

**ORGANIZATION OF MISO STATES, INC.  
ANNUAL MEETING MINUTES  
December 13, 2007**

**NOTES**

**Remarks from** Shelton Cannon, Director, Office of Energy Markets Regulation at FERC **preceded the business portion of the OMS Annual Meeting.** Following these remarks, Mr. Cannon answered questions from OMS board members

**David Patton**, the MISO Market Monitor, reported on the state of the market. A question and answer session with board members followed his report. His presentation follows these minutes.

**Graham Edwards**, Chair of Midwest ISO Board of Directors extended a welcome to the OMS participants and observers at the OMS Annual Meeting.

Chairman John Norris, President of the Organization of MISO States, Inc. (OMS), called the 2007 Annual Meeting of the OMS to order in Carmel, IN at approximately 11:00 a.m. (EST) The following commissioners were present for the meeting:

Bob Lieberman, Illinois (participated by phone)  
Greg Server, Indiana  
John Norris, Iowa  
Jeff Johnson, proxy for Mark David Goss, Kentucky  
Steve Transeth, proxy for Monica Martinez Michigan  
Burl Haar, proxy for Tom Pugh, Minnesota  
Greg Jergeson, Montana (participated by phone)  
Susan Wefald, North Dakota  
Valerie Lemmie, Ohio  
Kim Pizzingrilli, Pennsylvania (participated by phone)  
Gary Hanson, South Dakota (participated by phone)  
Dan Ebert, Wisconsin

Manitoba absent  
Missouri absent  
Nebraska absent

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

Other parties were also present at the Annual Meeting. (list follows minutes)

**Approval of the Minutes from the November 8 Board Meeting – Dan Ebert**  
Valerie Lemmie moved approval of the minutes from the November 8 Board meeting. Dan Ebert seconded. The minutes were approved by unanimous voice vote.

**Treasurer's Report** – Greg Jergeson/Bryan Baldwin

The beginning balance as of November 1 for the Wells Fargo Business Performance Savings Account was \$58,066.82. Interest earned for this month was \$116.37. The November 30, 2007 balance was \$58,183.19.

The beginning balance as of November 1 for the Chase Bank One Checking account was \$96,634.99. The total disbursements from the checking account for November 2007 were \$30,597.41. Deposits, interest and adjustments were \$40,045.16. As of November 30, 2007, the checking account bank balance was \$108,902.97 and the book balance was \$106,082.74 (with 9 checks outstanding).

The total savings and checking account balances as of November 30, 2007 is \$164,265.93.

**Bryan Baldwin moved acceptance of the treasurer's report. Valerie Lemmie seconded. The treasurer's report was accepted by unanimous voice vote.**

**BUSINESS**

**1. Nominating Committee Report and Election of Officers** – Susan Wefald and Tom Pugh

The nominating committee presented the following individuals as officers for 2008:

President	John Norris	Iowa
Vice-President	Dan Ebert	Wisconsin
Secretary	Valerie Lemmie	Ohio
Treasurer	Gary Hanson	South Dakota
At-Large	Monica Martinez	Michigan

Susan Wefald moved to cast a unanimous ballot for the slate of officers presented by the nominating committee. Kim Pizzingrilli seconded. The motion was approved by unanimous voice vote.

**2. Summary of OMS Accomplishments in 2007** – John Norris

John Norris gave an overview of the OMS accomplishments. The formal presentation document follows the minutes.

**3a. Adopt Banking Resolution on Approval of 2008 OMS Officers**

Bill Smith explained the purpose of the banking resolution, which authorizes the OMS President, Treasurer and Executive Director to be signatories on the Chase Checking and Wells Fargo Savings accounts.

**Valerie Lemmie moved to approve the resolution. Greg Server seconded. The motion was approved by unanimous voice vote.**

**3b. Approval of the 2008 OMS Meeting Calendar**

The preliminary 2008 OMS Meeting calendar was presented. Three items were noted for consideration: meetings times moving to 1:00 pm Central time from 2:00 pm Central time; determining if there is a need for a June meeting as it would fall during MARC; moving the Annual Meeting to October. It was agreed that board members would email comments regarding these items to Bill Smith and that final approval of the calendar would occur at a later meeting.

**4. Protest of RSG Filing – Bill Bokram**

Bill Bokram gave an overview of the protest. The Board discussed what the costs of RSG would be.

Dan Ebert moved approval of the comments. Bob Lieberman seconded.

Illinois – yes  
Indiana – abstain  
Iowa – yes  
Kentucky – yes  
Manitoba – absent  
Michigan – yes  
Minnesota – yes  
Missouri – absent  
Montana – yes  
Nebraska – absent  
North Dakota – abstain  
Ohio – yes  
Pennsylvania – absent  
South Dakota – absent  
Wisconsin - yes

Yes – 8, Abstain – 2, Absent – 5

**5. Comment on FERC on Market Power**

Randel Pilo presented the comment document and the Board discussed it.

Valerie Lemmie moved to approve the document. Burl Haar seconded.

Illinois – yes  
Indiana – yes  
Iowa – yes  
Kentucky – yes  
Manitoba – absent  
Michigan – yes  
Minnesota – yes  
Missouri – absent  
Montana – abstain  
Nebraska – absent  
North Dakota – yes  
Ohio – yes  
Pennsylvania – absent  
South Dakota – absent  
Wisconsin - yes

Yes – 9, Abstain – 1, Absent – 5

**6. Resource Adequacy/Tariff/Module E Update – Susan Wefald**

Susan Wefald gave an update on the preamble language OMS is coordinating with MISO.

**Administrative Report**

Bill Smith gave the administrative update.

**Announcements**

- OMS Executive Committee Transition Meeting – December 18, 2007, at 2:00 pm CST
- Please send in expense vouchers for this meeting by January 11, 2008.

