119 FERC ¶ 61,311
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Joseph T. Kelliher, Chairman;
Suedeen G. Kelly, Marc Spitzer,
and Jon Wellinghoff.

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| Midwest Independent Transmission System Operator, Inc. | Docket Nos. ER07-550-000<br>ER07-550-001 |

# ORDER ON ANCILLARY SERVICES FILING AND PROVIDING GUIDANCE

(Issued June 22, 2007)

1. On February 15, 2007, pursuant to section 205 of the Federal Power Act (FPA),[1] the Midwest Independent Transmission System Operator, Inc. (Midwest ISO) filed revisions and amendments to its Transmission and Energy Markets Tariff (TEMT or tariff) to implement a day-ahead and real-time ancillary services market (ASM) for operating reserves.[2] In order to manage the supply and procurement of operating reserves through the ASM, the Midwest ISO filing includes proposed tariff revisions to transfer and consolidate Balancing Authority responsibility in the Midwest ISO so that the Midwest ISO may become the North American Electric Reliability Council (NERC)-certified Balancing Authority for the entire Midwest ISO Balancing Authority Area.[3]

[1] 16 U.S.C. § 824d (2000).

[2] Operating reserves consist of regulating reserves and contingency reserves. Contingency reserves are spinning reserves and supplemental reserves provided by resources available to the transmission provider (*i.e.*, the Midwest ISO) to use in the event of a system contingency. Regulating reserves are provided through the capacity of frequency responsive generation resources or certain demand response resources (discussed below), held in reserve for the purpose of providing regulating reserve deployment in both the up and down direction.

[3] A Balancing Authority is responsible for maintaining the load-resource balance within the Balancing Authority Area, which is defined as the collection of generation, transmission, and loads within the metered boundaries of the applicable Balancing Authority. Currently, the Midwest ISO splits reliability functions with 24 individual Balancing Authorities, who have delegated certain functions to the Midwest ISO. Under

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2. In this order, the Commission rejects without prejudice the tariff revisions and amendments filed by the Midwest ISO. As discussed below, the Commission finds the Midwest ISO's filing to be deficient in two key areas: (1) the Midwest ISO has not submitted a market power analysis in support of its proposed ASM; and (2) the Midwest ISO has not submitted a readiness plan to ensure reliability during the transition from the current reserve and regulation system managed by individual Balancing Authorities to a centralized ASM managed by the Midwest ISO. Accordingly, we will require the Midwest ISO to remedy these deficiencies, but we will provide guidance to better enable the Midwest ISO to prepare and re-file a complete proposal. More specifically, our guidance will aid the Midwest ISO in developing a revised proposal that is substantially compliant with Commission requirements, thereby facilitating the Midwest ISO's fall 2007 timetable for incorporating final revisions to its proposal so as to ensure a successful market start in spring 2008. We encourage the Midwest ISO to use the time available prior to re-filing its proposal to address Balancing Authority consolidation, improve stakeholder understanding of the proposal, and work with stakeholders on issues of concern.

## I. Background

3. In an order dated February 24, 2003, the Commission approved the general direction of the Midwest ISO's proposed Market Rules for establishing the Midwest ISO markets.[4] The Commission supported the Midwest ISO's incremental approach to market development; under this approach, the Midwest ISO planned to delay establishing markets for operating reserves and regulation until after the energy and financial transmission rights (FTR) markets commenced operation.[5] The then-existing 40 individual control area operators in the Midwest ISO would maintain responsibility for providing operating reserves and regulation services until the Midwest ISO established operational markets for such products.[6] The Commission, while approving the Midwest

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the Midwest ISO's proposal, the current Balancing Authorities will transition to reduced roles as Local Balancing Authorities (LBA).

[4] *Midwest Independent Transmission System Operator, Inc.*, 102 FERC ¶ 61,196 (Market Rules Order), *order on reh'g*, 103 FERC ¶ 61,210 (2003).

[5] Market Rules Order, 102 FERC ¶ 61,196 at P 38.

[6] Control area operators are the precursor entities to the 24 Balancing Authorities currently operating in the Midwest ISO.

ISO's approach, expressed concern about the relationship between the control areas and the Midwest ISO, and stated that its "initial reaction is to think that fewer control areas would improve efficiency and independence . . . ."[7] Thus, the Commission directed the Midwest ISO to file, within one year from the start of Day 2 market operations, a report on the consolidation of control areas, including an analysis of the merger of control area functions in part or all of the Midwest ISO.[8]

4. On March 31, 2004, the Midwest ISO filed a proposed TEMT to initiate Day 2 operations including day-ahead and real-time energy markets. The Midwest ISO's proposed TEMT used the NERC Reliability Functional Model (Functional Model) as a basis for defining roles and responsibilities of, *e.g.*, the Midwest ISO and the control area operators, under Day 2 market operations.[9] The proposed TEMT provided that control area operators would perform their reliability functions in compliance with requirements established by NERC and the Regional Reliability Council. It also gave the Midwest ISO new authority over certain reliability functions previously performed by the individual control area operators.

5. In an order dated August 6, 2004, the Commission accepted the Midwest ISO's TEMT, under which the Midwest ISO has initiated Day 2 operations in its 15 state region.[10] In this order, the Commission found that the TEMT was not sufficiently clear

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[7] Market Rules Order, 102 FERC ¶ 61,196 at P 41-42.

[8] *Id.* The Commission reaffirmed this reporting requirement in subsequent orders. On April 3, 2006, the Midwest ISO filed with the Commission its report on Balancing Authority (*i.e.*, control area) consolidation. The Midwest ISO stated in this report its belief that functional consolidation of certain Balancing Authority responsibilities, together with the centralized commitment and dispatch of energy with ancillary services, could result in potentially significant savings and other benefits.

[9] In using the Functional Model, the Midwest ISO was complying with a previous Commission order, *Midwest Independent Transmission System Operator, Inc.*, 105 FERC ¶ 61,145 (2003) (TEMT Order), in which the Commission advised the Midwest ISO and stakeholders to adopt this model as a basis for discussions on the allocation of responsibilities for reliable market and power system operations. TEMT Order, 105 FERC ¶ 61,145 at P 46.

[10] *Midwest Independent Transmission System Operator, Inc.*, 108 FERC ¶ 61,163 (2004) (TEMT II Order), *order on reh'g*, 109 FERC ¶ 61,157 (2004), *order on reh'g*, 111 FERC ¶ 61,043 (2005). The TEMT contemplates that all services provided pursuant to its terms and conditions will be provided by a Transmission Provider. In turn, the

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as to the allocation of functional responsibilities, costs, and liability among the Midwest ISO and the control area operators, and instituted settlement judge procedures for the Midwest ISO and the Midwest ISO Transmission Owners (MISO TOs) (who generally represent control area operator interests) to resolve these issues.[11] The Commission also required the Midwest ISO to establish a dialogue with stakeholders, after the start of Day 2 market operations, regarding consolidation of control areas, for the express purpose of reducing the number of control areas and eventually consolidating most control area functions in the Midwest ISO.[12]

6. To resolve the proper allocation of functional responsibilities, costs and liabilities with respect to TEMT implementation, the Midwest ISO and the MISO TOs engaged in negotiations which produced an "Agreement between Midwest ISO and Midwest ISO Balancing Authorities Relating to Implementation of TEMT" (BA Agreement). The parties to the BA Agreement submitted it to the Commission on October 5, 2004 as part of an Offer of Settlement. The BA Agreement, a contract among the Midwest ISO and the various Balancing Authorities in the region, divides responsibilities related to TEMT implementation broadly along the lines of the NERC Functional Model.[13] In order to align the TEMT with the provisions of the BA Agreement, the filing submitted to the Commission included proposed tariff revisions to effectuate such alignment. The Commission approved the contested Offer of Settlement, including the BA Agreement and the attached tariff revisions, on February 18, 2005.[14] Thus, Balancing Authority functions and responsibilities are currently governed by the BA Agreement and related provisions in the Midwest ISO's TEMT.

