August 20 Advisory Committee

**“The Advisory Committee supports the recommendation of the Market Subcommittee that targeted load shedding based on a LBA Area being deficient should not be used by the Midwest ISO, and that any deficiency identified by the Midwest ISO within an identified affected deficient region<sup>1</sup> or on a footprint basis should be remedied by load shedding on a pro rata load ratio share basis in the event of an energy emergency.”**

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<sup>1</sup> *By definition, the affected deficient region could be just one LBA, a group of LBAs, or all LBAs in the entire Midwest ISO footprint*

## **Appendix B – Other RTST motions addressed at the August 5 MSC meeting**

### **a. Second Motion presented by Doug Hils/Mike Shields:**

“The Market Subcommittee supports the efforts of the RTST Task Team, working together with the Supply Adequacy Working Group, to develop a capacity tracking mechanism that will allow the Midwest ISO to identify the resources dedicated to LSE loads within each LBA Area on a day-ahead and real-time basis and to ensure that there is not double counting of capacity resources. It is understood that the purpose of the day-ahead and real-time capacity tracking mechanism is not to support a real time load shedding function, but instead is purely intended to prevent the double counting of resources and to provide the Midwest ISO operations personnel additional reliability based information that may assist in their reliability coordination function.”

*Results of MSC Voting: Motion was withdrawn at the request of Doug Hils. Doug indicated that there may not be a need for the RTST Task Team to continue should it be decided that targeted load shedding would not be utilized. He expressed a belief that the Midwest ISO can develop the capacity tracking tools needed to ensure that double counting does not occur in real-time in conjunction with the development of the capacity tracking tool the Midwest ISO is required by Module E to develop in support of verifying LSE compliance with Planning Reserve requirements.*

### **b. First Motion presented by Integrys Energy:**

“The Market Subcommittee recommends that the RTST Task Team immediately cease work on targeted load shedding.”

*Results of MSC Voting: 30 in favor, 1 against, and 3 abstentions*

### **c. Second Motion presented by Integrys Energy:**

“The Market Subcommittee recommends that the group currently known as the RTST Team be organized as a “Working Group” – an official Stakeholder entity – that reports to both the RSC and the MSC.”

*Results of MSC Voting: 27 in favor, 5 against, and 4 abstentions*

### **d. Third Motion presented by Integrys Energy:**

“The Market Subcommittee recommends that the RTST Task Team formulate a revised statement of scope and objectives in light that the Midwest ISO and the IMM do not support targeted load shedding.”

*Results of MSC Voting: This motion was withdrawn by Integrys based on the results of the outcome of the voting on the previous motions.*

**Integrus Energy Services, Inc.  
Proposed Motion for the Steering Committee  
Regarding RTST**

**MOTION**

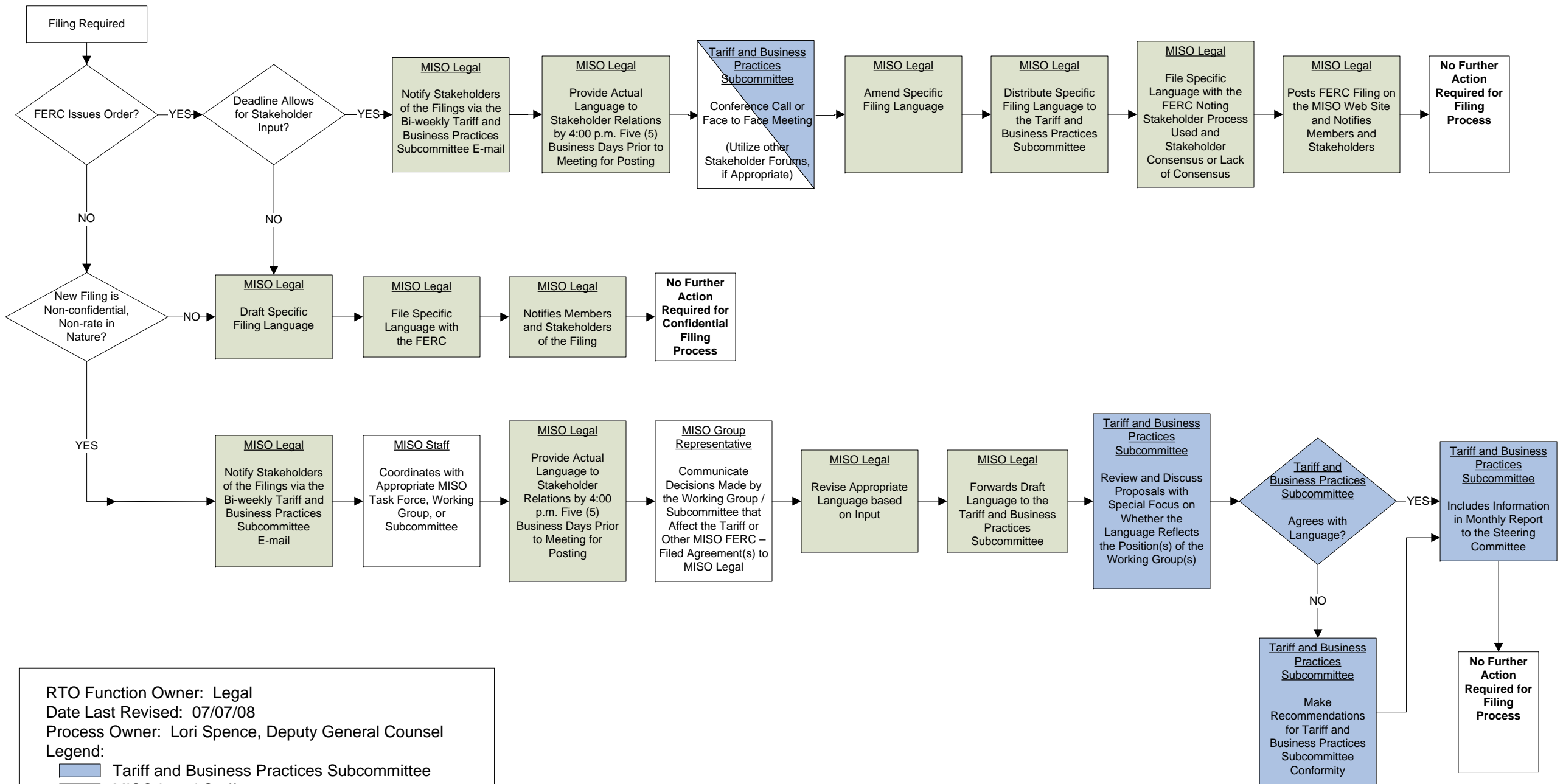
- Effects**            *Whereas*, proposals on real time operation have the potential to affect reliability, market products and value, and obligations of market participants regarding resource adequacy, and
- Coordination**    *Whereas*, the proposed objectives and work of the RTST group must coordinate with requirements of the Midwest ISO's Module E and allied information systems, and
- Resources**        *Whereas*, the activities of the RTST group have drawn on – and if the RTST work continues, likely will continue to draw on – a substantial amount of time and resources of the Midwest ISO and of market participants, and
- Accountability**   *Whereas*, motions passed at the August 5, 2008, meeting of the Market Subcommittee give evidence that the objectives of the RTST have not been in accord with the sentiment of an overwhelming majority of market participants and that RTST work should cease,

therefore, Integrus ESI submits the following Motion:

*The Steering Committee recommends that the group currently known as the RTST Team, if it is not disbanded, be organized as a "Working Group" – an official stakeholder entity – that reports to both the Reliability Subcommittee and the Supply Adequacy Working Group.*



# MISO FERC Filing Stakeholder Input Process



RTO Function Owner: Legal  
 Date Last Revised: 07/07/08  
 Process Owner: Lori Spence, Deputy General Counsel  
 Legend:  
 Tariff and Business Practices Subcommittee  
 MISO Legal Staff

Motion for Midwest ISO Advisory Committee  
To be voted upon at August 20, 2008 Meeting

The Stakeholder Governance Working Group unanimously approved the adoption of the following motion at its July 24, 2008 SGWG meeting for consideration by the Midwest ISO Advisory Committee.

Whereas the Midwest ISO Advisory Committee understands the Stakeholder Governance Working Group has reviewed and discussed the "MISO FERC Stakeholder Input Process" flowchart which was provided by Midwest ISO legal staff on June 19<sup>th</sup> and July 24<sup>th</sup>, 2008, the following is recommended:

Resolved, the Advisory Committee supports the "MISO FERC Stakeholder Input Process" and believes it reflects active processes that are reasonable and shall be adopted. This document shall be posted in the Committees folder of the Midwest ISO website for future reference.



**The Saint Paul Hotel**  
350 Market Street,  
St. Paul, Minnesota 55102

To REGISTER go to:  
[www.midwestmarket.org](http://www.midwestmarket.org)

*(From the Meeting & Events Calendar,  
please register to attend all meetings)*

**TUESDAY, AUGUST 19, 2008**

**INFORMATIONAL FORUM**  
3:00 – 5:00 p.m. CDT

*Promenade South Ballroom*

**WEDNESDAY, AUGUST 20, 2008**

**MARKETS COMMITTEE MEETING OF THE BOARD OF DIRECTORS**  
8:00 a.m. – 10:00 a.m. CDT

*James J. Hill Room*

**ADVISORY COMMITTEE MEETING**  
10:00 a.m. – 4:00 p.m. CDT (lunch provided)

*Promenade Ballroom*

**THURSDAY, AUGUST 21, 2008**

**BOARD OF DIRECTORS MEETING**  
8:30 a.m. – 10:30 a.m. CDT

*Promenade Ballroom*

**STEERING COMMITTEE MEETING**  
11:00 a.m. – 1:00 p.m. CDT (lunch provided)

*Promenade Ballroom*

**STAKEHOLDER GOVERNANCE TRAINING**  
1:00 p.m. – 4:00 p.m. CDT

*Promenade Ballroom*

**QUESTIONS**

**CONTACT**

Kathy Wiesner at [kwiesner@midwestiso.org](mailto:kwiesner@midwestiso.org) or (651) 632-8440

**OVERNIGHT ACCOMMODATIONS**

A limited number of rooms are available at a reduced rate until **Monday, July 21, 2008** or based upon availability. Room reservations and charges to be arranged and paid for by guest.

**The St. Paul Hotel Reservations:** [www.saintpaulhotel.com](http://www.saintpaulhotel.com); 1-800-292-9292; (651) 292-9292.  
Reference the Midwest ISO group number: **430725** when making reservations to obtain the group rate of \$174.00 per night + 13% tax for a Deluxe Accommodations Room.