## **OMS 2007 Annual Meeting Attendees**

State Commissions or Agencies:

**Illinois** – Nora Naughton, Commissioner Bob Lieberman\*, Sean Brady\*, Christine Ericson\*

**Indiana** - Commissioner Greg Server, Commissioner David Zeigler, Bob Pauley, Laura Cvengros, Robert Mork - OUCC

**Iowa** – Chairman John Norris, Parveen Baig, Frank Bodine, Jeff Kaman

**Kentucky** – Jeff Johnson, Jorge Valladares

**Michigan** – Chairman Orjiakor Isiogu, Commissioner Steven Transeth, Bill Bokram, Angie Butcher

**Minnesota** – Burl Haar

**Missouri** - Greg Meyer

**Montana** – Chairman Greg Jergeson\*, Bryan Baldwin

**North Dakota** – Commissioner Susan Wefald, Jerry Lein

**Ohio** - Commissioner Valerie Lemmie, Quanetta Batts, Hisham Choueiki, Jan Karlak,

**Pennsylvania** - Kim Pizzigrilli\*

**South Dakota** - Heather Forney

**Wisconsin** – Chairperson Dan Ebert, John Feit, Don Neumeyer, Randy Pilo, James Wottreng

**Manitoba** - Absent

**Nebraska** - Absent

### **Presenters:**

Shelton Cannon - FERC

Graham Edwards - MISO

David Patton - Potomac Economics

Jeff Webb - MISO

### **Others Present:**

Brett Kruse - Calpine

Chris Hajovsky - Constellation

Steve Gaarde, M. Bryan Little - Consumers Energy

Paul Jett - Duke Energy

Tara Ormond - EPSC

Patrick Clarey, Jeff Hitchings, Robert Ivanauskas, Christopher Miller - FERC

Bert Garvin, Richard Seide - FPL Energy

Joanne Borrell - First Energy

Purvi Patel, Randy Gross, Francie Brown - ITC Holdings

Keith Beall, Paul Feldman, David Hadley, Bill Malcolm, Eugene Zeltmann - MISO

Richard Mathias - PJM Interconnection

Steve Kirk, Marka Shaw - Reliant Energy

Ron Carrier - Strategic Energy LLC

David Svanda - Svanda Consulting

Ann Scott - Tenaska

Mark Wehlage - Xcel Energy

Julie Mitchell, Bill Smith, OMS Staff

*\*participated by phone*

## OMS

Organization of MISO States  
Report of the Treasurer  
Greg Jergeson, Montana Public Service Commission to  
the  
Board of Directors  
December 13, 2007  
Report for November 2007

### CASH ON HAND

The beginning balance as of November 1 for the Wells Fargo Business Performance Savings Account was \$58,066.82. Interest earned for this month was \$116.37. The November 30, 2007 balance was \$58,183.19.

The beginning balance as of November 1 for the Chase Bank One Checking account was \$96,634.99. The total disbursements from the checking account for November 2007 were \$30,597.41. Deposits, interest and adjustments were \$40,045.16. As of November 30, 2007, the checking account bank balance was \$108,902.97 and the book balance was \$106,082.74 (with 9 checks outstanding).

The total savings and checking account balances as of November 30, 2007 is **\$164,265.93**.



TREASURER'S REPORT  
Organization of MISO States  
November 30, 2007

Wells Fargo Business Performance Savings Account

Balance as of 11/1/07			\$	58,066.82
11/30/07	DEP	Interest on Savings	\$	116.37
				<hr/>
Business Performance Savings Account Balance at 11/30/07			\$	<u>58,183.19</u>

Chase Bank One Commercial Checking with Interest

Balance as of 11/1/07			\$	96,634.99
	DEP	MISO Remittance	\$	40,000.00
	DEP	Interest on Checking	\$	45.16
				<hr/>
		Total Deposits	\$	40,045.16

Checks and Charges

Date	Check #	Descriptions		
11/13/2007	W/D	Paychex Fee	\$	122.85
11/15/2007	2491	MO Office of Public Counsel travel to MWDR1	\$	319.20
11/15/2007	2492	ED Travel to Joint RSC Meeting, Pittsburgh, PA	\$	12.85
11/16/2007	2493	DWX Internet	\$	65.00
11/16/2007	2494	InterCall	\$	4,980.07
11/16/2007	2495	Qwest	\$	241.70
11/16/2007	2496	Chase Credit Card Services	\$	5,872.19
11/16/2007	2497	Infomax Office Systems	\$	172.31
11/16/2007	2498	Ryun, Givens, and Wenthe	\$	677.00
11/20/2007	2499	MI Travel to RTST and RSG TF Meeting	\$	447.40
11/20/2007	2500	IA Consumer Counsel Travel Advance--AC/BoD	\$	280.10
11/29/2007	2501	ED Travel to NARUC and MGA	\$	107.62
11/29/2007	2502	IL Travel to Resource Adequacy Meeting	\$	197.67
11/29/07	2503	IA Travel to Demand Response WG Meeting	\$	670.41
11/29/2007	2504	IA Travel to Resource Adequacy Meeting	\$	560.80
11/29/2007	2505	ND Travel to Resource Adequacy Meeting	\$	741.60
11/29/07	2506	ND Travel to Resource Adequacy Meeting	\$	136.08
10/31/07	W/D	Paychex, Payroll	\$	9,941.63
10/31/07	W/D	Paychex, Taxes	\$	5,050.93
Total Checks and Charges				<hr/>
				\$ 30,597.41
CHECKING ACCOUNT BALANCE 11/30/07				<hr/>
				\$ <u>106,082.74</u>

**CHASE CHECKING ACCOUNT RECONCILIATION**

	<u>Check #</u>	<u>Amount</u>
Bank Balance 11/30/07		\$ 108,902.97
Less Checks OS	2468	\$ 74.00
	2491	\$ 319.20
	2492	\$ 12.85
	2501	\$ 107.62
	2502	\$ 197.67
	2503	\$ 670.41
	2504	\$ 560.80
	2505	\$ 741.60
	2506	\$ 136.08
Book Balance 11/30/07		<u>\$ 106,082.74</u>

**CHASE OMS VISA PURCHASES**

ED	Travel to Boston and Carmel for FERC TC and Advisory Committee	1695.68
ED	Travel to Washington DC	694
OH	OH Travel to FERC TC	904.8
ED	Travel to Bismarck for OMS Presentation	769.6
ED	Travel to Pittsburgh for FERC TC	463.59
ED	Airfare Change Fee	100
ED	Travel to NARUC in Anaheim and Resource Adequacy Meeting in Milwaukee	544.39
ED	Travel to OMS Annual Meeting	611.2
OM	Office Max	82.65
OM	Stamps	6.28
	Total VISA Purchases	5872.19

## OMS Work Projects for 2007

Major Work projects included transmission pricing, resource adequacy, transmission planning, analysis of market costs and benefits, demand response, and the ancillary services market. Significant work was done on several other topics as well. OMS submitted four position papers to MISO and thirteen substantive pleadings to FERC and the Department of Energy (as of December 9, 2007). In addition, several staff level comments were provided to MISO staff.