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TEMT defines "Transmission Provider" as the Midwest ISO or any successor organization. *See* Module A, section 1.320, Second Revised Sheet No. 133. For clarity, we will refer to the Midwest ISO wherever the TEMT refers to a Transmission Provider. For all capitalized undefined terms in this order, see the TEMT and/or Midwest ISO February 15, 200 ASM Filing, Docket No. ER07-550-000.

[11] TEMT II Order, 108 FERC ¶ 61,163 at P 137-38.

[12] *Id.* P 124.

[13] In the BA Agreement, the term "Balancing Authority" replaced "control area operator" in order to reflect the terminology used in the NERC Functional Model.

[14] *Midwest Independent Transmission System Operator, Inc.*, 110 FERC ¶ 61,177 (2005).

## II. Description of the Midwest ISO's Proposal

7. The Midwest ISO's current filing, submitted February 15, 2007, proposes tariff revisions that, if accepted, would: (1) implement a day-ahead and real-time ASM for operating reserves and simultaneously co-optimize it with the Midwest ISO's existing energy markets, and (2) alter the TEMT so as to complement anticipated amendments to the BA Agreement in order to help transfer and consolidate Balancing Authority responsibility in the Midwest ISO.[15] The Midwest ISO states that its proposed tariff revisions are necessary for consolidation of Balancing Authority functions, and that its plan is to procure through the ASM the operating reserves necessary to perform these new Balancing Authority functions.[16] The Midwest ISO states that its filing represents a significant step in the evolution of the Midwest ISO energy markets, and that the proposed tariff revisions are the result of over two years of analysis and evaluation of existing best design elements of other ISO/RTO markets.

8. The Midwest ISO's plan to simultaneously co-optimize day-ahead energy and ancillary services markets represents the major component of its proposal. The Midwest ISO plans to combine the proposed ASM with its existing energy markets using a simultaneous co-optimization algorithm to minimize overall commitment and/or dispatch costs of supplying energy, regulation, and contingency reserves while enforcing all transmission and resource constraints. The algorithm incorporates all resources, including demand resources, in its minimization formula. The Midwest ISO explains that simultaneous co-optimization generates locational marginal prices (LMP) for energy and market clearing prices (MCP) for operating reserves for each hour in the day-ahead market and for every dispatch interval in the real-time market. According to the Midwest ISO, LMPs and MCPs will be based on market participants' energy offers and operating reserve offers, including separate offers submitted for regulating reserves, spinning reserves, and supplemental reserves. The Midwest ISO states that through the

[15] In its February 15 filing, the Midwest ISO anticipated that an amended BA Agreement (needed to effect the Midwest ISO's transition to the region's sole Balancing Authority) would be submitted to the Commission for approval "in the near future." On March 1, 2007, the Midwest ISO submitted an addendum to its February 15 filing stating that its estimated date for filing an amended BA Agreement is "no later than thirty (30) days after the Commission issues an Initial Order" on the ASM proposal. *See* Midwest ISO March 1, 2007 Addendum, Docket No. ER07-550-001.

[16] Under the currently effective Schedules 3, 5, and 6, the existing Balancing Authorities are responsible for providing regulation and frequency response service and for assuring adequate spinning and supplemental reserves.

simultaneous co-optimization algorithm, and based on the offers submitted, it will be able to commit and dispatch the resources that provide the least cost solution to serve energy and operating reserves requirements.

9. The Midwest ISO states that the simultaneous co-optimization algorithm ensures that a market participant will recover, for each resource, both its cleared operating reserve offers and its energy opportunity cost to provide operating reserves. The opportunity cost of providing operating reserves represents the foregone energy margins associated with the reduction in energy sales required to supply operating reserves. As stated by the Midwest ISO, MCPs that ensure recovery of both operating reserve offer costs and opportunity costs provide the financial incentive for market participants to supply operating reserves and energy.

10. Other significant components of the Midwest ISO's ASM proposal include: offer-based procurement of operating reserves through a two-settlement system; scarcity pricing implemented through the use of demand curves for operating reserves; integration of scarcity pricing with emergency management; integration of demand response resources into the energy and operating reserves markets; the use of dynamic reserve zones to facilitate deliverability of operating reserves; and a transitional 180-day must-offer requirement for regulating reserves.

11. The Midwest ISO's filing does not include a market power analysis in support of its proposed ASM. The Midwest ISO and the Independent Market Monitor (IMM) do not propose any modifications to the existing structure of the market monitoring and mitigation measures, which are contained in TEMT Module D.[17] However, with respect to the mitigation measures for offers of operating reserves, the Midwest ISO is proposing new reference levels and thresholds to be incorporated into Module D. The IMM states that these modest revisions will ensure that the mitigation measures appropriately address the potential for the exercise of market power in the proposed ASM.[18]

12. The Midwest ISO states that it has developed an implementation plan for its proposal that includes provisions for testing, training, participant outreach and training, market trials, and operational tests. According to the Midwest ISO, this implementation

[17] The Midwest ISO does propose modifications to tariff language to ensure that such already-existing monitoring and mitigation procedures apply to the ASM.

[18] Midwest ISO ASM Filing, Exhibit H, Testimony of David B. Patton, Ph.D. at 14.

plan includes provisions for obtaining NERC Balancing Authority certification[19] for the consolidation of Balancing Authority functions and for performing ancillary services. In addition, the Midwest ISO plans to revise its operating procedures to incorporate the newly aligned Balancing Authority functional requirements, and states that it will work with the Local Balancing Authorities and transmission operators to align their operating procedures with the Midwest ISO's. The Midwest ISO explains that it will continue to work with stakeholders, the Organization of MISO States (OMS), and state commissions, to provide ongoing training and testing, to ensure the systems and hardware are in place for the timely and seamless implementation of the tariff, and that necessary systems are in place for the transfer of data both to and from market participants.

13. The Midwest ISO requests that its proposed tariff revisions be made effective in spring 2008. The Midwest ISO states that such an effective date is contingent on the Commission's acceptance of its proposal in substantially the same form set forth in its present filing; otherwise, if significant aspects of these revisions are not accepted, and/or if the Commission imposes additional substantive compliance requirements, the Midwest ISO states that it would need to reevaluate the feasibility of a spring 2008 effective period. The Midwest ISO also requests waiver of section 35.3 of the Commission's regulations, 18 C.F.R. § 35.3 (2006), to permit an effective date more than 120-days after the date of filing. The Midwest ISO states that the process of developing, testing and implementing the software needed to implement the revised TEMT and to operate the Midwest ISO's systems is complex and, in order to attain the spring 2008 effective period, even minor changes to the TEMT design should be incorporated no later than October 2007. For these reasons, the Midwest ISO requests that the Commission issue an order on its filing by June 2007.

## III. Notice, Motions to Intervene, and Responsive Pleadings

14. Notice of the filing was published in the *Federal Register*, 72 Fed. Reg. 8376 (2007), with comments, interventions and protests due on or before March 30, 2007.[20]

15. Forty-six timely motions to intervene and/or notices of intervention were filed in this proceeding by the entities listed in Appendix A to this order. Acciona Wind Energy

[19] The certification process will be conducted using the NERC field trial Balancing Authority standards.

[20] *See* Notice of Extension of Time, Docket No. ER07-550-000 (Mar. 7, 2007), and Notice of Extended Comment Date, Docket No. ER07-550-001 (Mar. 7, 2007).

USA LLC and Midland Cogeneration Venture Limited Partnership filed motions to intervene out of time.

16. Numerous parties submitted comments and/or protests along with their motions to intervene. Comments were filed by parties representing a wide array of view points, including municipalities, cooperatives, independent power providers, consumer advocate groups, public power agencies and state agencies. All together the Commission has received more than 1,000 pages of pleadings.[21]

17. The Midwest ISO, Duke Energy Shared Services, Inc. (Duke), Xcel Energy Services (Xcel), Coalition of Midwest Transmission Customers (CMTC),[22] Indianapolis Power & Light Company (Indianapolis P&L), and Integrys Energy Group, Inc. (Integrys) filed answers to protests and/or answers.

## IV. Discussion

### A. Procedural Matters

18. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2006), the notices of intervention and timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

19. Pursuant to Rule 214(d) of the Commission's Rules of Practice and Procedures, 18 C.F.R. § 385.214(d) (2006), the Commission will grant the late-filed motions to intervene given the parties' interest in the proceeding, the early stage of the proceeding, and the absence of undue prejudice or delay.