**Parking:** 24-hour valet parking service available (overnight parking fee is \$18.00 per vehicle).



Photo provided by the Minnesota Historical Society

## TRANSPORTATION

- Taxi service: approximately \$20.00 to and from the MSP Airport
- Limousine / Town car service: Eclipse Transportation, 1-800-215-8914; 651-293-1111 or [www.eclipsecars.com](http://www.eclipsecars.com)
- Airport shuttle: Super Shuttle, 1-800-258-3826, [www.supershuttle.com](http://www.supershuttle.com) or from the airport baggage claim level go to the atrium and follow signs to their desk (shared van, multiple stops), \$13 per person one way or \$22 round trip

## INSIDER INFO

- The nearest airport is the Minneapolis-St. Paul International Airport (MSP)
- The summer is Minnesota's busiest season for tourism so reservations are recommended for restaurants and activities
- The Twin Cities are fairly easy to navigate but pick-up an area map if you will be driving. As with any large city, secure or store valuables wisely

## THINGS TO DO & SEE IN THE TWIN CITIES

### EVENTS/ATTRACTIONS:

- 8/18-20 - Minnesota Twins vs. the Oakland A's Major League Baseball, Metrodome at 7:10 pm / 12:10 pm; [www.minnesota.twins.com](http://www.minnesota.twins.com)
- 8/18-20 - St. Paul Saints vs. the Lincoln Saltdogs Minor League Baseball, Midway Stadium at 7:05 pm; (651) 644-6659 or [www.saintsbasketball.com](http://www.saintsbasketball.com)
- 8/21 - Swing Night at the Caves, Wabasha Street Caves; (651) 224-1191 or [www.wabashastreetcaves.com](http://www.wabashastreetcaves.com)
- Grand Avenue (Shopping and Entertainment); (651) 699-0029 or [www.grandave.com](http://www.grandave.com)
- Mall of America (Shopping and Entertainment); (952) 883-8800 or [www.mallofamerica.com](http://www.mallofamerica.com)
- Underwater Adventures® Aquarium, Mall of America; (952) 883-0202 or [www.sharky.tv](http://www.sharky.tv)
- "Special Effects" Science Museum of Minnesota's Omnitheater; (651) 221-9444 or [www.smm.org](http://www.smm.org)

### EXHIBITS/MUSEUMS:

- "Star Wars: Where Science Meets Imagination", "Disease Detectives", or "Big Back Yard", Science Museum of Minnesota; (651) 221-9444 or [www.smm.org](http://www.smm.org)
- Minnesota History Center; (651) 296-6126 or [www.minnesotahistorycenter.org](http://www.minnesotahistorycenter.org)
- Mill City Museum, Minneapolis; (612) 341-7555 or [www.millcitymuseum.org](http://www.millcitymuseum.org)

### THEATER:

- "Little House on the Prairie" musical or "The Government Inspector", Guthrie Theater, Minneapolis; (612) 377-2224 or [www.guthrietheater.org](http://www.guthrietheater.org)
- "The Count of Monte Cristo", Minnesota Centennial Showboat; (651) 227-1100 or [www.showboat.umn.edu](http://www.showboat.umn.edu)

### TOURS:

- Summit Brewing Company Tours, (651) 265-7800 or [www.summitbrewing.com/home.php](http://www.summitbrewing.com/home.php)
- Summit Avenue Walking Tours or James J. Hill House Tours; (651) 297-2555 or [www.mnhs.org/places/sites/jjhh](http://www.mnhs.org/places/sites/jjhh)
- River History Walk, Sibley House Historic Site; (651) 296-6126 or [www.mnhs.org](http://www.mnhs.org)
- Alexander Ramsey House Tours; (651) 296-8760 or [www.mnhs.org/places/sites/arh](http://www.mnhs.org/places/sites/arh)
- Minnesota State Capitol Tours; (651) 296-2881 or [www.mnhs.org/statecapitol](http://www.mnhs.org/statecapitol)
- Landmark Center Tours; (651) 292-3225 or [www.landmarkcenter.org](http://www.landmarkcenter.org)
- The Saint Paul Gangster Tour, Down in History/Wabasha Street Caves Tour; (651) 292-1220 or [www.wabashastreetcaves.com](http://www.wabashastreetcaves.com)
- Cathedral Tours, Cathedral of Saint Paul; (651) 228-1766 or [www.cathedralsp.org](http://www.cathedralsp.org)

Activities will be updated periodically prior to the August meeting — check back for updates  
*Events should be arranged and paid for by guest*

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# Market-Related Concerns related to the use of the Real Time Sufficiency Tool

**Mike Shields**  
**Chair – Market Subcommittee**

**June 18, 2008**

# Purpose of Discussion

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1. Provide the Advisory Committee with information on the votes taken by the MSC on certain RTST related issues
2. Explain some of the “market related” issues with the RTST proposal raised by some Market Participants, particularly in regards to the use of the RTST to determine load shedding priorities

# Four RTST motions at the March MSC meeting

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## The MSC voted on four related RTST motions:

1. RTST motion that passed the RSC **failed** at the MSC (14-26-5)
2. Duke motion **passed by general consent** to continue the development of the capacity tracking tool for determination of day-ahead sufficiency for the MISO Local Balancing Authorities (LBAs)
3. Integrys motion on FERC approval authority and inclusion of the RTST in the EMT (**passed** 19-8-6)
4. Constellation motion that RTST proposal should be filed before FERC (**passed** 24-8-4)

# MSC voting items on RTST

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## **The motion that passed the RSC that came before the MSC:**

“The Market Subcommittee supports the development of the MTAP for capacity tracking and supports the overall concepts and utilization of the Real Time Sufficiency Tool during Midwest ISO implementation of RTO-EOP-002. The Market Subcommittee recommends that Midwest ISO proceed with the development of these tools in preparation for implementation by the summer of 2008.”

**Motion failed by a vote of 14-26-5**



# Duke motion to move forward w/ Phase I

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## **Motion as passed by general consent vote:**

“The Market Subcommittee supports the implementation of the software systems necessary to manage the capacity tracking requirements and the determination of day-ahead sufficiency for the MISO LBAs as the Phase I effort in development of capacity tracking tools. The systems are necessary for compliance with the MISO EMT and NERC reliability requirements. The MSC recognizes that the day-ahead sufficiency reports are not adequate on their own for the allocation of any firm load curtailment between the LBAs.

The Market Subcommittee requests the RTST Task Team to come back to the MSC to present the proposed functional requirements for the tracking tool that will meet the resource planning and day-ahead requirements based upon the MISO EMT.

The Market Subcommittee supports this motion in order to ensure the timely implementation of the capacity tracking systems. The development of the real time sufficiency business rules should continue and be presented to the MSC for support once they are completed”

# Integritys motion – FERC involvement

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“The Market Subcommittee recommends that the issues of

(a) whether or not the FERC has approval authority over the obligations, actions and conditions proposed by the RTST and

(b) whether or not the RTST should be part of the EMT, should be submitted to the FERC for rulings.

The development of the RTST information tools can continue while FERC is considering the request for rulings.”

**Motion passed 19-8-6  
(MISO to update MSC)**

# Constellation Motion: FERC filing

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“The Market Subcommittee supports the Constellation motion to have MISO file the Real Time Sufficiency Tool (RTST) at FERC (because of the potential market impacts) prior to the implementation date of the RTST.”

**Motion passed 24-8-4  
(MISO to update MSC)**

# Market Related Concerns with RTST

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***Note: the issues listed below and on the next page reflect concerns raised by certain Market Participants during MSC discussions on the RTST proposal, and do not necessarily reflect the viewpoints of all MSC participants***

1. Module E planning reserve margin (PRM) requirements should be the only obligation to be met by any LSE – MISO should be responsible for reliability in real-time.
2. Any firm load shedding required by MISO for reliability reasons should be done on a load pro rata share basis for the affected zones (or on a MISO-wide basis in the event the contingency affect the entire footprint).
3. The RTST does not take into account true deliverability to the affected area, therefore targeting a particular “deficient” area for load shedding may not even resolve or have an impact on the emergency situation.
4. The Module E requirements utilizes UCAP basis (EFORd incl.) The RTST utilizes an ACAP basis (“Available Capacity” in Real Time). UCAP has been approved by FERC and should be the one capacity product utilized for compliance. Any different requirement (i.e. ACAP) should be reviewed and approved by FERC. The Module E UCAP approach fosters the pool wide sharing of resource adequacy responsibility - targeted load shedding in real time is not reflective of a “pool-sharing” approach.

# Market Related Concerns with RTST

(continued)

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5. LSEs will face the potential of two compliance mechanisms on the purchase of a capacity product. Module E rules requires that capacity sources be identified on a month ahead-basis, and require that this capacity must meet the Day-Ahead and Forward RAC Must-Offer requirements of a Designated Network Resource. A totally different set of rules and compliance requirements associated with a capacity product are being defined under the RTST process, and non-compliance with these rules can result in a potential of targeted firm load shed. The implementation of RTST could require that existing long-term Module E capacity contracts be amended to meet RTST obligations.
6. Even the *possibility* of a targeted firm load shed based on a real-time RTST determination has already had consequences for commercial capacity contracting, in particular with regards to contractual obligations and notifications. The lack of certainty as to the final rules could cause significant problems for LSEs trying to hedge against targeted load shedding.
7. The use of the RTST tool could, in effect, create an hourly capacity market, which does not exist in today's MISO environment. Such an hourly market would only serve to add additional costs for Load Serving Entities.

# **Questions for the OMS on the use of the Real Time Sufficiency Tool**

(July 3, 2008)

## **A. Nature of the Request to OMS**

At the June 18 Midwest ISO Advisory Committee (AC) meeting, there was a great deal of discussion related to the proposed use of the Real Time Sufficiency Tool (RTST) in making firm load shed decisions in the event of an Energy Emergency situation. At that meeting it was suggested that in moving forward to reach a decision it would be helpful to get input from OMS members on this proposal.

It is expected that this issue will become a voting item at the August AC meeting. The specific questions being addressed to OMS are at the end of this document – the first couple of pages of information are being provided to provide background information to help in understanding the questions.

## **B. Background**

A number of NERC Standards require that a Balancing Authority (“BA”) have sufficient resources available to it to not become a burden on the interconnection in which it operates. Just to name a few: BAL-001 requires a BA to have resources in real-time to balance its BA Area and support frequency. BAL-002 requires a BA to have sufficient operating reserves to restore its balance following a disturbance. EOP-002 requires a BA to take whatever steps that are necessary to resolve a capacity and energy emergency in order to balance its BA Area in accordance with the NERC Standards - up and including the shedding of firm load.

Under the most severe of circumstances, as a last resort NERC Standards require the BA to balance its system by directing the shedding of firm load until such balance is achieved. Prior to that point all actions are to be taken to avoid firm load shedding. These actions include, but are not limited to: the utilization of all available resources, the curtailment of interruptible load and transactions sourced from network resources, public appeals, and the purchase of emergency energy.