### **Transmission Pricing**

- As the year began, OMS had just commented on the issues raised in the Regional Expansion Criteria and Benefits Task Force. On March 15, the FERC ruled on the Midwest ISO's proposed regional cost allocations. Leading up to the August 1 date for filing proposals for post-transition pricing of regional transmission services, the OMS and other sectors continued to wrestle with these issues. Four competing filings were made. On September 17, the OMS filed a statement of position on the post-transition pricing proposals. The OMS also responded to the post-transition pricing proposal of the American Electric Power Company.

### **Resource Adequacy**

- The Midwest ISO was under FERC direction to complete a resource adequacy plan by the end of 2007. To that end, the OMS Resource Adequacy Work Group led OMS board members and staff through a detailed consideration of legal and technical issues related to the assurance of future resources, continuing its work of prior years. The OMS group met regularly with the corresponding MISO group to assure continuous interaction with other sectors and with MISO staff. In addition, several discussions were held with FERC staff to explore the roles of state and federal regulation in this area.
- The OMS adopted principles on resource adequacy in May. Earlier OMS policy statements emphasized the special responsibility of state regulation with respect to resource adequacy under the Power Act and the Energy Policy Act of 2005.
- These efforts resulted in a Module E draft provided to MISO work groups in November. This work also provided a basis for OMS response to other proposals for the MISO's eventual filing, still expected at the end of December.



### **Transmission Rights and Transmission Planning**

- In January, the MISO filed its long-term transmission rights proposal as directed by the FERC. The OMS commented on the filing in March and April.
- In February, the FERC issued Order No. 890, an overhaul of its open-access transmission rules. For RTO markets, the most significant section of the order involved regional planning requirements and establishing nine planning principles. The OMS participated in FERC technical conferences and MISO discussions relating to MISO's response to the order, which was finally filed in December.
- Early in the year, the Midwest ISO has recognized shortcomings in its Interconnection Study Queue process. The OMS Transmission Planning and Siting Work Group has participated in a series of discussions and brainstorming sessions with other sectors to find improvements. OMS President Norris appeared at a FERC technical conference on the issue in December.
- The Transmission Planning and Siting Work Group has participated in sessions on the implementation of MTEP-07 and the formulation of criteria for MTEP-08.
- The OMS also began participating in the Joint Coordinated System Plan, a multi-regional planning project by MISO, PJM, SPP and TVA.

### **MISO Cost and Benefit Analysis**

- In 2006, the Midwest ISO asked ICF Consulting to study the costs and the benefits of the MISO energy market. The OMS formed a small group to discuss issues relating to the study with ICF and MISO. In February 2007, the study results were released. In April, the OMS commented to MISO on the ICF Study. The Midwest ISO released additional results of the ICF study in April, extending the findings for five more months. The OMS group held technical conversations with MISO and with ICF analysts, resulting in a final OMS report on this project in July.
- This group was redesignated as the OMS Modeling Work Group and began to consider two future projects: Ancillary Services Market pre- and post-date for benefits comparison, and MISO's study of non-tangible benefits being conducted by KEMA Consulting.

### **Midwest Demand Resources Initiative**

- The OMS, with cooperation of the Department of Energy and the Midwest ISO, formed the Midwest Demand Resources Initiative (MWDRI), with an initial meeting in February. Its Steering Committee met three times during the year. It has formed a Program Design Subgroup which has met three times.

- Its work has included a survey of utility demand response programs, released to state commissions in July for distribution to individual utilities. Responses were received through October and are being analyzed by the DOE's Lawrence Berkeley National Laboratory.
- The MWDR1 also proposed principles on demand resources that were adopted by the OMS Board in November.
- The MWDR1 effort has also assisted in fitting demand resources into the MISO's resource adequacy provisions as they were developed for the Module E filing in December.

### **Ancillary Services Market**

- The OMS filed substantive pleadings to the FERC on the ancillary services market in response to the MISO's February and September filings. The OMS asked the FERC to clarify its June order. As the design of the ASM market went forward, the MISO conducted extensive briefings for state commissions, including three regional workshops in Columbus, Madison and St. Paul. The OMS also participated in a FERC technical conference related to market power in the ASM market.

### **National Interest Corridors FERC and DOE Siting**

- The OMS participated in workshops and briefings on the Department of Energy's process on designation of corridors and on FERC's proposed rules on applications for siting permits for interstate electric transmission facilities. After the announcement of draft designations on April 26, the OMS filed a comment on July 6 with the Department of Energy. Final designations were announced October 2, considering but not accepting these comments.

### **Revenue Support Guarantees**

- The Midwest ISO and its stakeholders have been addressing RSG issues on two tracks. One effort is aimed at a fundamental reform of this aspect of the energy market, leading to a white paper in December that will inform further work in 2008.
- Notwithstanding the forward-looking redesign work, market participants have conducted FERC litigation of past RSG charges. The OMS has observed this litigation and may protest the December compliance filing.

### **Market Monitoring**

- In March, the OMS commented on the MISO's tariff revisions to conform the market monitoring provisions with the FERC's policy statement. In April, the OMS filed supplementary comments following a FERC technical conference. The OMS office facilitated a filing of Additional Comments on behalf of six member states.

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- In August, after discussion with the Independent Market Monitor, the OMS commented in support of a MISO filing to extend Broad Constrained Area mitigation measures without the need for annual renewal. The FERC granted that extension, recognizing the OMS position.

### **MISO Management Issues**

- At the Midwest ISO Stakeholder Meeting in April, Commissioners Norris, Wefald and Chappelle discussed the Midwest ISO's strategic direction for the next 5 to 7 years.
- The OMS Long-Term Development and Governance Work Group submitted staff observations to the MISO on strategic issues, rankings for the 2008 MISO capital budget, and the MISO Incentive Goals and Metrics Plan for 2008.