20. Rule 213(a) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a) (2006), prohibits an answer to a protest and/or answer unless otherwise permitted by the decisional authority. We will accept the answers because they have provided information that assisted us in our decision-making process.

[21] Appendix A includes the short cites for all commenters. In the discussion, all commenters will be referenced using their shortened names as given in Appendix A.

[22] CMTC filed two answers in this proceeding, one on May 1, 2007 and one on May 15, 2007.

### B. Filing Deficiencies

21. We recognize that this filing represents a significant undertaking by the Midwest ISO that will have far-reaching benefits for its markets. The Midwest ISO has provided a filing that is comprehensive in incorporating the major design elements needed for an ancillary services market proposal. Accordingly, while we are rejecting the filing due to the deficiencies discussed below, we provide the Midwest ISO with guidance to facilitate resubmission of its proposal.

#### 1. Market-Based Rate Authorization

##### a. Comments

22. Various commenters[23] raise concerns about the need for a competitive analysis of the Midwest ISO's proposed ASM before the Commission can authorize sales of operating reserves at market-based rates in the Midwest ISO.

23. The Midwest TDUs cite Commission precedent that, in order to authorize market-based rates, the Commission must find that a seller lacks market power or has taken sufficient steps to mitigate market power. They also state that Commission precedent imposes reporting requirements to ensure just and reasonable rates and that the markets are not subject to manipulation.[24] The Midwest TDUs argue that the requirement to demonstrate a lack of, or mitigated, market power, extends to ancillary services markets, including those operated by regional transmission organizations (RTOs).[25] They note that where an ancillary services market is not competitive, the Commission has subjected sellers with market power to cost-based offer caps.

24. The Midwest TDUs state that the Midwest ISO has not submitted a competitive analysis supporting market-based rate pricing for the proposed ASM; nor has any seller into the proposed markets submitted such an analysis and obtained the requisite Commission authorization. Therefore, the Midwest TDUs aver, the Commission must require the submission of such market power analyses, and assess market power to determine whether the proposed ancillary services markets will be competitive or require

[23] CMTC, Illinois Industrial Energy Consumers, Mittal Steel USA Inc., and Midwest Industrial Customers (collectively, MISO Industrial Customers), Midwest TDUs, and Southwestern.

[24] Midwest TDUs March 30, 2007 Protest at 35.

[25] *Id.*

cost-based rate offers. Without evidence on this "fundamental issue," the Midwest TDUs argue that the Commission cannot lawfully approve market-based rates.[26] The Midwest TDUs state that the Commission cannot forgo a competitive analysis in a rush to approve the Midwest ISO's ASM design.

25. MISO Industrial Customers argue that the use of market-based rates in the Midwest ISO's proposed ASM has not been justified. They state that while the Midwest ISO appears to assume that its ASM proposal will carry with it authorization for market-based rate authority for each of the three types of operating reserves, the Midwest ISO's filing does not request such authority. MISO Industrial Customers aver that market-based rate authority cannot be presumed for operating reserves because the Commission requires such authority on a product-specific basis.[27] They also contend that sellers of operating reserves in the Midwest ISO's proposed ASM cannot presume that they are excused from the obligation to obtain market-based rate authority before engaging in market-based sales of operating reserves.[28]

26. MISO Industrial Customers argue that in order for the Commission to rely on market-based pricing to produce just and reasonable rates, it must determine: (1) that a competitive market exists, and (2) that an applicant lacks, or has adequately mitigated, market power.[29] They aver that the Commission must find "empirical proof" that a competitive market exists for the relevant product; otherwise, the Commission cannot lawfully authorize the use of market-based rates for sales of operating reserves into the ASM.[30]

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[26] *Id.*

[27] MISO Industrial Customers March 30, 2007 Protest at 9, *citing Ocean Vista Power Generation, L.L.C.*, 82 FERC ¶ 61,114, at 61,406-07 (1998) (*Ocean Vista*), *and Avista Corp.*, 87 FERC ¶ 61,223, *order on reh'g*, 89 FERC ¶ 61,136 (1999) (*Avista*). According to MISO Industrial Customers, these cases stand for the proposition that individual applicants must obtain market-based rate authority before engaging in market-based sales of ancillary services to an independent system operator (ISO) or RTO.

[28] *Id.* 10-11.

[29] *Id.* 12.

[30] *Id.* 12-13.

27. Commenters[31] also raise concerns about the market monitoring and mitigation procedures proposed in the Midwest ISO's filing. The Midwest TDUs argue that, even if the Commission approves the Midwest ISO's proposed mitigation measures and offer caps, it must require sellers with market power to submit offers subject to cost-based offer caps.[32] MISO Industrial Customers argue that proposed changes to the Midwest ISO's mitigation procedures are insufficient when extended to apply to the ASM, that some of the proposed mitigation measures are in conflict, and that they fail to account for market power problems associated with dynamically defined reserve deliverability zones. OMS suggests revisions to the Midwest ISO's ASM design to ensure that market power in the ASM does not increase, such as revisions or clarifications to the physical withholding threshold for operating reserves, the conduct test for economic withholding, and the process for determining reserve zones.

28. Duke does not contest the Midwest ISO's decision to apply the existing market monitoring structure in its current TEMT to the proposed ASM, but does express concern over the new reference levels for ASM availability offers and impact test threshold for the ASM, as well as the application of monitoring rules to demand response resources.

**b. Answers**

29. Duke contends that there is no basis for concern about extending market-based rates to the proposed ASM. Duke argues that the Midwest ISO's proposed market monitoring and mitigation measures for the ASM should adequately mitigate any potential to exercise market power, and that mitigation measures are an appropriate alternative to cost-based rates.[33] Duke argues that, in an organized market, market

[31] Midwest TDUs, MISO Industrial Customers, Southwestern, Duke, and OMS. (The following member entities generally support OMS' comments: Indiana Utility Regulatory Commission, Iowa Utilities Board, Kentucky Public Service Commission, Michigan Public Service Commission, Minnesota Public Utilities Commission, Missouri Public Service Commission, Montana Public Service Commission, Nebraska Power Review Board, North Dakota Public Service Commission, Public Utilities Commission of Ohio, South Dakota Public Utilities Commission, Wisconsin Public Service Commission.)

[32] Midwest TDUs Protest at 36.

[33] Duke April 16, 2007 Answer at 5.

monitoring and mitigation measures can serve this purpose for all sellers on a market-wide basis.[34] Duke points out that suppliers will still be required individually to meet the Commission's market-based rate requirements.

30. Duke avers that the Midwest ISO meets the criteria for being considered a single market for purposes of performing generation market power screens. Duke states that none of the protests in the instant proceeding have identified any reason why ancillary services markets should be treated differently. Duke refutes the argument that there may be relatively few suppliers in the ancillary services markets. Duke also explains that, because the ancillary services markets will be co-optimized with each other and with the energy market, the Midwest ISO will be able to substitute products where it is efficient to do so, further curtailing any potential for market power abuse. Given these considerations, Dukes states that there is no basis to find that the Midwest ISO's market approach for ancillary services does not fall within the zone of reasonableness.

31. CMTC responds to Duke, and states that market-based rate authority cannot be granted unless the Commission is presented with an application that specifically requests such authority, either on a system-wide basis or on a seller-by-seller basis.[35] CMTC argues that Duke has not addressed the fact that Commission precedent, as established in *Ocean Vista* and *Avista*, requires that sellers request and obtain market-based rate authority for ancillary service sales, or have another entity do it for them.

32. Indianapolis P&L submits in its answer that the Midwest ISO's proposed approach of having the Commission approve the ASM design, having the Midwest ISO implement this design based on a set of presumed circumstances, and then, after-the-fact, proceeding to verify the most basic underlying assumptions is not prudent utility practice and creates too high a risk of unreasonable costs. Indianapolis P&L questions how the Midwest ISO, stakeholders, and regulators can evaluate the reasonableness of a market design based on the use of market-based rates without determining if suppliers will have the ability to sell on a non-cost basis. Indianapolis P&L also questions how the Midwest ISO's market power mitigation measures can be "appropriately specific" without knowing which entities have market power and to what extent under various circumstances.[36]

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[34] Duke Answer at 5.