Prior to the start of the Midwest ISO energy market, load serving entities (LSEs) were more directly responsible for making the resource decisions associated with balancing the load and supply in each BA Area. The real-time actions of the LSEs to reduce load, commit units, procure additional resources, and to take other emergency steps directly impacted whether the BA was capable of balancing load with supply and would be able to avoid having to implement load shedding even under the most severe of circumstances.

Upon the start of the Midwest ISO energy market, many of the resource commitment decisions moved to the Midwest ISO to meet the projected requirements of its footprint. This move diminished the capability of each BA to determine the sufficiency of resources dedicated to its BA Area in real-time, since having the Midwest ISO dispatch all market resources eliminated the need for individual energy schedules between Market Participants.

Since that time, the Reliability Subcommittee and the RTST Task Team, among others, have worked to consider equitable rules for determining what resources should be considered and how resources should be allocated in determining the sufficiency of each BA Area during energy and capacity emergencies. Similarly, it was necessary to decide how load serving entities who bought emergency energy from non-market entities to resolve their shortage could be directly credited for that action in a determination of the sufficiency of its BA Area.

With the start of the Midwest ISO energy market the Midwest ISO became the responsible entity to balance load and supply in the real time on a total footprint basis through its reliability-constrained economic dispatch. Not only did this eliminate the need for schedules between BAs within the Midwest ISO footprint, but it also, in effect, eliminated the need for an “intra” Midwest ISO hourly energy market, as there were no longer any energy imbalance penalties assigned to Market Participants failing to meet energy schedules. With the start of the ASM market in September of 2008, the Midwest ISO will have even a stronger role in matching real time load and supply in that they will take over the responsibility from the BAs to procure and maintain the required level of regulating and contingency reserves necessary to ensure that real time load and supply stays in balance for the entire Midwest ISO footprint on a more forward-looking basis. Even after the Midwest ISO becomes the BA for the footprint, the Local Balancing Authorities (LBAs) will remain responsible for the implementation of any required firm load shedding.

### **C. Discussion**

Following the formation of RTST Task Team, there has been much discussion about what being in the MISO energy market means when it comes to determining the sufficiency of capacity resources. There are basically two distinct viewpoints that have developed on this subject.

Some suggest that the development of long term resource planning requirements and the associated designation of network resources with must-offer requirements to the market implies “one for all, and all for one”. This position posits that as long as each LSE meets its Planning Reserve obligation under Module E, that each and every day that LSE should have the right to effectively can call on any resource controlled by the Midwest ISO to meet its needs. The reliability “obligation” of each LSE is fulfilled under the requirement to provide Planning Reserves to the Midwest ISO, with the required level of Planning Reserves determined using the defined reliability criteria established by the NERC Regional Entities designed to accomplish a no more than one day in ten year Loss of Load Expectation. Therefore, when an emergency occurs, there is no need to determine whose resources have failed or who is bringing in additional energy; rather the use of a pro-rata load shed is equitable and appropriate since all parties have provided their “pooled” resources for the overall good of the market.

Others offer that the MISO energy market is just that, an energy market that is only intended to facilitate a security-constrained, economic energy dispatch. Under the energy market concept, there is no capacity market structure in MISO and each LSE’s capacity

remains its own. This position advocates that each LBA should be judged on the reliability of the resources the LSEs within it bring to the market and the emergency actions taken by the LSEs in reducing load and procuring additional resources to reduce the risk of firm load shedding within the LBA Area. This position essentially advocates that a LBA who has 800 MW of actual load during an emergency and whose designated generation resources are actually producing 920 MW should not have to shed load at the same time as a LBA whose load is far in excess of generation, and who's LSEs have not taken steps to bring in energy or buy capacity to make up the shortfall caused by resources that have failed.

For more discussion and background information related to the RTST issues, please see the presentation material from the June 18 AC meeting provided by Doug Hils and Mike Shields.

#### **D. The Tool**

The RTST tool is intended for use in determining when any LBA and/or any LSE within that LBA lack sufficient resources to be able to cover their load. The capacity tracking tool being developed in support of this function is intended to determine:

- a. Whether an LSE has rights to sufficient capacity to meet their required Module E Planning Reserve requirement on a month ahead basis (note that the term "capacity" as used in this document can mean both generation resources and demand response resources); and
- b. Whether an LSE/LBA has rights to sufficient capacity on a "day-ahead" basis to cover their load for the next day; and
- c. Whether an LSE/LBA has the rights to sufficient capacity on a real-time (within the hour, and for the next hour) basis to cover their load in real-time. For the real-time tracking proposal, credit is given for capacity resources that **were** made available to the Midwest ISO for selection in the day-ahead market and for the forward reliability assessment commitment (RAC) modeling as required for capacity resources by Module E, but that may no longer be available for use in real-time. This would occur, for example, with a resource that was not given a start schedule by the Midwest ISO after the day-ahead and RAC model runs, and the required "startup" lead time for that resource subsequently makes it unavailable for use in real-time. Any flowing energy will also be credited to the LSE/LBA in the real time tracking calculation, even though it might not be backed by firm capacity or be supplied on firm transmission.

It is generally agreed by most market participants that there is a need for a tracking tool to ensure that capacity rights are not being "double-counted" by multiple LSEs. For this reason, the need to track capacity in the Planning horizon is recognized by all participants. Further, the need for tracking is recognized by virtually all participants in the Day-Ahead horizon. There is more dissent though in real-time operations as it relates to sufficiency. As discussed in Section C above, the controversy lies in whether a particular "deficient" entity in a region<sup>1</sup> that is experiencing an Energy Emergency should be targeted to shed firm load



first, or should all LSEs in the affected region be asked to shed firm load on a load pro rata basis.

While a number of situations could occur to cause a particular LSE/LBA to be “deficient”, the most probable scenario is the loss of one or more generating units during real time operations and/or the curtailment of imports during a Transmission Line Relief (TLR) event. The event that caused that particular LSE/LBA to become deficient may not in itself cause an Energy Emergency situation to occur, but under the RTST concept that “deficient” entity would still be targeted for load shedding even in the event other circumstance led to the ultimate declaration of an Energy Emergency by the Midwest ISO.

Quite clearly, the implication of load shed ripples through the states. The industry/ economic health of the state will be affected. Politicians will have to answer to constituents whose service is curtailed. Regulators will answer to all of the above.

In essence, there are a couple of philosophical questions that need to be answered in determining how to deal with the RTST load shed issue from a state’s perspective. The first question is:

“Is it an acceptable outcome that load would be shed in your state, yet there was every indication that the generators dedicated to that load were more than adequate to cover the load?”

The second philosophical question is the following:

“Is it an acceptable outcome that load would be shed in your state on a reciprocal basis with other states, even should there be adequate supply available to the LSEs in your state, with the objective being to minimize the overall impact of a deficiency on a particular state and/or LSE through the concept that each LSE is “pooling” their resources for the greater good of the entire Midwest ISO footprint. This question should be viewed in light of the fact that the overall load balancing and reserve obligations are to be managed by the Midwest ISO at the Midwest ISO footprint level, with the Midwest ISO acting as both the Reliability Coordinator and the regional Balancing Authority.’

## **E. Specific Questions for OMS**

- a. **Real-Time Assessment:** Given the background information provided, does the OMS agree that targeted load shedding should be used on any LSE/LBA that does not have sufficient resources to meet its real-time load requirements, such as might occur in the event of load being in excess of projections, forced unit outage(s), curtailment of resources on firm transmission under Transmission Loading Relief, or other circumstances; during an Energy Emergency as declared by the Midwest ISO and all other emergency actions within the affected deficient region<sup>1</sup> are unsuccessful?

- b. **Day-Ahead Assessment:** Does the OMS agree that targeted load shedding should be used on any LSE/LBA that is shown to be deficient during the day-ahead capacity tracking process, such as might occur in the event of forced unit outage(s), or other circumstances (unless they are able to cure that deficiency in the real time); during an Energy Emergency as declared by the Midwest ISO and all other emergency actions within the affected deficient region are unsuccessful?
- c. **Month-Ahead Assessment:** Does the OMS agree that targeted load shedding should be used on any LSE/LBA that is shown to be deficient in the month-ahead Planning Reserve Margin reporting required by Module E (in this case the deficiency is deemed to mean that the LSE is not able to cover their load PLUS the required reserve margin), provided that LSE has not cured that deficiency before the day-ahead capacity tracking process; in the event an Energy Emergency is declared by the Midwest ISO and all other emergency actions within the affected deficient region are unsuccessful?
- d. **FERC Input:** If the answer to any of the questions above is yes, does the OMS also agree that the proposal to use targeted load shedding should be included in tariff wording to be filed with FERC for approval?

<sup>1</sup> *By definition, the affected deficient region could be just one LBA, a group of LBAs, or all LBAs in the entire Midwest ISO footprint)*

E-Mail Response from David Patton

Targeted Load Shedding Using RTST

August 7, 2008

**From:** David Patton [mailto:dpatton@potomaceconomics.com]

**Sent:** Thursday, August 07, 2008 3:13 PM

**To:** Feit, John PSC; 'Richard Doying'; 'David Zwergel'

**Cc:** 'Bokram, William K (DLEG)'; 'Cole, Cathy E (DLEG)'; Pilo, Randy PSC; 'Angela Butcher'; Neumeyer, Donald PSC; rrismill@icc.illinois.gov; 'Bill Smith'; Malcolm, Bill; dhadley@midwestiso.org

**Subject:** RE: Targeted Load Shedding Using RTST

John,

I recently returned from vacation and apologize about the delay in getting back to you. Richard forwarded you the three concerns I listed in my report to the Board Markets Committee. This email provides further discussion of each of these concerns.

However, as a preliminary matter, the RTST inappropriately mixes the planning horizon (Module E procurements) with the operating horizon (real-time availability of resources). It is incongruence of these horizons that generates most of the problems described in the three areas below.

1. The insufficient LSE may not cause the need to shed load for many reasons;

The underlying premise of using a real-time sufficiency as the basis for performing targeted load shedding is that the "insufficient" LSE is causing the need to shed load. I do not believe that this premise is accurate for a variety of reasons. First, footprint-wide shortages are unlikely to be the cause of load-shedding events. Load shedding is much more likely to be needed in sub-regions or constrained areas within MISO when no additional imports to the area are possible. However, there are no specific deliverability requirements -- that a resource be continuously deliverable to the constrained area where there LSE's load is located. Hence, an "adequate" LSE in a constrained area with resources outside the constrained area may cause a load-shedding event by losing a unit in the constrained area because its other resources cannot be delivered. This result violates the causality premise underlying RTST. This can cause other LSEs that are not contributing to the load shed event to be targeted if they happened to have lost a designated network resource outside the constrained area. This issue cannot simply be solved by establishing deliverability requirements because that would likely create significant market power concerns.