### **FERC Technical Conferences**

- The OMS participated in six technical conferences this year.
- Commissioner Chappelle presented OMS position on policies regarding market monitoring in April.
- Chairman Ebert appeared at a technical conference on demand response in April.
- Commissioner Lieberman spoke on demand response in an organized market at a technical conference in May.
- OMS staff attended a staff technical conference in October, related to reliability registration of load serving entities.
- Also in October, OMS staff participated in a technical conference on Order 890 compliance filings.
- The OMS participated in a technical conference December 6 discussing Market power and mitigation in the ASM market.
- The FERC invited the OMS to speak at a technical conference in December to examine Generation Interconnection Queue Practices.

### **FERC Rulemaking on Improved Operation of Organized Markets**

- In June, the FERC issued an Advanced Notice of Proposed Rulemaking relating to improved operation of organized markets. Several OMS work groups cooperated in preparing a draft comment on shortage pricing, bilateral contracting, market monitoring, and stakeholder communications filed in September.

### **Hot Topics and Advice to MISO**

- Chairman Ebert presented OMS comments on Joint and Common Market development to the Midwest ISO Board on March 14.

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- Pricing Work Group Chair Randy Rismiller presented OMS comments on the "free rider" issue at the August Advisory Committee meeting.
- The OMS presented comments on energy efficiency and demand response at the December Advisory Committee meeting.

### **RTO 101**

- John Chandley presented the RTO 101 program to at least four states this year.

### **Membership**

- Several OMS board members and former board members ended their state commission service since the last OMS Annual Meeting. Commissioners Nickolai, Hadley, Jones, Chappelle, Wright, Gaw, Munns, and Garvin have been replaced but not forgotten. These outgoing commissioners include a majority of the founding directors of OMS.
- Several key staff members have also moved to other work: David Sapper (Wisconsin), Kim Joyce (Pennsylvania), Candace Beery (Montana) and A.W. Turner (Kentucky). We appreciate their work on behalf of all our states and wish them well in their new endeavors.
- The Illinois Citizens Utility Board has become an associate member of the OMS.

### **Public Relations**

- Past President Gaw reported to the MARC commissioners January meeting on OMS accomplishments during 2006.
- Commissioners Chappelle, Wefald, and Lieberman participated in the Electricity Delivery Forum held in Washington in February.
- Bill Smith made a presentation to the Generation Summit, February 26, 2006 on the future of RTOs.
- Commissioner Gaw, former Commissioner Garvin and Bill Smith spoke on regional issues to The Energy Bar Association Midwest Conference in St. Louis on March 7.
- During Gridweek in April, several OMS commissioners appeared on panels. Chairman Ebert appeared at the FERC technical conference on demand response. Chairman Norris spoke to the Demand Response Town Hall. Commissioner Gaw gave a presentation to the Gridweek general session.
- Commissioner Lieberman testified on May 3 to the US House Subcommittee on Energy and Air Quality hearings on smart grid development.

September 30, 2008

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- Commissioners Wefald, Ebert, and Server, along with Ken Nickolai and Kim Wissman, spoke at a joint Reliability First / Midwest Reliability Organization conference on resource adequacy on May 10.
- Bill Smith and Jerry Lein spoke on the priorities and work activities of the OMS to the Upper Great Plains Transmission Coalition on October 22 in Bismarck.
- An article outlining the development and current work of the OMS, authored by Bill Smith, appeared in the Spring 2007 issue of the Energy Law Journal.

### OMS Banking Resolution

Resolved, pursuant to Article X, Section 4 of its bylaws, the Organization of MISO States Board of Directors and its Executive Committee do hereby grant authority to

- Gary Hanson, Commissioner of the South Dakota Public Utilities Commission and Treasurer of the Organization of MISO States, Inc.
- John Norris, Chairman of the Iowa Utilities Board and President of the Organization of MISO States, Inc. or
- William H. Smith, Jr., Executive Director of the Organization of MISO States, Inc.

to sign all contracts, checks and orders for the payment, receipt or deposit of money on behalf of the Organization of MISO States, Inc. and to further access all securities of the Organization.



## Organization of MISO States

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### **OMS Executive Director Report December 7, 2007**

#### **FERC and DOE Activity**

1. The OMS participated in a technical conference December 6 discussing Market power and mitigation in the ASM market. No transcript was made of the conference. Comments are due December 20. Reply comments are due January 11.
2. A technical conference is scheduled in Washington on December 11. FERC has requested nominations for speakers at the technical conference by November 15.
3. MISO made a compliance filing on RSG issues on December 5. The OMS Markets Work Group has recommended that OMS protest the filing.

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

1. The OMS Resource Adequacy Work Group and the Board have worked diligently to prepare OMS recommendations on Module E, which MISO plans to file December 28. Primary meetings were as follows:
  - November 15 – Commissioner discussion of resource adequacy issues (Milwaukee).
  - November 20 – Final Resource Adequacy review of Module E amendments – Webcast for commissioners.
  - November 27 – Special OMS Board meeting on resource Adequacy (Module E amendments).
  - December 4 and 5 – MISO Market Subcommittee worked through Module E, accepting many OMS positions and rejecting two significant ones.
  - December 12 – the Advisory Committee will consider the Module E as reported by the Market Subcommittee.
2. The OMS Board adopted principles on demand resources at its November 8 meeting.
3. The Joint Coordinated System Plan will hold three scoping meetings during December and January. The initial meeting, November 1, provided

a roadmap for the joint planning project and indicated ways stakeholders can participate.

4. On December 7, the Long-Term Development and Governance Working Group provided staff comments to the Midwest ISO on the MISO Incentive Goals and Metrics Plan for 2008.
5. The Nominating Committee completed its work and reported to the November 8 Board Meeting.