[35] CMTC participated in the protest of the MISO Industrial Customers.

[36] Indianapolis P&L May 9, 2007 Answer at 15, *quoting* Midwest ISO Answer at 6.

33. Indianapolis P&L states that in *Ocean Vista* the Commission indicated that a market power study for ancillary services markets should: (1) define the relevant product market for each ancillary service; (2) identify the relevant geographic market; (3) determine market share for all suppliers of the ancillary services in the relevant geographic region; and (4) examine other barriers to entry.[37] Before proposing a particular ASM, Indianapolis P&L avers, the Midwest ISO must understand the market power implications of its submission, but such analysis has not been done. Indianapolis P&L contends that the Commission cannot approve the ASM until this significant issue is addressed.

34. The Midwest ISO, in its answer, submits that its proposed market design, which will co-optimize the dispatch of energy and operating reserves and will incorporate market monitoring and mitigation measures specific to each ASM product, will result in sufficiently competitive markets to support granting market-based rate authority for the ASM. Moreover, the Midwest ISO explains, its proposed ASM design has been developed to incorporate the key elements of other Commission-approved ancillary services markets, including two-market settlements, use of demand curves, emergency procedures, integration of demand response resources, and use of reserve zones. The Midwest ISO states that these elements establish the basis for a Commission determination with respect to the competitiveness of the proposed ASM.

35. The Midwest ISO states that its proposed ASM would be implemented as an extension of its existing energy markets, where sales at market-based rates have already been authorized. The Midwest ISO contends that simultaneously co-optimizing the dispatch of energy with operating reserves across the entire market footprint will create enhanced competition by increasing the number of suppliers competing to provide operating reserves. Because suppliers will not risk foregoing profits in the energy market as a result of offering to supply operating reserves, the Midwest ISO explains, more suppliers can be expected to offer operating reserves from existing resources, and to develop new resources capable of providing operating reserves, thereby enhancing the competitiveness of the ASM. The Midwest ISO states that the use of simultaneous co-optimization, coupled with market monitoring and mitigation procedures specifically designed to mitigate any potential exercise of market power, should result in additional competition in the ASM.[38]

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[37] Indianapolis P&L Answer at 15, *citing Ocean Vista*, 82 FERC ¶ 61,114, at 61,406-07.

[38] Midwest ISO May 1, 2007 Answer at 35-36.

36. Finally, the Midwest ISO notes that, although a competitive market showing must be made before market participants can sell at market-based rates for ancillary services, there is no specific requirement as to when such a showing must be made, other than before sales at market-based rates are permissible. The Midwest ISO avers that the fact that its ASM filing did not initially include a market power analysis does not cause the filing to be deficient in its entirety; rather, the Commission should evaluate the merits of the proposal pending completion of any market power analysis prepared by the Midwest ISO. The Midwest ISO states that any such analysis will only demonstrate whether particular markets participants may exercise market power with respect to specific operating reserve products within specific geographic regions, and such analysis does not affect the market design set forth in the ASM filing. Nevertheless, the Midwest ISO recognizes that market participants must obtain market-based rate authority before selling at market-based rates into the proposed ASM, and that there have been several instances in which RTOs/ISOs have undertaken a region-wide market-based rate analyses that the Commission has found sufficient to enable such sales. Therefore, the Midwest ISO states that it is in the process of evaluating the preparation of a market power analysis for the proposed ASM, and will be ready to make this showing following a Commission order on the proposed ASM design, or sooner if the Commission so directs.[39]

### c. Commission Determination

37. The Midwest ISO is requesting that the Commission approve its market design for the proposed ASM—a design that is predicated on sales of ancillary services being made at market-based rates—without providing a market power analysis to support sales of ancillary services at market-based rates. We understand the Midwest ISO's desire to have the framework of its ASM proposal approved while it undertakes a market power analysis, but we find that the Midwest ISO's filing is deficient without a market power analysis as part of its overall proposal. The absence of a market power analysis prevents the Commission from undertaking a full evaluation of the Midwest ISO's proposal, and accordingly, we direct the Midwest ISO to meet the Commission's requirements for a market power analysis, as discussed below.

38. In Order No. 888, the Commission stated that ancillary services are a transmission-related product for which the Commission was unwilling, as a general matter, to grant market-based rate authority based on market power analyses of generation. The Commission recognized that some entities could be uniquely situated to

[39] The Midwest ISO also responds to commenter concerns about its monitoring and mitigation procedures, providing some clarifications where requested. *See* Midwest ISO Answer at 41-44.

provide ancillary services (*e.g.*, reactive supply and voltage control) due to the type of generation they owned or due to their location. The Commission stated that it would entertain requests for market-based pricing related to ancillary services on a case-by-case basis, if such requests were supported by analyses demonstrating that the seller lacked market power in these discrete services.[40]

39. In *Ocean Vista*, the Commission provided guidance for determining whether market-based rates should be authorized for individual sellers of ancillary services. The Commission explained that, as a general matter, an analysis of ancillary services markets should address the nature and characteristics of each ancillary service, as well as the nature and characteristics of generation capable of supplying each service, and that such analysis should develop market shares for each service. The Commission also noted that it would entertain alternative explanations and approaches.[41]

40. The Commission provided further guidance in *Ocean Vista*, stating that an individual seller's market power analysis for ancillary services markets should: (1) define the relevant product market for each ancillary service; (2) identify the relevant geographic market, which could include all potential sellers of the product from whom the buyer could obtain the service, taking into account relevant factors which may include the other sellers' locations, the physical capability of the delivery system and the cost of such delivery, and important technical characteristics of the sellers' facilities; (3) establish market shares for all suppliers of the ancillary services in the relevant geographic markets; and (4) examine other barriers to entry.

41. The Commission has previously permitted the sale of ancillary services at market-based rates for the following organized markets: California Independent System Operator (CAISO), [42] ISO New England, Inc. (ISO-NE), [43] New York Independent

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[40] *See* Order No. 888, FERC Stats. & Regs. ¶ 31,036, at 31,656-57 (1996); Order No. 888-A, FERC Stats. & Regs. ¶ 31,048, at 30,230 (1997).

[41] *Ocean Vista*, 82 FERC ¶ 61,114 at 61,406-07.

[42] *AES Redondo Beach, L.L.C.*, 83 FERC ¶ 61,358, *order on reh'g*, 85 FERC ¶ 61,123 (1998), *order on reh'g*, 87 FERC ¶ 61,208, *order on reh'g*, 88 FERC ¶ 61,096 (1999), *order on reh'g and clarification* 90 FERC ¶ 61,036 (granting market-based rate authorization for specified ancillary services in markets administered by the CAISO).

[43] *New England Power Pool*, 85 FERC ¶ 61,379 (1998), *reh'g denied*, 95 FERC ¶ 61,074 (2001).

System Operator (NYISO),[44] and PJM Independent System Operator (PJM).[45] In support of its proposal, each ISO/RTO performed analyses that followed the guidelines set forth in *Ocean Vista*. Each market analysis contained the following elements: (1) definition of ancillary services (product market) to be sold at market-based rates; (2) estimates of both total demand for the market (quantities required) and total supply available for each ancillary service; (3) calculation of market shares for each seller within each product market; (4) calculation of Hirschman-Herfindahl Indices (HHIs) for each product market; and (5) analysis of barriers to entry and potential competitors.

42. Though the Midwest ISO contends that we should evaluate the merits of the proposal pending completion of a market power analysis, we do not believe it would be appropriate to do so. The functioning of the ASM assumes that sellers will be authorized to sell ancillary services at market-based rates and our analysis of the market rules cannot occur unless we have resolved that threshold question. Though we are pleased that the Midwest ISO has worked diligently to consolidate control areas and create a single market for operating reserves, we cannot approve this step without an analysis of the consequences of doing so. We note that the fact that an organized energy market has mitigation is not sufficient, without a market power analysis, for obtaining market-based rate authorization for ancillary services.[46]

43. Therefore, the Commission finds that, consistent with Commission precedent, the Midwest ISO must perform a market power analysis in order to determine whether sellers lack, or have adequately mitigated, market power with regard to each proposed ancillary service market. In particular, the market power analysis should contain the five elements discussed above. Also, any applicable market rules and market monitoring and mitigation should be addressed.