Second, the RTST allows resources offered in the day-ahead to count toward an LSE's sufficiency. This is good and prevents LSE's from having an inefficient incentive to self-commit expensive units in order to be sufficient. In reality, however, an LSE adequate in the day-ahead whose units are not all committed (in the day-ahead) could lose a unit in real-time,

cause the load shed event, and not be targeted by the RTST. Hence, the RTST would not accurately be identifying the cause of the event. There is no good way to solve this problem.

These are two examples of how the RTST would come to an erroneous conclusion regarding which LSE contributed to the load shedding event. There are many other examples.

2. The current proposal can cause forced outages to result in targeting load shedding. This linkage will likely result in an inefficient increase in costs to consumers in the Midwest through higher bilateral capacity prices (Module E);

Forced outages are an expected and unavoidable part of the electric utility business. It is one of the primary reasons to have capacity margin requirements in the first place. However, when targeted load shedding is linked to forced outages, it will substantially affect bilateral capacity trading because LSE's will rationally require generators selling capacity to accept damage provisions to address situations wherein the supplier's forced outage contributed to targeted load shedding of the LSE. The costs of these damage provisions will raise Module E prices and generate costs for consumers that are additive to other shortage costs in the MISO markets. We understand that many LSEs are already requiring such provisions in their capacity purchase contracts in anticipation of RTST. These provisions are a barrier to contracting today. For these reasons, the RTST will likely increase capacity prices and the costs of purchased capacity by LSEs.

3. It may provide an incentive to conceal forced outages in the day-ahead time frame.

As discussed above, the current RTST proposals would include resources offered in the day-ahead market as counting toward an LSE's sufficiency, which is reasonable. However, this provision would also provide an incentive for generators to not report forced outages in the day-ahead timeframe under tight conditions. This could harm reliability by reducing the accuracy of the MISO's generation availability information.

In addition to these three concerns, we also have the following additional concerns that were not described in the report to the Board Markets Committee.

4. Most of the actions by an LSE that may be prompted by the RTST when the LSE suffers a forced outage are not efficient or helpful.

The current RTST would motivate LSEs to procure capacity somewhere in MISO or outside of MISO to be sufficient. However, this contracting activity does not address the shortage problem or prevent the need to load shed. If electricity is available outside of MISO, it will be imported in response to the high energy prices in MISO without the capacity contracts. If there is generation available inside of MISO that is not contracted as a designated network resource, it will still be utilized before load shedding is undertaken. Hence, this last-minute contracting by LSE's to avoid targeted load shedding under RTST is unproductive and would only raise costs for the LSEs.

5. Lastly, some have argued that RTST will provide incentives for generators to take actions to minimize their forced outages. However, the MISO markets already provide efficient incentives to take these actions. A generator forced out in real-time

during a shortage will lose the considerable revenues associated with the shortage prices that occur in those hours, or have to buy energy back at the high prices to satisfy its day-ahead schedule. Layering on additional incentives under the Module E provisions associated with targeted load shedding is inefficient.

I hope this discussion is helpful. Please feel free to contact me if you have any follow-up questions.

Best Regards,

David

August 12, 2008

To: OMS Board

From: John Feit, Bill Bokram, Randy Rismiller  
OMS Ad Hoc Task Force on the Real Time Sufficiency Tool and Load Shedding

### Background

For background information about the development of the Real Time Sufficiency Tool and its use for Targeted Load Shedding, see the following documents:

1. "Questions for the OMS on the Use of the Real Time Sufficiency Tool," July 3, 2008. This is a five page paper written by Mike Shields, chair of the Market Subcommittee and Doug Hils, head of the Real Time Sufficiency Tool Task Force, under the auspices of the Reliability Subcommittee.
2. "Market-Related Concerns related to the use of the Real Time Sufficiency Tool," June 18, 2008. This is a nine page power point presentation by Mike Shields.
3. "Development of the Real-Time Sufficiency Tool," June 18, 2008. This is a twenty –two page power point presentation by Doug Hils.
4. Letter to OMS State Commissioners, OMS Staff and Executive Director Bill Smith, July 22, 2008. This is a three page letter from the Independent Power Producer and Power Marketer sectors.
5. E-Mail from David Patton, Potomac Economics, Re: Targeted Load Shedding Using RTST, August 7, 2008. This is a three page e-mail message from David Patton discussing concerns about Targeted Load Shedding.

In addition to these background documents, the Commissioners should be aware that during a meeting on August 5, 2008, the Market Subcommittee voted overwhelmingly to reject the use of Targeted Load Shedding.

### Summary of Arguments against Targeted Load Shedding

1. Deliverability of Resources. There is no requirement in the Midwest ISO that an LSE's capacity resources be deliverable to its loads. (David Patton e-mail, Item 1) This is the strongest argument against the use of Targeted Load Shedding. Therefore, it could be necessary to shed load in a balancing area because of a transmission problem, even though all of the LSEs in that balancing area have demonstrated sufficient planning capacity resources.

2. The Module E Planning Reserve Requirement should be the only obligation that should be required of LSEs. The use of the Real Time Sufficiency Tool during real time to further enforce planning reserve requirements inappropriately mixes the planning horizon with the operating horizon. (David Patton E-mail, Item 5)
3. Load shedding is directed by the Midwest ISO on the basis of balancing areas (soon to be Local Balancing Areas under ASM). Since balancing areas may contain a number of LSEs, it may be difficult for the balancing area to identify specifically those LSEs which are deficient in real time. Importantly, it is the balancing area, and not the Midwest ISO, that determines which load is shed.
4. Timing of Operator Actions in Real Time. The Midwest ISO is concerned that in the event of an emergency that requires load shedding, its system operators may not have sufficient time to determine which LSE's should be targeted for load shedding and direct that those LSEs shed specific amounts of load.
5. The implementation of Targeted Load Shedding could increase the costs of capacity contracts (due to risk premiums) between LSEs and generators. (July 22 IPP/Marketer letter)
6. The implementation of Targeted Load Shedding could provide incentives to hold reserves above the minimum planning reserve requirement to minimize the risk of load shedding and thereby increase costs.
7. Incenting capacity contracting within the last 28 days or so before real time will not accomplish anything with respect to lessening the likelihood of an energy or ancillary services shortage. If electric energy is available outside of MISO, it will be imported in response to the high energy prices in MISO, even without the capacity contracts. If there is generation available inside of MISO that is not contracted as a capacity resource, it will still be utilized in the energy market before load shedding is undertaken. Hence, this last-minute contracting by LSE's to avoid targeted load shedding under RTST is unproductive and would only raise costs for the LSEs. (David Patton E-Mail, Item 4)

#### Summary of Arguments in Favor of Targeted Load Shedding

1. There are no financial penalties under Module E for an LSE if it fails to retain the Capacity Resources in its Resource Plan, under-forecasts its loads or fails provide the output of those Capacity Resources to the energy market. (See sections 69.1.5 Sustained Commitment and 69.3.4 Load and Planning Resource Assessment of Module E.) The possibility of Targeted Load Shedding gives LSEs an increased incentive to retain the capacity resources in their Resource Plan and to provide the output of those resources to the Midwest ISO energy market because doing so may make it less likely they would be ordered to shed load.

### **69.1.5 Sustained Commitment**

Each LSE shall promptly notify the Transmission Provider of any revision to its Resource Plan for the Planning Year and shall demonstrate continued adherence to the RAR standards, LSEs shall also remain committed to the required transmission capability to the extent required to ensure deliverability of the Capacity Resources to meet the LSE's RAR.

### **69.3.4 Load and Planning Resource Assessment**

On a monthly basis, the Transmission Provider shall review data submitted by an LSE for the prior Month to evaluate the accuracy of the forecasted Demand submitted by each LSE for such Month. If the Transmission Provider determines, that an LSE Under-Forecasts its Demand, after accounting for any actual weather conditions and other normalization adjustments during such Month, the Transmission Provider will notify the LSE of the Under-Forecast and request a written response detailing the reasons for the Under-Forecast. If an Under-Forecast, after weather and other normalizations, is statistically significant (which shall mean rejection of the null hypothesis that the actual Demand falls within the forecasted Demand plus or minus 1 standard deviations), with respect to an LSE's forecasted Demand, either for three (3) consecutive Months or for one (1) Month between June 1 and September 30, then the Transmission Provider will address the uncertainty caused by the LSE's Under-Forecast by informing applicable state authorities.

On a monthly basis, the Transmission Provider shall review data to evaluate the accuracy of the Resource Plans submitted by LSEs to ascertain whether such Capacity Resources identified by an LSE are insufficient to meet the Forecast LSE Requirement multiplied by one (1) plus the PRM. If the Capacity Resources are insufficient either for three (3) consecutive Months or for one (1) Month between June 1 and September 30, then the Transmission Provider will address the insufficiency by: (i) informing applicable state authorities.



2. Some LSE's and state regulatory commissions may wish to implement Resource Plans which have planning reserve margins in excess of the minimum planning reserve requirement at a higher cost in order to provide a higher level of reliability. Targeted Load Shedding would allow these LSE's and States to preserve the benefit of such resources for their own loads.

3. LSEs have a significant financial incentive to secure sufficient resources to meet their loads during periods when the system is stressed and energy prices are very high so as to avoid even costlier load shedding. The potential for Targeted Load Shedding would provide a significant additional incentive for LSE's to provide as many capacity resources as they possibly can to the energy market during periods when the system is expected to be stressed because doing so would provide greater assurance that their loads would continue to receive service if load shedding were to be necessary.

#### Possible Courses of Action for OMS

The OMS Board could:

1. Determine that Targeted Load Shedding should not be utilized by the Midwest ISO.

2. Determine that it is not feasible for the Midwest ISO to implement Targeted Load Shedding at this time but request that the Midwest ISO provide a report to the OMS in two years on alternatives to pro rata load shedding.

3. Request that the Advisory Committee discuss Targeted Load Shedding at the August meeting but delay a vote until the OMS has an opportunity for additional analysis and discussion of this issue.

4. Request the Midwest ISO to evaluate the inclusion of monetary sanctions for LSEs that violate section **69.1.5 Sustained Commitment** or section **69.3.4 Load and Planning Resource Assessment** of Module E.