**Public Relations**

1. Presentations:
  - None
2. Pending speaking/meeting invitations:
  - None

**Upcoming MISO Filings of Regional Interest**

<b>Filing Date</b>	<b>Docket No.</b>	<b>Description</b>	<b>Pursuant to Commission Order</b>
12/7/2007	OA08-____	The Midwest ISO to submit its § 206 compliance filing pursuant to Order No. 890 containing non-rate terms and conditions (or a demonstration that previously approved variations continue to be “consistent with or superior to” the revised pro forma OATT).	Order No. 890 at ¶¶ 157, 161
December 2007	ER07-550	The Midwest ISO to submit a permanent Resource Adequacy plan.	119 FERC ¶ 61,311 (2007)
Late December 2007	ER08-____	Membership expansion filing	
First Quarter 2008	ER08-____	The Midwest ISO to submit proposed revisions to the EMT pursuant to Section 205 concerning the redesign of the Midwest ISO’s cost recovery adders.	

**Other upcoming dates:**

- December 12 – Advisory Committee and OMS Recognition Dinner
- December 13 – OMS Annual Meeting
- December 18 – OMS Executive Committee
- January 10 – OMS Board Meeting





# IMM Report to the Organization of MISO States

Presented to:

Organization of MISO States  
Annual Meeting

David B. Patton, Ph.D.  
Independent Market Monitor

December 13, 2007



## Introduction and Summary

- This presentation provides an overview of recent market trends in the Midwest ISO and important market developments.
- Overall, energy prices in 2007 have been competitive
  - ✓ Fluctuations generally attributable to underlying fundamentals – changes in loads, fuel prices, availability of imports, and transmission/generation outages.
  - ✓ Our real-time market monitoring and investigations have not uncovered evidence of substantial withholding or anticompetitive conduct.
- The Midwest ISO has made a number of improvements in its operation of the markets since they were implemented in 2005.
- However, important market improvements are underway that should further improve the performance of the markets, including:
  - ✓ Implementation of the ancillary services markets.
  - ✓ Improvement of the resource adequacy provisions.
  - ✓ Improvements in the price setting and constraint modeling provisions in the energy markets.





## Midwest ISO Energy Prices

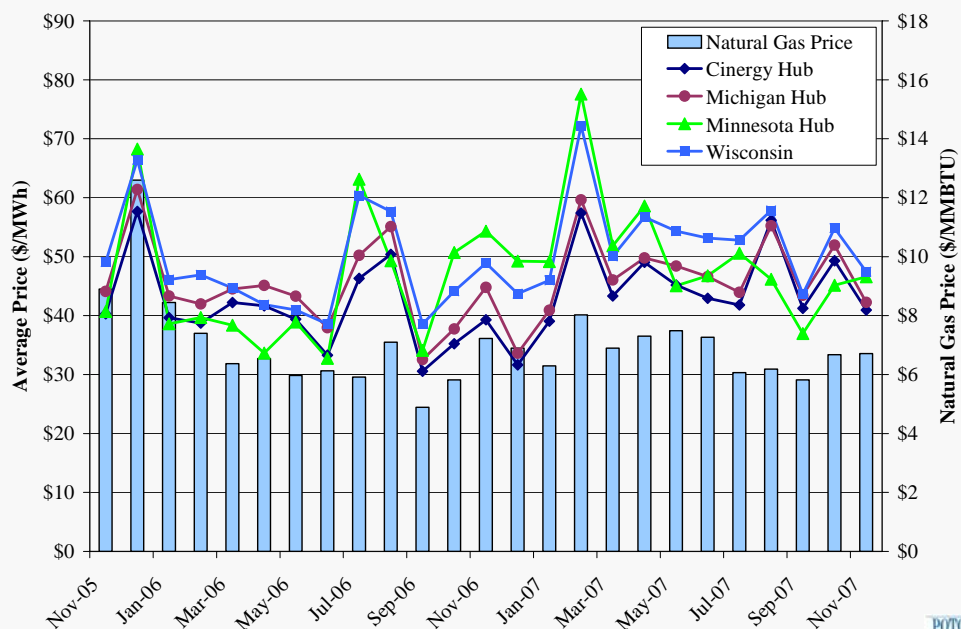
- The following figure shows the monthly average real-time energy prices for four locations in the Midwest from November 2005 to November 2007.
  - ✓ The figure also shows average natural gas prices at the Chicago Citygate because natural gas generators set price in a significant share of hours.
- The figure shows:
  - ✓ Electricity prices have been consistent with underlying fundamentals with prices in uncongested areas (e.g., Cinergy hub) largely driven by changes in fuel prices and peak load conditions (e.g., February and July 2007).
  - ✓ Congestion has substantially affected prices in Minnesota and WUMS –
    - Normally, congestion into WUMS from the west reduce prices in Minnesota.
    - However, reductions in imports from Canada and various outages have led to South-to-North congestion that cause prices in Minnesota to exceed prices elsewhere.
  - ✓ Severe winter peak conditions from February 4<sup>th</sup>-7<sup>th</sup> led to emergency actions by the Midwest ISO and substantial congestion into Minnesota and Wisconsin.
  - ✓ The natural gas prices have been trading in a relatively stable range over the past 9 months after substantial price volatility in 2006 and early 2007.
  - ✓ Coal prices have also been very stable for the past 12 months. There are no reported railroad delivery problems for coal from the Power River Basin.

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POTOMAC  
ECONOMICS



## Real-Time Midwest ISO Energy Prices



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POTOMAC  
ECONOMICS



## Day-Ahead to Real-Time Price Differences

- The next metric is focused on the convergence of real-time and day-ahead energy prices, which is important because:
  - ✓ The day-ahead market governs most of the generator commitments in the Midwest ISO – hence, efficient commitment requires efficient day-ahead market results.
  - ✓ Most wholesale energy bought or sold through the Midwest ISO markets is settled through the day-ahead market.
  - ✓ The entitlements of firm transmission rights are associated with the results of the day-ahead market.
- In general, good convergence is achieved by price-sensitive bids and offers in the day-ahead market – including active virtual supply and demand participation in the day-ahead market.
- Price convergence is measured with two statistics: the average price differences, and the average absolute value of the price differences (shows the “typical” difference, regardless of the which market is showing the premium).