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[44] *Central Hudson Gas & Electric Corp.*, 86 FERC ¶ 61,062, *order on reh'g*, 88 FERC ¶ 61,138 (1999).

[45] *PJM Interconnection, L.L.C.*, 86 FERC ¶ 61,247 (1999); *Atlantic City Electric Company*, 86 FERC ¶ 61,248, *clarified*, 86 FERC ¶ 61,310 (1999), *PJM Interconnection, L.L.C.*, 91 FERC ¶ 61,021 (2000) (granting market-based rate authorization for specified ancillary services in the PJM market).

[46] While the Commission allows "applicants to propose case-specific mitigation tailored to their specific circumstances that eliminates the ability to exercise market power," *AEP Power Mktg.*, 107 FERC ¶ 61,018 at P 147, the Commission has not held that mitigation proposals obviate the need for a market power study.

### 2. Readiness Plan

#### a. Comments

44. A number of commenters[47] note that the Midwest ISO's ASM proposal lacks plans or metrics—similar to the readiness plan the Midwest ISO provided for the start of the Midwest ISO energy markets—that can be used to evaluate the readiness of the ASM or the success of the ASM post-implementation. Commenters consider such plans and/or metrics essential for the orderly development of the ASM. Commenters recommend that the Midwest ISO file the following readiness safeguard elements: a transition plan; pre-implementation and post-implementation metrics with a proposal for independent evaluation; certification of generation resource capabilities; Balancing Authority certification by the appropriate Regional Reliability Organization; certification of readiness to the Commission; trial operations; a 60-day safeguard period during which offers would be cost-based; mitigation or uplift of prices that reach the value of lost load (VOLL) more than five hours during the first 180 days of ASM operation beyond the 60-day cost-based offer period; and a reversion plan in the event of market failure.[48]

#### b. Midwest ISO Answer

45. The Midwest ISO responds by stating that a comprehensive readiness plan is being developed and that a reversion plan—with a completion deadline prior to the start of the ASM—will be negotiated with the existing Balancing Authorities. The Midwest ISO further explains that it is developing a set of objective and measurable readiness standards that will be met prior to commencement of the ASM and is retaining a readiness auditor and a set of detailed metrics to be monitored by the auditor.[49]

#### c. Commission Determination

46. We consider the implementation and start of the ASM to be a significant undertaking by the Midwest ISO and conclude that readiness safeguards are necessary. The Midwest ISO will be taking over existing functions managed by the Balancing

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[47] These commenters include Xcel, Consumers, Alliant, Midwest TDUs, Duke, MISO Industrial Customers, NIPSCO, and Integrys.

[48] A reversion plan was a feature of the start-up of the Midwest ISO energy markets. TEMT II Order, 108 FERC ¶ 61,163, *order on reh'g*, 108 FERC ¶ 61,157 (2004), *order on reh'g*, 111 FERC ¶ 61,043 (2005).

[49] Midwest ISO Answer at 25.

Authorities and will become the sole entity managing system reliability and ensuring that a new market framework provides adequate reserves reliably and efficiently. We are also cognizant of the scale of the effort needed to develop new software and management systems to run the ASM for a 15 state region. We are confident, however, that the Midwest ISO and its stakeholders are taking the necessary steps for a successful market.

47. Nevertheless, we find the Midwest ISO's proposal to be deficient for its failure to lay out its readiness plan and safeguards in sufficient detail. We will thus require the Midwest ISO to submit readiness and reversion plans with the features necessary to ensure that start-up of the ASM will not adversely affect reliability. We provide herein a list of elements the Midwest ISO will need to submit to the Commission. We will require the Midwest ISO to file, in its revised ASM proposal, a list of these elements, as well as the Midwest ISO's timeline for their completion and submission. We expect the Midwest ISO's "master" timeline to comply with the deadlines provided below.

48. Regarding market readiness, the Midwest ISO must certify to the Commission, 45 days before ASM market startup, the reliability and readiness of its systems.[50] The Commission can consider approving the start of the ASM once it receives and reviews this certification. Also, we will require the Midwest ISO to file, on an informational basis, at least three months prior to ASM start, the readiness auditor's recommendations for metrics related to ASM operation readiness, as well as the auditor's recommendation of a testing plan to ensure the ASM is being developed, tested, and operated to ensure reliability and efficient operation. The Midwest ISO's certification should address the status of each metric.

49. As we required at the start of the Midwest ISO energy markets, we will require the Midwest ISO to propose a reversion plan to address system operations in the event of a severe operations failure. We will require the Midwest ISO to file with the Commission, no later than three months prior to the start of the ASM, a detailed reversion plan that includes an explanation of how the Midwest ISO intends to cut over to alternative systems that can analyze and monitor: (1) area control error (ACE) in the event of a failure in the centralized regulation monitoring system, and (2) contingency reserves in the event of a failure in the centralized reserve monitoring system. We recognize that the Midwest ISO is still in negotiations with Balancing Authorities on a reversion plan. However, we require the Midwest ISO to complete the reversion plan negotiations and

[50] This certification must also include certification that the Midwest ISO has a monitoring system in place that provides an assessment of actual resource capabilities, taking into account ambient temperatures and other operating conditions, and certification as a Balancing Authority by the Electric Reliability Organization (ERO).

file the reversion plan three months prior to market start. The market will not be approved until such a plan has been submitted and accepted. We also emphasize herein the importance of the Midwest ISO and the Balancing Authorities concluding their overall consolidation negotiations so that the Midwest ISO can become the sole Balancing Authority and be certified to centrally manage the RTO-wide ASM as the sole Balancing Authority by the ERO. Therefore, the Balancing Authorities and the Midwest ISO must conclude these negotiations three months prior to market start so that the Midwest ISO can be certified as the Balancing Authority by the ERO and have this certification included in the Midwest ISO's market readiness certification application, which is to be filed with the Commission at least 45 days prior to planned ASM start-up.

### C. Guidance on Major Design Issues

50. As discussed above, we are rejecting the Midwest ISO's proposal without prejudice for failure to include two critical elements, a market power analysis and a readiness plan. The Midwest ISO is encouraged to submit a revised proposal addressing the deficiencies we identified. To help facilitate progress on such a revised proposal in a timely fashion, we provide guidance, as discussed below, on the major design elements of the ASM proposal in order to preview the Commission's perspective and the factors the Commission will consider in reviewing a revised proposal. We note that, at this stage in considering the Midwest ISO's proposal, the Commission has not addressed all issues raised by commenters, and that the guidance in this order is only directed toward the proposal's major design elements. We anticipate that the guidance provided herein, which presumes that the Midwest ISO submits an acceptable market power analysis and readiness plan, will allow the Midwest ISO and its stakeholders to focus their efforts and will facilitate a timely and productive subsequent review.

#### 1. Scarcity Demand Curves

##### a. Midwest ISO Proposal

51. The Midwest ISO proposes to manage system and zone reserve shortages through both emergency actions and scarcity pricing. As proposed, emergency procedures are established in both the day-ahead and real-time markets and include the integration of both generation and demand response resources for use in alleviating such emergencies. In the first stage of a reserve shortage in the day-ahead market, the Midwest ISO will first determine available supply based on emergency limit offers provided by resources, and will commit resources designated for emergency operations only. In the event capacity is available to meet as-bid demand but does not relieve operating reserve shortages, scarcity pricing will be invoked through the use of demand curves—first up to $1,100/MW/Hour

and, if the response is still insufficient, up to $3,500/MW/Hour. If these measures fail to provide adequate reserves, as-bid demand requirements, including fixed export schedules, will be reduced pro-rata.