# Development of the Real-Time Sufficiency Tool (“RTST”)



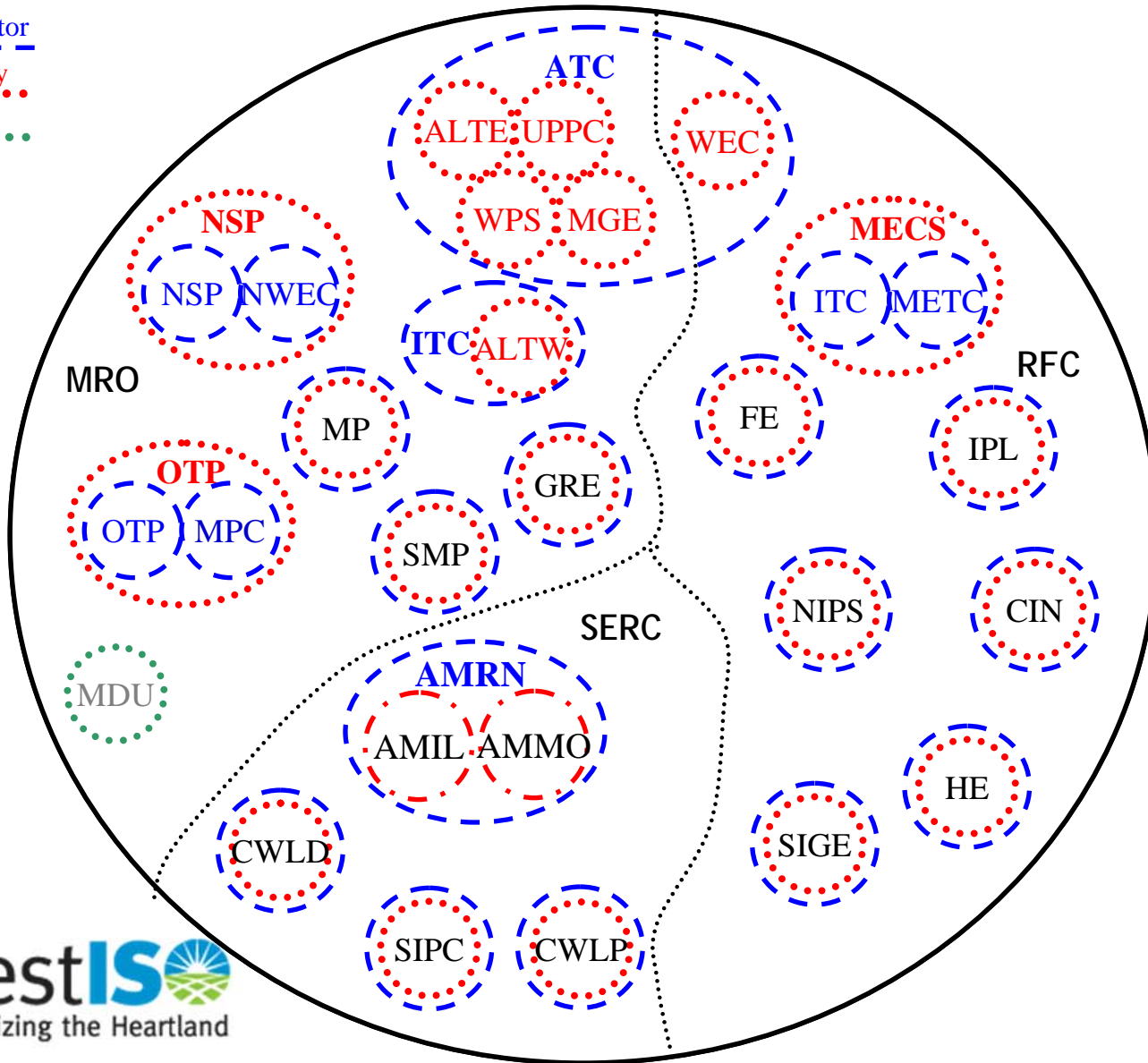
Reliability Subcommittee Presentation to the Advisory Committee  
June 18, 2008

# Real-Time Sufficiency Tool Presentation Scope

- The Balancing Authority - Pre and Post Midwest ISO Market Operations
- Provision of Data for Reliability Assessment and Development of the Real-Time Sufficiency Tool (“RTST”)
- RSC Motion
- RTST Work and Next Steps

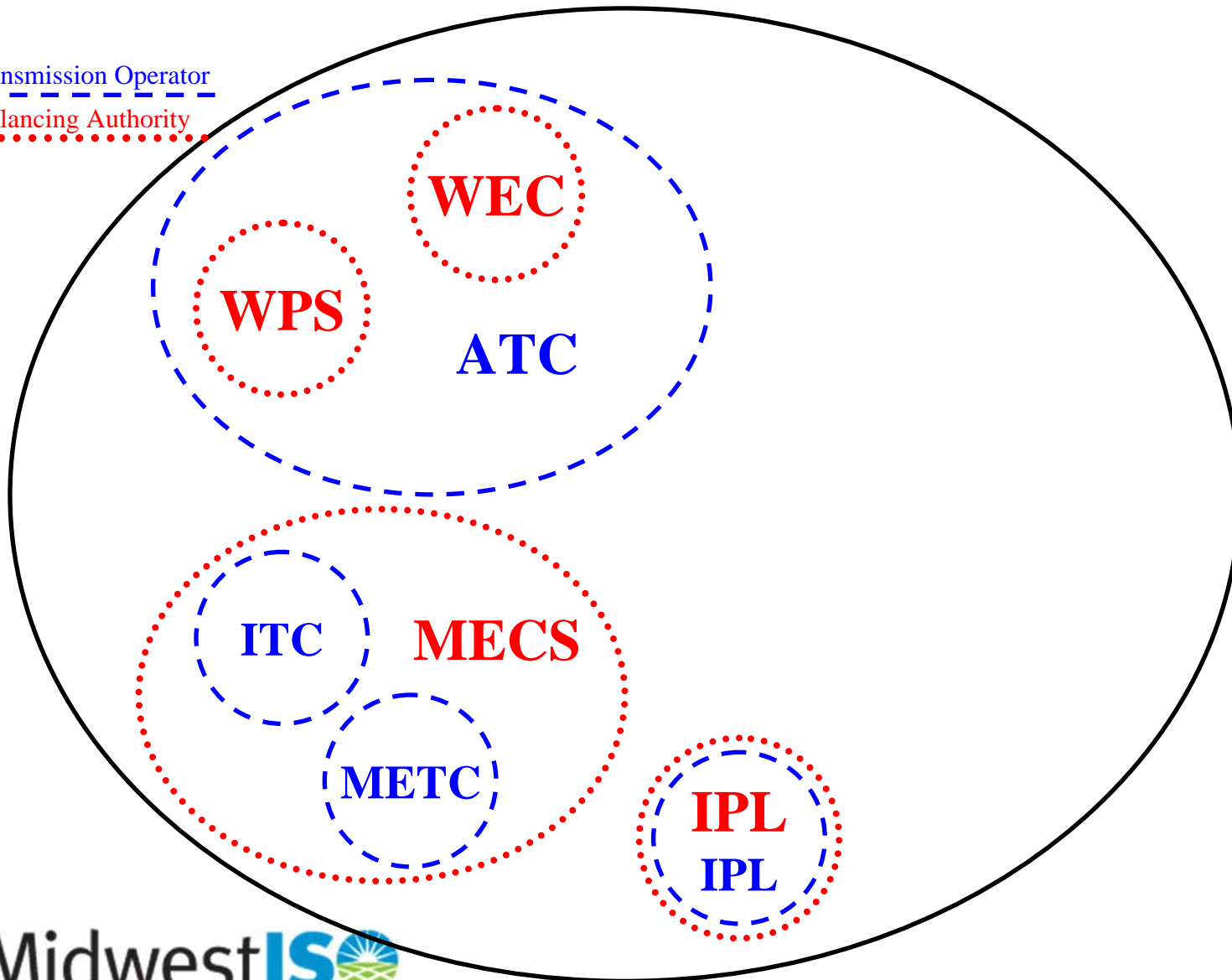
# Midwest ISO Footprint – Market Operations

- Transmission Operator
- Balancing Authority
- Pseudo BA



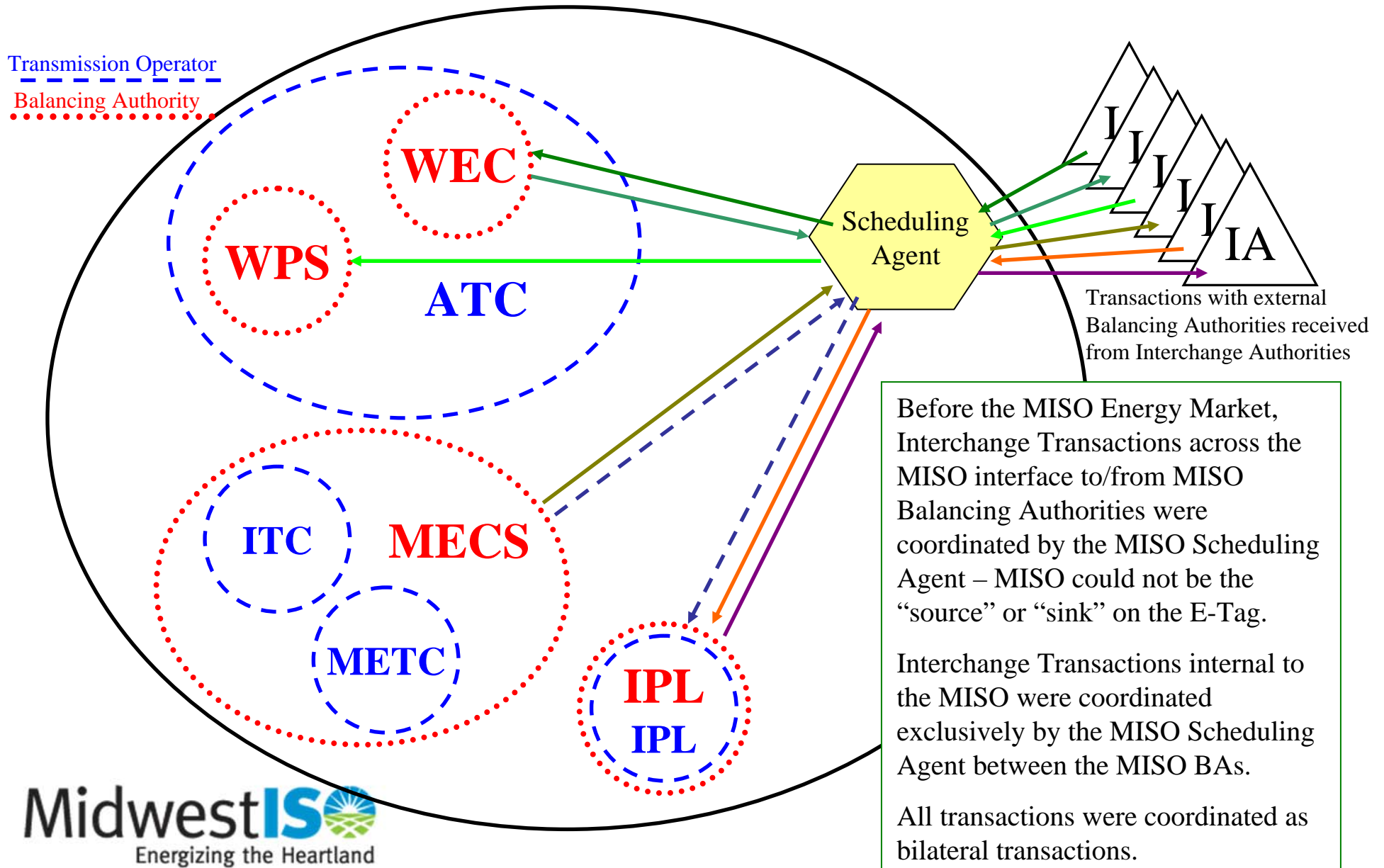
# Subset of Midwest ISO Footprint - Pre-Market\*

Transmission Operator  
Balancing Authority



\* for illustration purposes only, most entities not shown.