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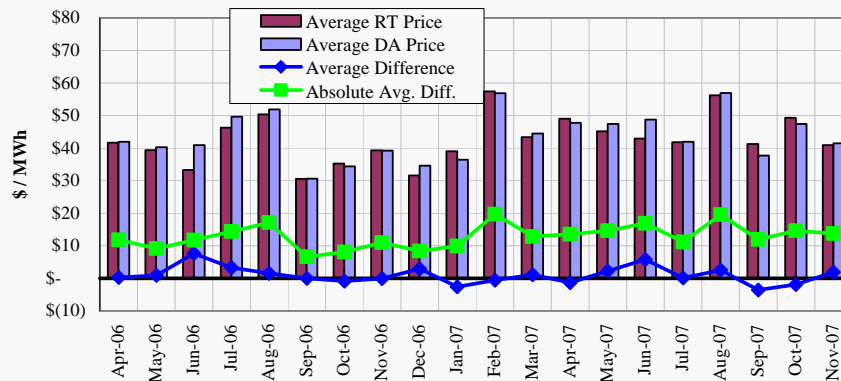
## Day-Ahead to Real-Time Price Differences

- The following figure shows the day-ahead to real-time price convergence at the Cinergy Hub (the table shows other locations) from April 2006 to November 2007.
- In general, the market has tended to exhibit day-ahead price premiums.
  - ✓ This is consistent with the lower price volatility in the day-ahead market and the higher RSG allocations to real-time purchases.
  - ✓ The fact that price differences are close to and fluctuate around zero on a monthly basis overall indicates that the day-ahead and real-time markets are well arbitrated.
  - ✓ The differences in a number of months tend to be larger in Minnesota because it has been subject to higher congestion-related price volatility than other areas.
- The absolute value of the price differences have remained in a relatively stable range.
  - ✓ Because this metric will tend to increase with price volatility, it has been higher in summer months and in the congested areas (Minnesota and Wisconsin).

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## Day-Ahead and Real-Time Price Convergence



	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	
Average	Cinergy	1%	2%	23%	7%	3%	0%	-2%	0%	9%	-7%	-1%	3%	-3%	5%	13%	0%	1%	-9%	-4%	1%
	Michigan	2%	-1%	16%	8%	3%	-1%	-3%	-6%	9%	-7%	-1%	1%	-2%	1%	15%	3%	6%	-5%	-3%	2%
	Minnesota	-5%	-3%	19%	6%	10%	-6%	3%	7%	6%	6%	1%	1%	2%	2%	8%	4%	6%	-7%	-4%	3%
	Wisconsin	-3%	1%	16%	8%	3%	-5%	4%	0%	6%	0%	0%	5%	-3%	0%	12%	0%	7%	-4%	0%	1%
Absolute	Cinergy	28%	23%	35%	31%	34%	22%	23%	28%	27%	25%	34%	30%	28%	32%	39%	27%	35%	29%	30%	34%
	Michigan	32%	27%	34%	33%	35%	23%	24%	31%	28%	26%	35%	29%	28%	33%	42%	29%	35%	30%	31%	32%
	Minnesota	41%	32%	56%	50%	40%	37%	44%	42%	45%	40%	41%	39%	34%	42%	52%	38%	44%	37%	39%	37%
	Wisconsin	31%	27%	37%	39%	38%	30%	33%	31%	37%	32%	34%	31%	28%	39%	47%	31%	37%	35%	37%	35%

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## Net Load Scheduled Day Ahead

- The net load scheduled day ahead is a key driver of RSG.
  - ✓ Net load is the physical load, plus virtual load minus virtual supply.
  - ✓ Supplies are committed and scheduled in the day ahead to satisfy the net load.
  - ✓ When net load is significantly less than 100 percent of the actual load, particularly in the peak load hour of the day, MISO will frequently commit peaking resources to satisfy the incremental increase in load.
- Participants will have incentives to schedule net load at less than 100% when:
  - ✓ Significant quantities of generation are committed by participants or the ISO after the day-ahead market.
  - ✓ High-cost units (such as peaking resources) do not set prices when dispatched in the real-time market, which reduces the incentive to schedule fully day ahead.

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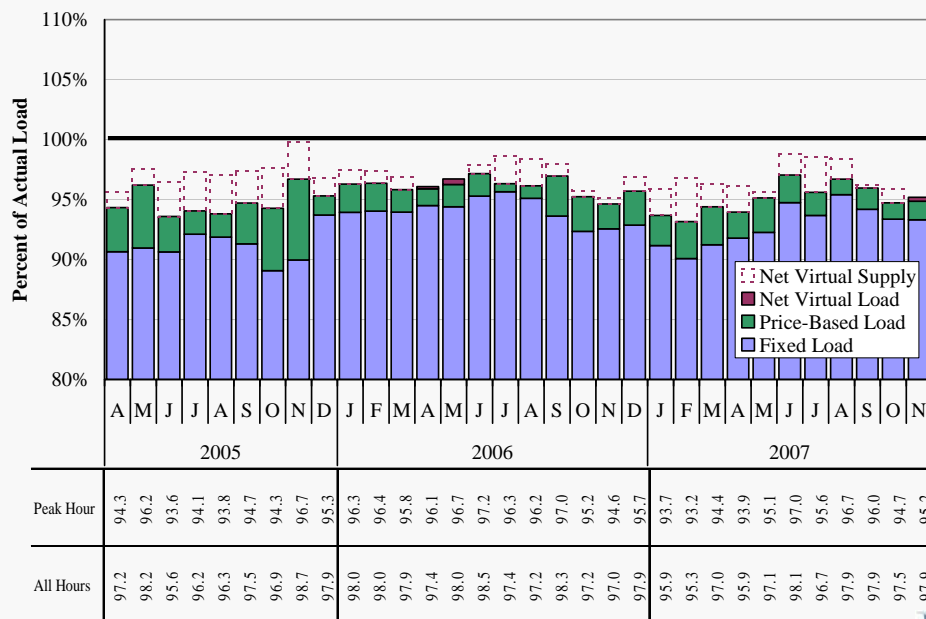


## Net Load Scheduled in the Day-Ahead Market

- The following figure shows the average net load scheduled in the peak load hour of each day from April 2005 to November 2007. The table shows this ratio for all hours as well.
- The figure shows:
  - ✓ In the last six months, the net day-ahead load scheduling levels has remained at levels that generally prevailed in 2006 (i.e., 95 to 97 percent).
  - ✓ Load scheduling was at its lowest in February 2007, which contributed to heavier reliance on peaking resources and higher RSG.
  - ✓ In most months, the physical load has been scheduled at higher levels and net virtual supply has reduced the net load scheduled.
- This level of net load scheduling has led to good price convergence because it reflects the fact that:
  - ✓ Some supply must be committed by the Midwest ISO after the day-ahead market to manage congestion.
  - ✓ Some supply is self-committed by suppliers after the day-ahead market.
  - ✓ Real-time prices do not always fully reflect the costs of peaking resources when they are the marginal source of supply.