52. If there is a projected shortage of non-emergency capacity in the reliability assessment commitment process after the day-ahead market closes, the Midwest ISO will curtail non-firm exports and determine supply based on emergency limit offers provided by resources. If a reserve shortage persists into the real-time market, the Midwest ISO will invoke the $1,100/MW/Hour scarcity price, instruct Local Balancing Authorities to issue public appeals, and direct load-serving entities to interrupt non-firm load. If the reserve shortage is not remedied by these measures, the Midwest ISO will begin load shedding and invoke a $3,500/MW/Hour scarcity price for accepted offers.

53. The $1,100/MW/Hour minimum price threshold during shortages is based on the highest potential operating reserve offer ($100/MW/Hour—*i.e.*, the offer cap for contingency reserves) and the highest opportunity cost incurred by a generation resource to supply operating reserves ($1,000/MWh—*i.e.*, the offer cap in the energy market).[51] The $3,500/MWh cap for reserve offers during the final and most critical stage of a shortage represents the value the market would place on interrupting one MW of firm demand (*i.e.*, the VOLL). The IMM indicates that a maximum level VOLL of $3,500/MWh is justified because, in the absence of a capacity market, the prices in the energy and ancillary services markets are the primary source of economic signals to meet short-term reliability and maintain resource adequacy. In contrast, while other ISOs such as PJM, NYISO and ISO-NE have much lower prices available through their scarcity pricing methods, the Midwest ISO points out that these markets have centralized capacity markets that both require generation to offer into the pool during emergencies and provide additional revenues to ensure resource adequacy.

54. The progression in pricing from $1,100/MW/Hour to $3,500/MW/Hour will be determined by calculating the product of VOLL and the conditional probability that a loss of load will occur, assuming there is a single generation outage, thereby reducing available reserves or regulation. The demand curve will progress from lower prices when only one unit is out (making the probability of a loss of load low), to higher prices as more units are out (increasing the probability of a loss of load). The Midwest ISO proposes separate demand curves for regulation and operating reserves, to be invoked

[51] When there is no shortage of reserves, the operating reserve demand curve price is zero.

when either regulation or operating reserves are deficient. The Midwest ISO also proposes separate market-wide and zone demand curves to be invoked when market-wide or zonal regulation or reserves are deficient.

55. The Midwest ISO states that use of demand curves in combination with simultaneous co-optimization will establish the market value of both energy and operating reserves, as well as the relative value of these products to each other, including during shortage conditions.

**b. Comments**

56. OMS, the Midwest TDUs and Southwestern express concern about the risk of unnecessarily high prices and ratepayer impacts. Commenters[52] also consider an unhedged market price to be inappropriate for a region in which many states already have planning reserve requirements that provide a safety net for reliability; sellers already receive fixed-cost recovery in their rate base and contract payments; and ratepayers are already paying for operating and maintenance costs in their regulated distribution rates to avoid outages. The Midwest TDUs and Southwestern argue that the price floor on regulating reserves, spinning reserves and supplemental reserves should be eliminated to correct for the over-recovery bias of scarcity pricing. Southwestern contends that scarcity pricing in other ISOs has not resulted in additional new capacity and has only resulted in higher prices for existing resources.

57. Other commenters disagree,[53] expressing their concern that the VOLL cap is too low—to the detriment of creating additional investment—since it is based on the unrealistic assumption that 85 percent of the Midwest ISO market is residential and on the lowest point for commercial and industrial customers. Commenter analysis indicates a more accurate estimate of VOLL to be $8,744/MW/Hour. Duke provides analysis that scarcity pricing would need to be invoked frequently—implying degradation in reliability compared to historic conditions—to provide a revenue stream sufficient to support new entry.

58. MISO Industrial Customers and the Illinois Commission consider the scarcity pricing proposal to be premature, and argue that it should only be considered as part of a definitive long-term resource adequacy plan. Duke contends that the Midwest ISO's

[52] OMS, MISO Industrial Customers, and the Midwest TDUs. These commenters also express support for self-supply.

[53] Ameren, Dynegy, and Reliant.

proposal is not a viable substitute for an organized capacity market since it does not provide a revenue stream sufficient to support new entry. In contrast, FirstEnergy points out that the scarcity pricing proposal only addresses operational reliability and is not meant to substitute for a capacity market.

59. Commenters[54] also fault the Midwest ISO's proposal for limiting the use of pricing signals upon which the marketplace relies to make new investments. These commenters recommend that the Midwest ISO revise its proposal to invoke scarcity pricing in reserve shortage conditions and not just in situations where energy requirements cannot be met, and that the pricing should automatically trigger once the thresholds have been reached, thereby ensuring the proper sequence of actions that should be taken during emergency conditions. These commenters further argue that the Midwest ISO's approach will hamper demand response, so that it will not be able to fulfill properly its function of dampening scarcity pricing to efficient levels.

### c. Midwest ISO Answer

60. The Midwest ISO responds by clarifying that when the reserve supply exceeds the reserve requirement, such as when excess zonal reserve is cleared to help satisfy the market-wide reserve requirement or when self-scheduled reserve exceeds the reserve requirement, the price is zero. When the reserve supply and requirement are equal, the price is set by the supply curve, and it is only when reserve supply is less than the reserve requirement that the demand curve sets the scarcity price. The Midwest ISO believes that emergency capacity should be used when available to ensure reliable operations. If scarcity pricing is invoked prior to using emergency capacity, as commenters recommend, the value of capacity will be overstated since scarcity pricing would be invoked when there are sufficient reserves to meet the operating reserve requirement.

### d. Commission Determination

61. As noted by the Midwest ISO, scarcity pricing has become a component of most ISO markets for energy and reserves, allowing the market price to rise to levels reflective of a shortage of operating reserves (and hence an increased probability of demand curtailment). In addition, in the Midwest ISO's proposal, scarcity pricing allows the market price to reflect an estimated value of curtailed demand (VOLL). In the presence of such demand curves, suppliers do not have to raise their offer prices to receive scarcity prices. We expect that the demand curves for scarcity pricing proposed in the Midwest ISO's filing should provide a significant incentive for short-term reliability and for

[54] DC Energy, Reliant and Duke.

triggering of demand response in shortages. The scarcity pricing proposal also provides incentives for load to contract forward at prices lower than the scarcity prices, and therefore provides another price signal to the market indicating the value of scarcity reserves. This contracting option also allows load to limit its exposure to the scarcity prices. At the same time, we are concerned that shortage conditions could heighten the possibility of the exercise of market power by certain resources, primarily by resources seeking to trigger scarcity pricing through withholding; we therefore recommend that the IMM add provisions to the Midwest ISO's proposal to ensure that resources are regularly audited for physical withholding and to ensure that the IMM will timely report physical withholding of resources. We also recommend that the Midwest ISO make the IMM's reporting requirements mandatory in the TEMT.

62. We believe that commenters' concerns—that they will be exposed to higher prices because of the scarcity demand curves[55]—need to be assessed in the context of the impact of all aspects of the ASM proposal. We expect that the introduction of a regional market for regulation and reserves and the efficient selection of market offers for these services though simultaneous co-optimization will benefit load by reducing the cost of ancillary services and improving reliability. Also, we expect that suppliers will be able to better optimize the use of their resources because they will be able to base their commitment decisions on the market value of energy and of reserves. Furthermore, while the focus of comments is on the highest scarcity price, the process of managing shortages ensures that every step is taken to obtain lower cost reserves or to reduce demand before the highest price is invoked. While self-supply appeals to commenters because it involves a simple and transparent transaction, it may be a higher cost alternative that does not allow market participants to maximize the utilization of their resources; nor is it likely to make the ASM more efficient or more reliable.

63. We recognize that a $3,500/MWh VOLL is an administratively set price, and that it represents an estimate of the value of scarcity that is subject to interpretation. Recognizing that determination of an appropriate scarcity price is not an exercise in precision, we encourage the Midwest ISO to continue discussions with stakeholders to build support for the scarcity price it plans to propose in its revised filing. Also, we

[55] We recognize that, under the Midwest ISO's proposal, scarcity pricing would not be invoked when operating reserves are available, and that the Midwest ISO would invoke scarcity pricing only after other actions, such as reducing exports, have failed to maintain adequate reserves. Accordingly, scarcity pricing is expected to be in effect for very short periods of time. The normal range of scarcity pricing is expected to be 20 to 30 hours per year, based on analysis of other ISO markets. *See* Duke Comments, Testimony of Stoddard at 5.

expect that the IMM will provide an assessment of the expected response of resources, both generation and demand, to the proposed scarcity demand curves based on the Midwest ISO's characterization of the ancillary services market to be submitted as part of its revised filing.