# Subset of Midwest ISO Footprint - Pre-Market\*



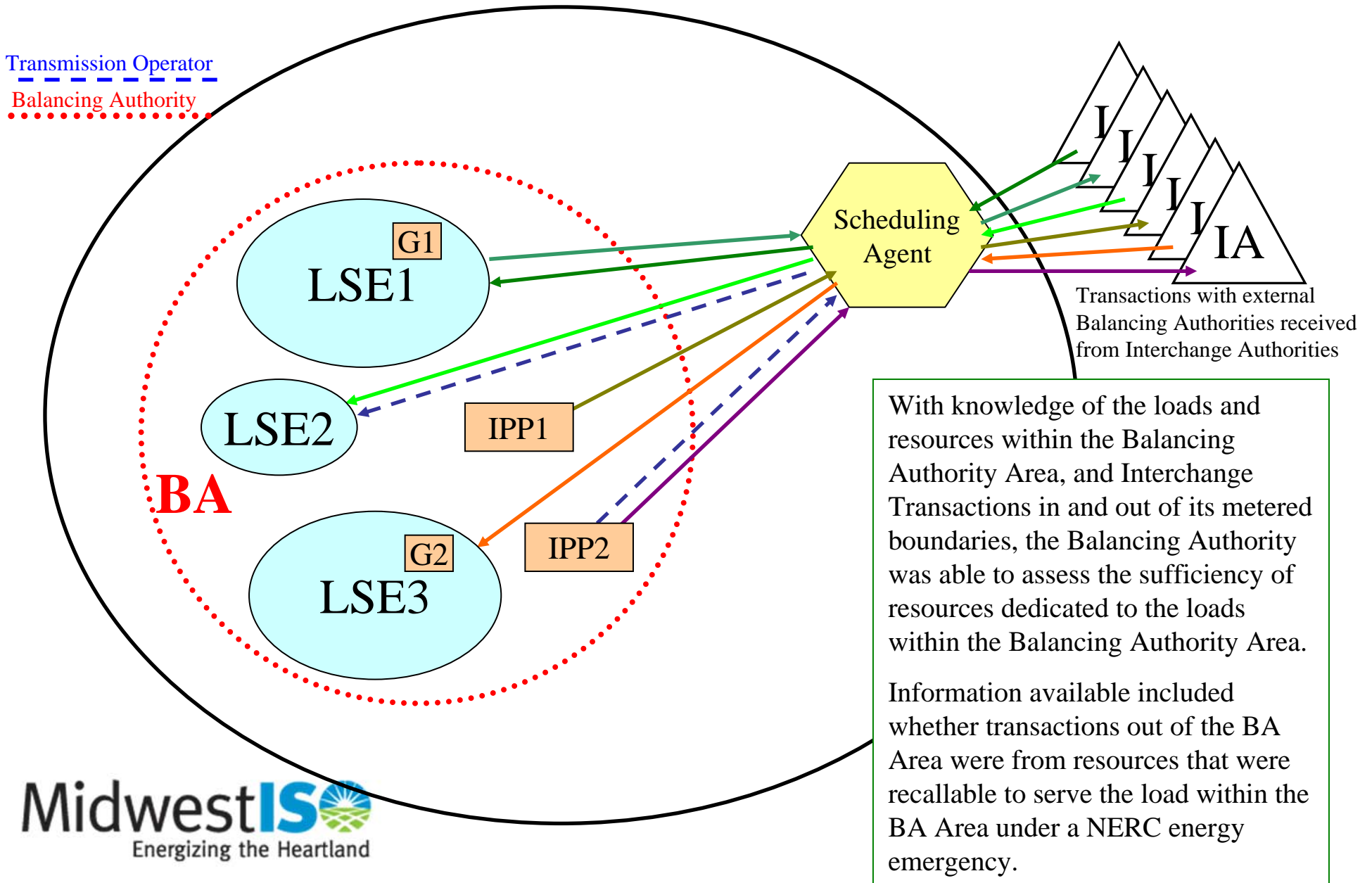
Before the MISO Energy Market, Interchange Transactions across the MISO interface to/from MISO Balancing Authorities were coordinated by the MISO Scheduling Agent – MISO could not be the “source” or “sink” on the E-Tag.

Interchange Transactions internal to the MISO were coordinated exclusively by the MISO Scheduling Agent between the MISO BAs.

All transactions were coordinated as bilateral transactions.

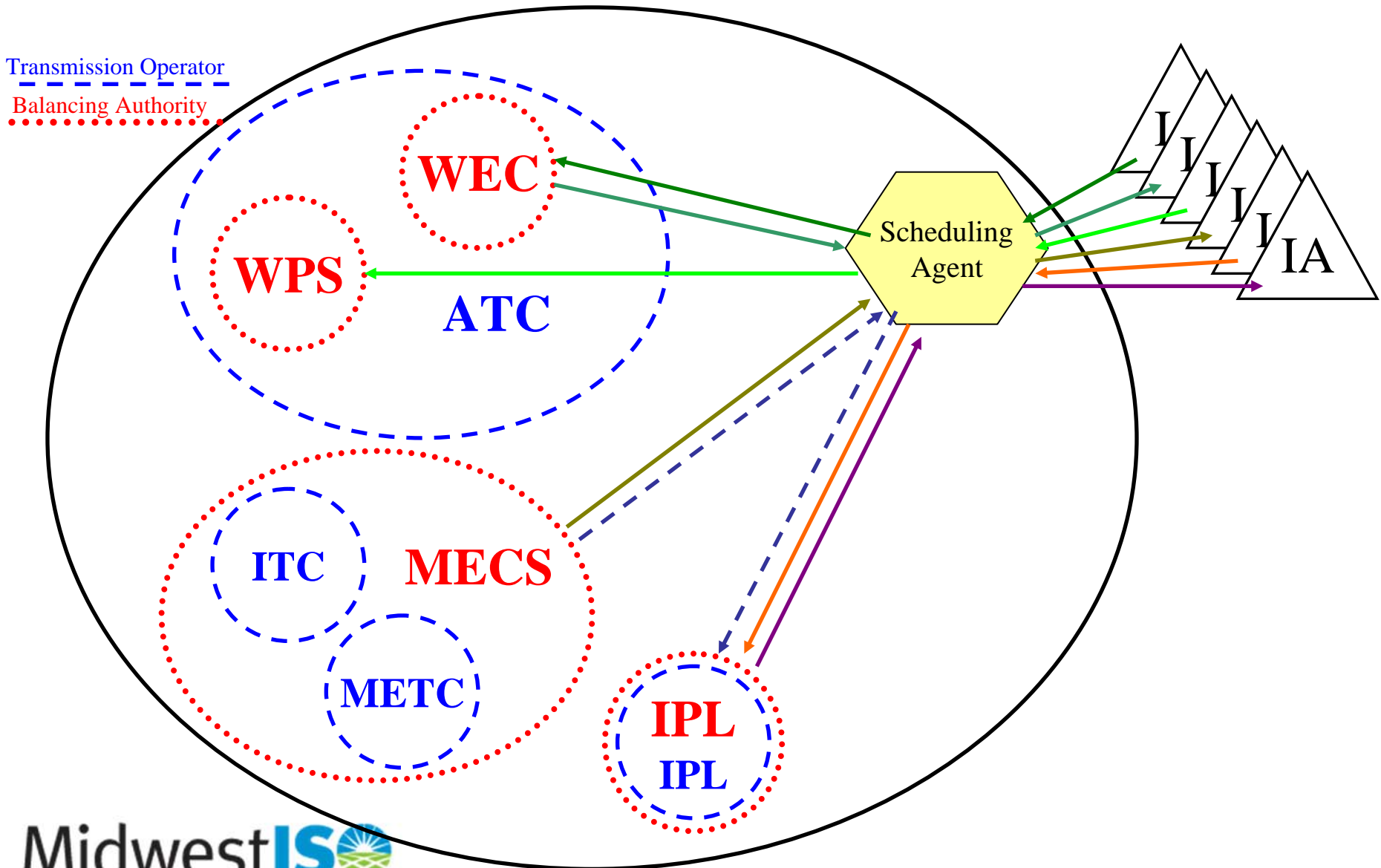
\* for illustration purposes only, most entities not shown.