## Net Load Scheduled in the Day-Ahead Market





## Real-Time Dispatch of Peaking Resources

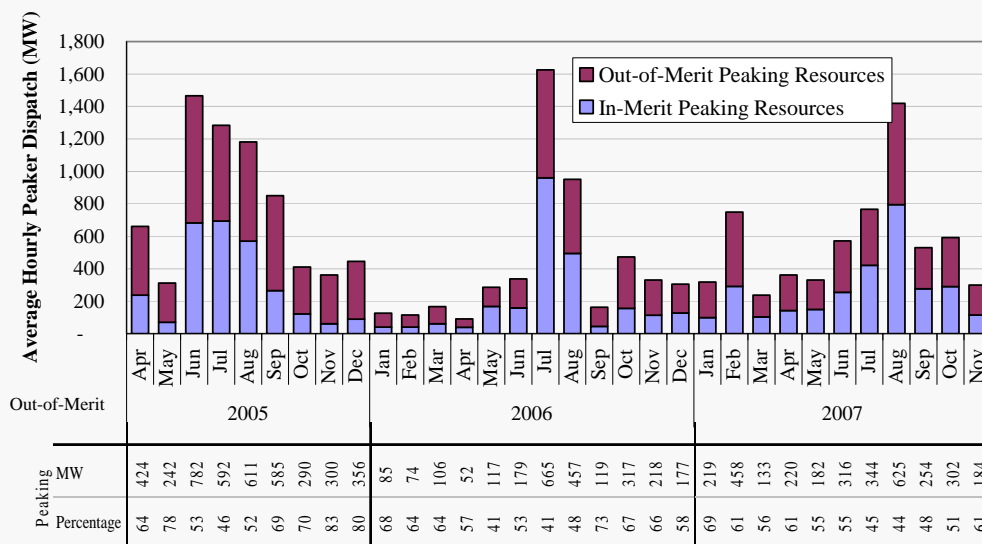
- The following figure shows the real-time dispatch of peaking resources, separately indicating the share of these peaking resources that were in-merit and out-of-merit.
  - ✓ A unit is out-of(offer price higher than the LMP).
  - ✓ Although out-of-merit generation is often legitimate, it can also signal poor market performance since such supplies are not setting prices even though they are needed.
- The figure shows that the dispatch of peaking resources decreased substantially in 2006 and 2007 relative to 2005 due to:
  - ✓ Improved operations by the Midwest ISO; and
  - ✓ Higher load scheduling by participants.
- The figure also shows:
  - ✓ Peaker dispatch levels were somewhat higher in 2007, which we attribute in part to more severe congestion in western MISO.
  - ✓ The portion of peaking resources that are out-of-merit ranges from 40% to 70%. It is generally higher in the shoulder months because fewer are dispatched, they are less likely to set the price, and a higher share are committed to manage congestion.

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## Peaking Unit Real-Time Merit Status



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## Real-Time RSG Payments

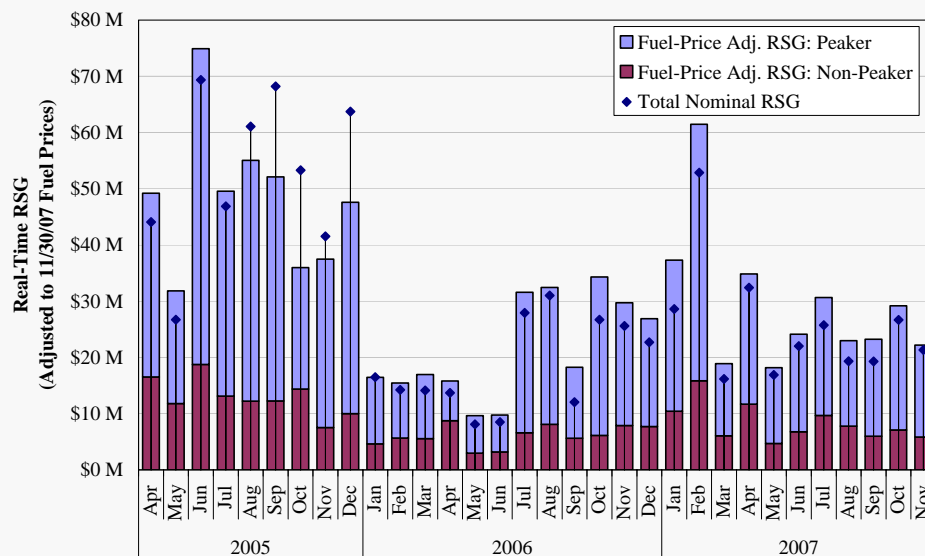
- The following figures show RSG payments since the start of the markets.
  - ✓ The values shown in the bars are the payments made for peaking units and other types of units, adjusted for changes in fuel prices.
  - ✓ The total nominal RSG costs (actual payments not adjusted for changes in fuel prices) are shown in the figures as lines.
- The first figure shows RSG payments in the real-time market
  - ✓ As expected, the majority of the RSG is paid to peaking resources.
  - ✓ The market in 2007 has exhibited slightly lower RSG costs than the same months in 2006 -- notable given the slightly higher dispatch of peaking units in 2007.
  - ✓ The spike in RSG costs in February was caused by heavy reliance on peaking resources due to the winter peak, substantial congestion, and low day-ahead load scheduling in the peak hours.
- The second figure shows day-ahead RSG levels, which continued to be much lower than in the real-time market because:
  - ✓ The day-ahead market is largely financial; while
  - ✓ Commitment needed for reliability are made after the day-ahead and generate real-time RSG costs.