64. We consider the proposed sequence of emergency actions and scarcity pricing triggers to be reasonable. The Midwest ISO's proposal would allow prices to increase up to $1,100/MW/Hour in the early stages of a shortage, a level that we expect will effectively incent resources to provide significant reserves or demand response. Further, based on the experience of other ISOs that have a similar cap and are successfully managing shortages, the Midwest ISO's proposed $1,100/MW/Hour cap should elicit a significant resource response.

65. Our evaluation of the Midwest ISO's proposal for scarcity pricing is limited to its effectiveness in providing adequate reserves in shortage and emergency situations. We will evaluate its impact on resource adequacy at the appropriate time, when the Midwest ISO develops a comprehensive resource adequacy proposal for our consideration. At that time, we expect the scarcity pricing provisions will have to be reassessed to determine their efficacy in the context of all elements of the Midwest ISO resource adequacy program.

### 2. Demand Resources During Shortages and Emergencies

#### a. Midwest ISO Proposal

66. The Midwest ISO's proposal outlines two types of demand resources eligible to participate in the energy and ancillary services markets—Demand Response Resources (DRRs) Type I and Type II. Type I resources will supply a specific quantity of energy or contingency reserves through physical load interruption, and their offers are to include desired hourly compensation for operating in an interrupted state. Type II resources will supply a range of energy or operating reserves through behind-the-meter generation and/or controllable load, and are to be committed and cleared in a manner comparable to generation resources.

67. The Midwest ISO proposes that DRRs Type I and II be eligible to provide contingency reserves and operating reserves, respectively, during all stages of the Midwest ISO's emergency procedures. Both types of demand resources are eligible to be designated as available only for emergency conditions. All DRRs not classified as emergency-only are available for deployment, *i.e.*, interruption, during both emergency and non-emergency conditions.

### b. Comments

68. Several commenters[56] express concern that the Midwest ISO's proposal does not permit Type I resources that are designated as available only for emergency conditions to specify an energy offer curve. Without energy offer prices, these commenters assert that the Midwest ISO will lack a method to commit such demand resources at the least cost. For Type I resources that are designated as available only for emergency conditions, commenters recommend that the Midwest ISO specify a method for such resources to be identified, ranked for deployment (according to their relative cost), deployed, and compensated. MISO Industrial Customers also contend that such demand resources should not be treated as price takers, as the Midwest ISO proposes, but should instead be able to specify the minimum compensation they are willing to receive.

69. Ameren states that the TEMT does not provide a method to verify whether a Type I resource has reduced its load in real-time, because its meter data are not examined until the settlement process. When such a resource does not appropriately execute contingency reserve deployment instructions, Ameren argues that the Midwest ISO should assess penalties and re-examine the resource's qualification to participate in the market.

### c. Commission Determination

70. Demand resources may be essential to managing market shortages and emergencies, and we strongly support the Midwest ISO's general proposal to allow demand resources to provide contingency or operating reserves. However, we are concerned that the proposal may not provide sufficient structure and incentives to ensure that demand resources follow deployment instructions in a manner comparable to generation resources so as to ensure reliability. We encourage the Midwest ISO to submit a plan for measuring and verifying demand resources and to consider comparable requirements for demand resources and generation resources, including possible penalties for deviations from deployment instructions for all demand resources, performance audits, and rules for delisting demand resources that do not respond to deployment instructions. In addition, we agree with commenters that it is not clear how the Midwest ISO will deploy Type I resources designated only for emergency situations in an efficient manner. Thus, we encourage the Midwest ISO to clarify its procedure to identify, rank, deploy, and compensate such demand resources during emergency conditions.

[56] Ameren, MISO TOs, and MISO Industrial Customers.

### 3. Hedging Ancillary Services Costs

#### a. Midwest ISO Proposal

71. The Midwest ISO proposes that market participants will be able to self-schedule to meet their anticipated operating reserve requirements for their resources, or will be able to enter into bilateral arrangements with other market participants to supply operating reserves from qualified resources. When a market participant self-schedules operating reserves, it specifies the amount of reserves to be carried on a resource and becomes a price-taker for those reserves.

#### b. Comments

72. OMS contends that ratepayers should not have to pay for adequate reserves twice: once in the planning reserve cost required by states with integrated resource planning and reserve requirements and again in the costs of ancillary services as a result of the Midwest ISO's proposal.[57] To avoid this outcome, OMS considers self-provision of ancillary services to be an important hedge against higher ancillary services costs. However, OMS notes that utility companies can only hedge their ancillary service costs by bidding into the energy and ancillary services markets to the extent they are assured that the costs incurred are less than or equal to the bids submitted in the co-optimized energy and ancillary services markets. If this is not the case, utilities are not 100 percent hedged, according to OMS. Also according to OMS, because no perfect hedge exists to offset ASM costs, state commissions will be faced with difficult cost recovery issues.

73. The Midwest TDUs consider self-scheduling a nominal option that does not hedge the risk of high scarcity prices. Other commenters[58] note that market participants who self-schedule could receive less revenue for self-supply priced at the zonal clearing price, while paying a portion of the market-wide load ratio share, and also note that the

[57] This position does not represent the position of the Indiana Utility Regulatory Commission or the Indiana Office of Utility Consumer Counselor. OMS March 30, 2007 Comments at n. 29.

[58] Indianapolis P&L, MISO Industrial Customers, Xcel, NIPSCO, and Hoosier and Southern Illinois Coop.

proposed tariffs do not include a provision for bilateral contracting for ancillary services.[59] OMS recommends the Commission require the Midwest ISO to ensure the ASM provides adequate hedging through self-provided ASM.

### c. Midwest ISO Answer

74. The Midwest ISO answers that Commission policies permit "alternative comparable arrangements" for ancillary services in the *pro forma* tariffs set forth in both Order Nos. 888 and 890 and that the Commission has permitted self-supply of certain ancillary services. The Midwest ISO further maintains that the proposed self-scheduling option and accompanying ability to enter into bilateral contracts for operating reserves is consistent with or superior to any provision of self-supply and is consistent with Commission precedent.[60] Finally, the Midwest ISO clarifies that load-serving entities will be able to enter into bilateral supply contracts with other suppliers and a contract for differences or similar arrangement could then be used to hedge against potential price risk.

### d. Commission Determination

75. From the beginning of the Midwest ISO Day-2 energy markets, the Commission has recognized the role that state resource planning plays in managing the resource adequacy of the Midwest ISO, and we would not expect the ASM to alter the role planning reserves play in ensuring adequate reserves in the Midwest ISO. We think it is important to distinguish between planning and operating reserves. The function of planning reserves—a longer-term product used for providing adequate capacity for energy and ancillary services—serves a different function from that of providing reserve or regulation energy when needed to manage a specific shortage of reserves or regulation

[59] MISO Industrial Customers further note that the inability of market participants to hedge scarcity costs due to shifting zones will reduce incentives to enter into long-term contracts. Indianapolis P&L also notes that Order No. 888 requires that transmission providers are required to facilitate efforts by customers to meet operating reserve obligations with their own generating resources.

[60] *California Independent Transmission System Operator, Inc.*, 116 FERC ¶ 61,274 (2006), *order on reh'g*, 119 FERC ¶ 61,076 (2007).

in near real- time. For this reason, we do not consider payment for both planning reserves and ancillary services to be payments for the same service.[61] We discuss below in section 9 the interrelationship of the ASM and existing planning reserve margins.