# Balancing Authority Within Midwest ISO Pre-Market\*



\* for illustration purposes only

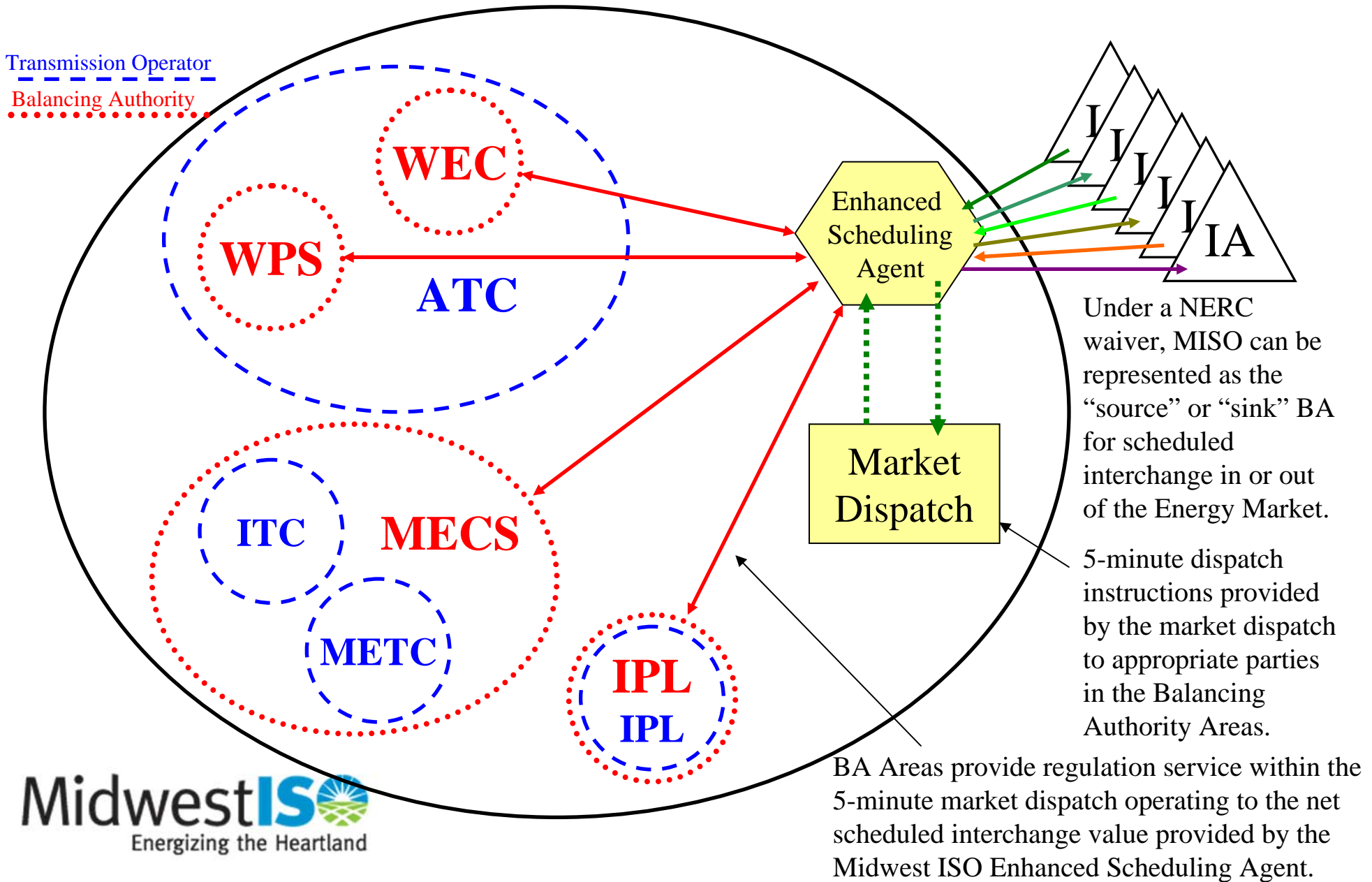
# Subset of Midwest ISO Footprint - Pre-Market\*



\* for illustration purposes only, most entities not shown.

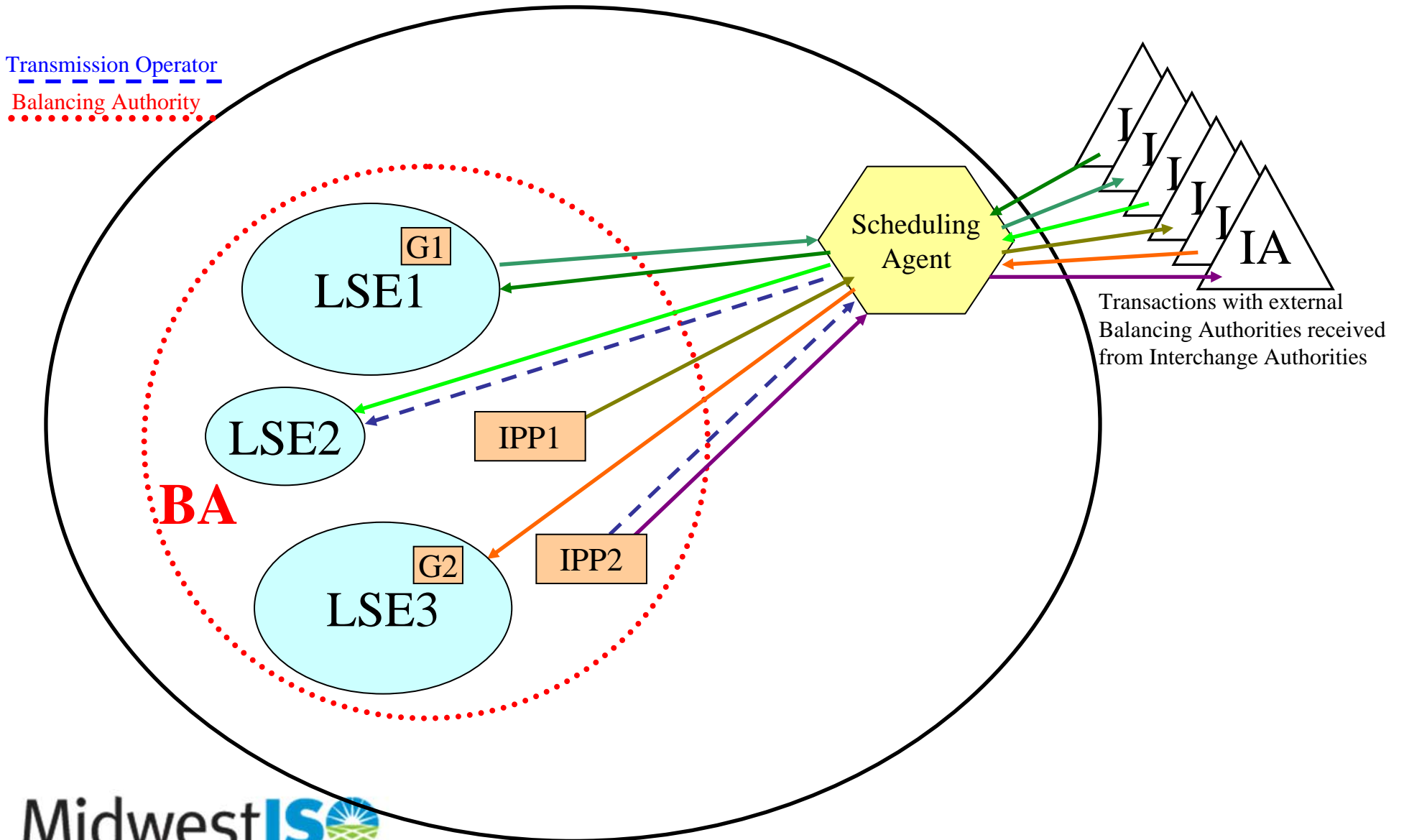


# Subset of Midwest ISO Footprint – Market Operations\*



\* for illustration purposes only, most entities not shown.

# Balancing Authority Within Midwest ISO Pre-Market\*



\* for illustration purposes only



# Provision of Data for Reliability Assessment and Development of the RTST

- **History and Background**

- November 2005 – Advisory Committee endorses the Reliability Subcommittee request:
  - *The Reliability Subcommittee requests the MISO Advisory Committee to approve the additional work required to complete the Day Ahead “Balancing Authority Sufficiency Report” and approve the creation of a similar Real Time “Balancing Authority Sufficiency Report.”*
- February 2006 – MISO Reliability Coordinator issues Directive 67 BA Interim Sufficiency Procedure to gather day-ahead information on load, resources, and operating reserves.

# Provision of Data for Reliability Assessment and Development of the RTST

- **History and Background**

- Summer 2006 – Directive 67 terminated upon implementation of MISO Day-Ahead Sufficiency Report, summarizing data gathered from the Balancing Authorities and certain MISO systems with Market Participant information including PSS and RAC.

- Though some information for the Day-Ahead Sufficiency Report is taken from MISO systems, other information has to be manually entered by the BAs based upon the LSE information gathered in different ways by each BA (spreadsheets, email, etc).

# Provision of Data for Reliability Assessment and Development of the RTST

- **History and Background**

- The Real-Time Sufficiency Tool was developed to gather information for each Balancing Authority Area similar to the Day-Ahead Sufficiency Report, but with the additional flexibility to allow real-time actions by Market Participants to procure additional resources or reduce load to be considered toward the sufficiency of the Balancing Authority Area. Testing was conducted during May and June 2007.

# Provision of Data for Reliability Assessment and Development of the RTST

- **History and Background**

- Summer 2007 - The implementation of the RTST was put on hold due to factors including:
  - Complexity of the BA manually gathering additional real-time information from the LSEs.
  - Communication of unit availability – the structure of some capacity transactions involves the seller offering the capacity in the Day-Ahead market but no requirement to notify the buyer if the resource is not available in real-time.
  - Assurance that capacity is counted only once: BAs coordinating capacity transactions between areas are faced with same complexity in gathering information that drove the development of e-tagging for energy transactions (capacity might be bought/sold/split many times between Market Participants)

# Provision of Data for Reliability Assessment and Development of the RTST

- **History and Background**

- RTST Task Team formed under the RSC to develop the business rules and requirements necessary to successfully implement the RTST.
- Joint discussions include members of the Supply Adequacy Working Group and the Reliability Subcommittee
- Among other areas, stakeholder feedback indicated that a better mechanism was necessary for tracking capacity transactions in order to properly account for resources in the RTST.



# Provision of Data for Reliability Assessment and Development of the RTST

- **History and Background**

- Stakeholders supported the development of one tool for tracking capacity from the planning horizon (Module E) to the operating horizon.
- Draft business rules, functional requirements, frequently-asked questions, open items and a tasks list posted in December 2007 in anticipation of the RTST Task Team making presentations to the RSC in January and the MSC in February.
- Key issues identified included deliverability and communication of unit availability.

# Real-Time Sufficiency Tool

- The RTST will “roll up” the LSE information within each Local Balancing Authority Area to identify “deficient” LBA Areas. An LBA Area is deemed “deficient” when the sum of all LSE resources dedicated to the loads within the LBA Area are not sufficient (due to deliverability, forced outage, or other reasons) in meeting the load of the LBA Area.
- The RSC supports that the RTST would be used during MISO implementation of RTO-EOP-002 for directing deficient LBAs in an affected area to shed firm load prior to moving to pro-rata load shedding in the affected area.

# Real-Time Sufficiency Tool

- Under Midwest ISO RTO-EOP-002, each Local Balancing Authority is responsible for implementation of its manual load shed procedure(s) when directed by the Midwest ISO Reliability Coordinator to shed firm load. Items that may be considered in the load shed procedure may include State regulatory requirements, Interconnection agreements, metering, and the physical capability for load interruption, however ultimately, such procedures must be capable of being implemented in a timely manner to ensure the reliable operation of the bulk electric system.