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## Monthly Real-Time RSG Payments

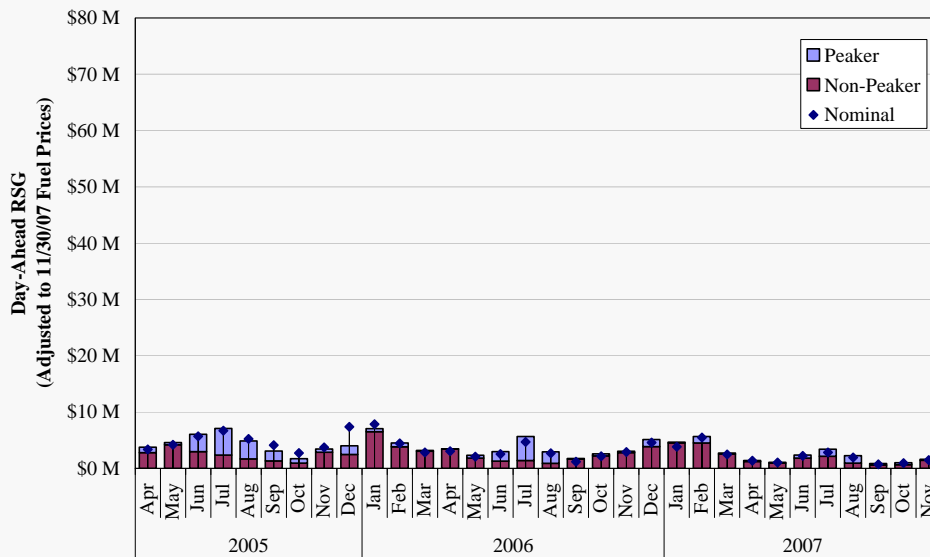


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## Monthly Day-Ahead RSG Payments



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## Output Gap Metric

- The primary metric used to identify potential economic withholding is the output gap.
  - ✓ The output gap shows the quantity of output that is not produced when suppliers' competitive costs are lower than the LMPs by more than a given threshold.
  - ✓ Any measure of withholding will identify some legitimate conduct (there is "noise" in the results).
- The figure shows the metric using two thresholds:
  - ✓ High threshold: mitigation threshold (lower for NCAs than BCAs).
  - ✓ Low threshold: one half of the mitigation threshold.
- Output gap is shown for two groups of units:
  - ✓ Online and quick-start units available in real time, and
  - ✓ Offline units that would have been economic to commit.

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## Output Gap

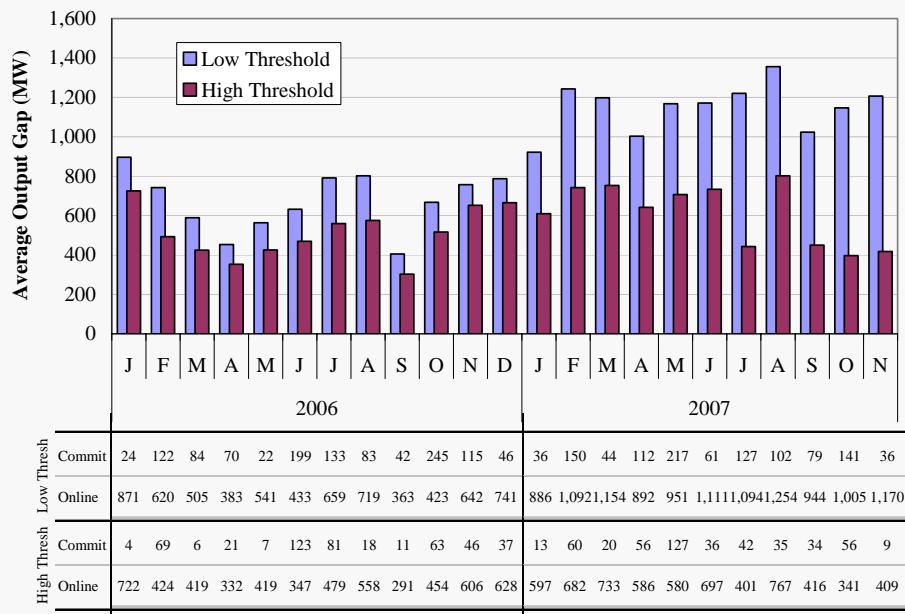
- It is difficult to identify specific output gap levels in advance that would raise a concern because:
  - ✓ Relatively low levels can cause large price increases in local constrained areas, while
  - ✓ Relatively high levels in the absence of constraints during moderate load periods may have low price impacts.
  - ✓ Hence, it is important to evaluate the output gap results at a unit level as part of the real-time market monitoring function.
- The following figure shows the average output gap for each month from 2006 and 2007.
  - ✓ The modest increase in 2007 over 2006 is primarily due to the lower NCA thresholds in Minnesota.
  - ✓ The lower thresholds in Minnesota cause more resources to fail the output gap screen and has also led to changes in participant offer patterns.
- Nonetheless, the daily output gap levels remain at relatively low levels and our monitoring of these levels has not raised significant concerns.

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## Monthly Output Gap



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## Important Market Developments

- The markets continue to perform competitively, however a number of changes are underway that will improve their performance.
- Implementation of ASM markets:
  - ✓ ASM that are jointly optimized with the energy markets will allow the market to more efficiently allocate resources between the two services.
  - ✓ The ASM markets will set efficient prices in both markets to reflect the economic trade-offs between reserves and energy, particularly during shortages.
  - ✓ ASM markets will improve the incentives for suppliers to be flexible and build generators in the areas with greatest reliability needs.
- Improved resource adequacy provisions -- the SOM report for 2006 showed that reserve margins are falling to critically low levels while the economic incentives to invest are lagging. Improvements to address this issue include:
  - ✓ Increased clarity and enforcement of the capacity requirements in Module E.
  - ✓ Improvements in shortage pricing:
    - Allowing prices to reflect the value of forgone reserves when MISO cannot satisfy reserve requirements (included with ASM markets),
    - Improving the precision of emergency procedures, and
    - Allowing curtailed load to set prices during shortages.