# Reliability Subcommittee Motion

- January 21, 2008 – the Reliability Subcommittee approved the following Motion:
  - “The Reliability Subcommittee supports the development of the MTAP for capacity tracking and supports the overall concepts and utilization of the Real Time Sufficiency Tool during Midwest ISO implementation of RTO-EOP-002. The Reliability Subcommittee recommends that Midwest ISO proceed with the development of these tools in preparation for implementation by the summer of 2008.”

# RTST Task Team

- Recently the task team meetings have focused on the functional requirements for the capacity tracking tool and identification of items that need consideration in those requirements.
- An issues list was provided to the Supply Adequacy Working Group of items related to the implementation of Module E, capacity allocation after the month-ahead Module E submittal, and demand response, among other items.

# RTST Task Team

- The task team has also reviewed the day-ahead sufficiency report to determine how that report would change as resource-related information can be gathered from the capacity tracking tool – functional requirements must still be developed.
- The RTST Task Team will consolidate the existing documentation on the RTST to a set of business rules and functional requirements for discussion again with the MSC.

# Development of the Real-Time Sufficiency Tool (“RTST”)

## Discussion

Reliability Subcommittee Presentation to the Advisory Committee  
June 18, 2008

## **Response to August 2008 Hot Topic Questions**

**1) How should the Midwest ISO incorporate planning for the generation in the interconnection queue into its long term expansion planning process? Is the Regional Generation Outlet Study, and similar future studies, with its identification of Renewable Energy Zones, sufficient to achieve this goal?**

Response:

- The Regional Generation Outlet Study (RGOS) appears to be a move in the right direction for Midwest ISO to integrate planning for queued generation with its long-term expansion planning process. The RGOS seems to have the appropriate focus and scope to plan concrete transmission projects that could be implemented in time to support state RPS goals. Notwithstanding, it may be premature to say whether the RGOS and similar future studies are sufficient because the RGOS has not been completed and its results have not yet been incorporated into committed projects let alone steel in the ground.
- Regardless of the outcome of the RGOS, Midwest ISO can play an important role by conducting additional system-planning analyses that examine the economic and reliability impacts of large-scale wind integration on the Midwest ISO footprint and sub-regions (e.g., Midwest ISO planning sub-regions or individual states). A considerable amount of this work is being done as part of MTEP 08 and 09, the Joint Coordinated System Plan, and ad hoc studies. Areas for potential future analysis could include:
  - A detailed ancillary services study to assess the level and estimated cost of ancillary services needed under different scenarios of wind generation and transmission configurations; such study could also examine the need for and scope of operational procedures to handle severe weather conditions under different wind scenarios. This type of analysis may be conducted as part of the DOE's eastern interconnection wind integration and transmission study (EWITS).
  - Expansion of the RGOS to other areas to develop incremental transmission improvements that each fit into an overall design.
  - Optimization or cost minimization study to examine trade-offs between quality and location of wind resources and transmission needs. Again, this could be done as part of the DOE's study.
  - Continuation and refinement of studies to determine the operational and economic impacts on thermal units from greater amounts of wind in the Midwest ISO footprint.
- The RGOS effort to identify and implement projects for delivering renewable energy to states with renewable portfolio standards is appropriate in as far as it goes. However, future efforts to address interconnection constraints should be expanded to include the delivery of other cost-effective resources to other areas rather than just deliveries of renewable energy to states with RPS requirements.



We encourage the Midwest ISO to help identify and prioritize outstanding questions for future studies that would provide valuable information to Midwest ISO members and policy makers.

**2) How should the Midwest ISO address the apparent mismatch of supply and demand for resources in the queue? Should some priority be given to other renewables other than wind (solar, biomass, battery/air projects, etc.)? These questions apply to both the apparent oversupply of requests for wind generation as well as the apparent undersupply of interconnection requests for other generation types.**

Response:

An “open season” approach, or regionally planned generation interconnection projects, could help match up supply and demand for renewable resources, particularly wind, and the associated transmission capability. Such approach could reduce barriers to transmission investment, facilitate access to the wholesale electricity market by renewable and other remote resources, and complement state renewable portfolio requirements. But as with many policies, the devil is in the details. It is essential that the risks—which could be significant—not be disproportionately placed on ratepayers, especially in light of the pass-through transmission rates in some jurisdictions and FERC’s policy on abandoned plant recovery.

The Midwest ISO’s open season white paper is one creative approach to address the apparent mismatch of supply and demand for resources in the queue. However, the Midwest ISO should continue to examine ways to quantify additional value drivers and propose other refinements to the attachment FF regional planning process.

If an open season approach is pursued, the Midwest ISO and its stakeholders should explore the following ratepayer protections: 1) a rate impact cap, perhaps one that could be exceeded based on a requisite showing of benefits; 2) an appropriate and binding financial commitment by subscribers of the project; and 3) a relatively high minimum subscription level. If only a fraction of the developers in the queue are serious about following through with their proposed projects, it should not be difficult to reach a high subscription level. This is especially true if a subscription can be transferred or sold, and there are appropriate “out clauses” for participants to address extenuating circumstances.

Regarding the apparent oversupply of wind interconnection requests or undersupply of other generation types, it is important to keep in mind that the queue is not necessarily representative of the new generation that will be built. The queue is one source of information about prospective developments. The queue’s makeup is driven by technology and fuel costs, state RPS policies, cost allocation policies, and other factors. These factors can and do change over time.

The fact that there is little in the way of non-wind renewable projects seeking to interconnect to the Midwest ISO grid reflects the current economics and policy environment.

The Midwest ISO should move forward with its transmission planning based on the best information available about potential resources. At this time, it does not appear that non-wind renewable resources and storage technologies will be significant factors driving the design of the transmission system over the next few years. Nonetheless, the planning effort should recognize the risks from developing large-scale transmission that may not be fully utilized in the event of a technology breakthrough (e.g., grid interactive PHEVs or other storage capabilities).

**3) As renewable development can be attributed in some part to portfolio mandates or goals, how should the Midwest ISO and/or its stakeholders provide information on the true incremental cost impact? Could the publishing of studies regarding these impacts (along with other impacts of renewable portfolio standards) assist developers and regulators and, in turn, minimize and/or optimize future grid development costs?**

Response:

It is important to understand that renewable portfolio standard adoption decisions are largely made through the political process, rather than the regulatory process. Regulatory policy-making is largely associated with implementation of the renewable portfolio policy decisions that were formed through the political process. Nevertheless, reliable and unbiased information about the cost and system operational impacts of renewable policy decisions would be helpful to both political and regulatory policy-makers. As the independent, regional grid operator, the Midwest ISO is in a good position to provide that information.

It is difficult to estimate or determine the true incremental cost impact of renewable development because the costs may vary depending on a number of factors, such as the geographic concentration or distribution of wind generation, the amount of wind generation relative to other sources, technology changes, and the flexibility built into the existing system to handle variations in wind output (i.e., transmission, load or other generation). Nonetheless, the Midwest ISO should strive to provide objective information about direct costs, including transmission upgrade and operating costs (e.g., ancillary services), that can be estimated or determined reliably. Publishing studies regarding the cost impacts of various build-out options would be valuable to policy-makers, and could help minimize or optimize future grid development costs.

While it is important to understand the cost impacts of renewable development, studies should also attempt to identify the additional benefits that may be derived from transmission expansion options.

**4) With respect to the Regional Generation Outlet Study or any other long-term transmission planned to integrate generation, what process or methods should be used to allocate the transmission capacity to queued generation requests (i.e. financial commitment, “milestone payments”, first come first serve, auction, etc.)? Should this process only be offered to queued generators?**

Response:

We assume this question is referring to details of an open season approach. If that approach is chosen, the Midwest ISO, OMS, and stakeholders should fully explore the options and work out such details at that time. Whatever approach is used should be non-discriminatory and equitable to all participants.

**5) Is there a difference between a traditional generation interconnection project and the network upgrades currently required to interconnect generation on a constrained system? If yes, what attributes could be used to differentiate the two types of projects?**

Response:

The existing transmission system was not designed to facilitate the wholesale market and bulk transfers of power across a broad region. The extent of upgrades needed to interconnect a significant amount of new generation and facilitate such transactions reflects this reality. It may be that some general system upgrades are being assigned to generation interconnection projects when perhaps the underlying system needs should be considered during other phases of the transmission expansion planning process. This is a topic for further stakeholder discussions.

**6) Should costs for transmission network upgrades to integrate large amounts of generation be allocated using existing RECB methodologies? If no, what other approach would be fairer?**

Response:

- The existing cost allocation method for generation-driven network upgrades assigns 50% of network upgrade costs to the generator(s) that triggers the need for the upgrade.<sup>1</sup> This may work well for system expansions needed for more traditional generation projects. But it is not geared to handle free riders and may lead to inefficient or suboptimal system expansions when considering the mid- to long-term needs to integrate large amounts of renewable energy across the Midwest ISO system. For whatever reason, this

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<sup>1</sup> ITC and ATC have different cost sharing for network upgrades driven by generation interconnection projects (i.e., 100% reimbursement of generator).

cost allocation policy also appears to be a significant factor driving the churn in the queue.

- Additionally, the remaining 50% of network upgrade costs not assigned to the generator is allocated primarily using the RECB 1 LODF methodology, which assigns most of the costs within the local area where the upgrades are made. This existing approach can inappropriately assign costs to local zones when remote resources are interconnected to serve regional loads.
- And based on modeling to date, it does not appear that many transmission projects to integrate large amounts of remote wind generation would qualify for cost sharing as a baseline reliability or economic (regionally beneficial) project under RECB.

The RECB II approach may be an appropriate starting place for developing a more value-driven cost allocation that better recognizes project benefits. Whatever cost allocation method is used, it is important that participating generators are adequately committed so ratepayers do not bear disproportionate amount of risk associated with large transmission projects. Resolving these cost allocation issues expeditiously may be critical to meeting state renewable standards, as well as the Midwestern Governors Association agreement to meet 30% of electricity from renewable resources by 2030.

**7) What are the primary seams issues that should be addressed to help alleviate delays in getting additional generation interconnected?**

Response:

Cost allocation between RTOs and between RTOs and non-RTO neighboring utilities should be addressed. Also, states within the Midwest ISO are positioned differently in terms of wind, load, and transmission attributes. Some end users may not benefit from production cost and congestion cost savings in a manner comparable to what they will pay for increased transmission. Perhaps a better accounting for benefits that flow outside of the Midwest ISO footprint would help FERC to better allocate costs outside the footprint.

**8) What other actions should the Midwest ISO take to reduce backlogs and delays in the Interconnection Queue?**

Response:

As discussed above, the Midwest ISO should further explore an open season approach, as well as additional value drivers and other refinements to its attachment FF regional planning process. The Midwest ISO is moving in the right direction to identify projects through the RGOS, at least for states with existing renewable portfolio standards. The Midwest ISO needs to continue to address cost allocation, subscription, and other issues.