76. Under Order Nos. 888 and 890, transmission providers are to provide transmission customers with the option of self-supplying certain ancillary services through their own resources or bilateral arrangements, as the Midwest ISO clarifies. With respect to OMS's concern that an exact match between a utility's ancillary service obligations and its self-supplied capacity may be difficult to establish, we note that heretofore this has not proven to be an issue in the other ISO markets with bid-based ancillary services. However, given that each region has different regulatory concerns and different ancillary service market designs, we encourage OMS, market participants, and the Midwest ISO to continue discussions regarding hedging and procedures for self-supply of ancillary services. We also encourage the Midwest ISO to clarify with stakeholders the steps the Midwest ISO must take to ensure that overall market reliability is maintained while allowing market participants to self-supply. We encourage the Midwest ISO to provide further information on this issue in its revised proposal.

### 4. General Market Design Concerns

#### a. Comments

77. Commenters[62] express concern that the complexity of the overall ASM proposal and major design elements of the proposed ASM—such as simultaneous co-optimization and dynamic reserve zones, and their interactions—will increase costs and increase uncertainty for market participants. Commenters' are concerned with, *e.g.*, the proposed ten-minute look-ahead for committing resources to the ancillary services markets (as opposed to the longer time frames allowed in other ISOs). They contend that the shorter time frame for committing resources will limit the units available for commitment to those quicker response and higher cost units. Further, commenters are concerned because there are no "proof of concept studies" that validate the proposed simultaneous co-optimization method.

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[61] We also agree with the Midwest ISO that as Balancing Authority for the entire Midwest ISO Balancing Authority Area, it would be the entity responsible for ensuring compliance with applicable ERO standards relating to operating reserves, and for procuring such operating reserves on behalf of market participants.

[62] Indianapolis P&L, OMS and Integrys.

### b. Commission Determination

78. We recognize that the Midwest ISO proposal is far-reaching both in its scale and complexity. It will require state-of-the-art software and other management tools in order to allow the Midwest ISO to execute critical reliability functions and deliver improved economic efficiency. While commenters propose marginal refinements to the design, we do not expect that such refinements will resolve their concerns. As commenters indicate, much of their concern regarding the proposed ASM is based on their experience to date, and they are concerned that adding more complexity to the system will only exacerbate the cost trends and uncertainty that already exist.

79. As we discuss in this order, we do not expect that the design of the new features proposed by the Midwest ISO will harm customers or result in additional costs or uncertainty. At the same time, we recognize that customers will reap the benefits of the proposal only to the extent that the markets deliver the expected results. Through this guidance order, we have taken steps to ensure effective deployment of the market software and to encourage additional attention to design issues that continue to raise concerns. We also note that the Midwest ISO has periodically faced market inefficiencies due to inflexible supply offers. The more fully and flexibly market participants participate in the markets, the better the markets will function. For example, offers that reflect the true capacity and ramping capabilities of resources will ensure maximum participation of resources, to the benefit of reliability and efficiency.[63] Accordingly, we encourage the Midwest ISO working with stakeholders to develop metrics by which to measure the performance of new systems and ancillary services management practices. We also expect the IMM to provide regular assessments of ancillary services market behavior, including measures of participation, offer flexibility, and responses to economic signals, in its state of the market reports.

## 5. Reserve Zones

### a. Midwest ISO Proposal

80. The Midwest ISO proposes to determine reserve requirements for the entire Midwest ISO market, and then to determine local reserve requirements on a zonal basis. Under the Midwest ISO's proposal, it will divide its Balancing Authority Area into zones, with each zone defined by a subset of market resources in order to ensure reliable

[63] In this sense, we disagree with arguments by commenters such as Integrys that the proposal only provides efficiency benefits and not reliability benefits. Reliability is enhanced with greater participation of resources in ancillary services markets.

delivery of reserves. Within each reserve zone, the Midwest ISO will identify the minimum required operating reserve, including separate requirements for regulating reserve, contingency reserve and spinning reserve. The Midwest ISO will then disperse the operating reserves throughout the Midwest ISO Balancing Authority Area. The Midwest ISO will identify the zones required based on the results of a reserve zone study.

81. The Midwest ISO proposes to make reserve zone determinations using a four step study process: (1) the Midwest ISO uses a network model for the target study period and dispatches generation in a manner that identifies all transmission constraints possible; (2) the list of transmission constraints is screened for impacts on reserve zone determination; (3) generation resources are grouped into candidate reserve zones based on their expected impacts on transmission constraints; and (4) candidate reserve zones are tested by simulating the loss of each generating resource in the zone, and then importing reserves from generation resources outside the zone that have the highest impact on alleviating the transmission constraints identified in the screening process until a transmission constraint limit is reached or the simulated "lost" generation capacity is replaced at its modeled level of output. This fourth step is to be repeated for each resource in each candidate zone. The minimum reserve requirement is the largest difference between the output capability of the generation resource and the import capability. If the largest difference is zero then the candidate reserve zone is not needed and eliminated.

82. Using the four step study process and a historical operating day, the Midwest ISO states that its preliminary testing resulted in four reserve zones that included approximately 60 percent of the generation resources expected to participate in the energy and ancillary services markets. The Midwest ISO states that it is probable that not all of the Balancing Authority Area will be included in reserve zones, and, therefore, all resources will not be assigned to a reserve zone, and no resource will ever be assigned to multiple reserve zones.

83. The Midwest ISO proposes to update the reserve zone studies on a daily basis, two days prior to the operating day, but does not expect that the reserve zone determinations will change on a daily basis. The Midwest ISO will publish, two days prior to the operating day, any changes to the reserve zones and the amount of operating reserves required. The Midwest ISO notes that because reserve requirements are published two days prior to the operating day, this will allow market participants to self-schedule. Once published, the reserve requirements will apply to both the day-ahead and real-time markets.

**b. Comments**

84. Several commenters ask the Commission to direct the Midwest ISO to use static reserve zones, at least initially. The Midwest TDUs assert that at market start, reserve zones should be static, and after 180 days of operation the Midwest ISO could file to change reserve zones or make them dynamic. Dynegy asserts that the Midwest ISO should use static reserve zones that are based on the top 15 to 20 historical constraints and keep them in effect for a least one season, which it believes will allow better coordination with the FTR seasons. FirstEnergy suggests that reserve zones could initially be set seasonally and then, after the Midwest ISO gains experience, it could transfer to the daily setting of reserve zones. Calpine asserts that the reserve zones should not change more often than annually in order to reduce the chance for confusion and price uncertainty in the ancillary services markets.

85. Commenters are also concerned about the costs associated with the reserve zone studies and the cost assignments of reserves. Alliant asserts that if the reserve zones are to be largely unchanged day-to-day, then stakeholders should not have to bear the analysis costs associated with performing the reserve zone studies daily. Xcel requests that the Commission direct the Midwest ISO to incorporate the reserve zone determination methodology into the tariff as a schedule. FirstEnergy is concerned about a disconnect between zonal reserve requirements and reserve cost allocations, because reserve zones are set based on physical characteristics of the transmission system, but costs are allocated Midwest ISO-wide on a load ratio share basis. Hoosier and Southern Illinois Coop and Duke echo these concerns about cost allocations and express further concerns that the changing configuration of the reserve zones may reduce the ability of market participants to hedge the costs of procuring reserves.

86. MISO Industrial Customers argue that the Midwest ISO's proposal to dynamically define reserve zones cannot be in accord with the need for findings of a competitive market and absence of seller market power because it will be impossible to define the relevant geographic market. They explain that the relevant geographic market is defined as the area in which there is interchangeability by the consumer among products offered by sellers,[64] and that the Midwest ISO expects price separation for ancillary service among the various reserve delivery zones.[65] MISO Industrial Customers also note that

[64] "Products are generally regarded as good substitutes if each substitute is shown to be comparable in terms of price, quantity and availability. We have concluded . . . that each ancillary service is a separate product." MISO Industrial Customers Protest at 15, *quoting Ocean Vista*, 82 FERC ¶ 61,114 at 61,406-07.

[65] MISO Industrial Customers Protest at 15.

scarcity prices may be triggered in one reserve delivery zone but not another and that the concentration of suppliers will change because the size of reserve zones, as well as the number of generating facilities that will exist within each reserve zone, may fluctuate each day. Thus, MISO Industrial Customers aver that, as reserve zone boundaries change, a generator may find itself a pivotal and perhaps even monopoly supplier of one or more of the three types of operating reserves. MISO Industrial Customers argue that for the Commission to satisfy fully its obligations under the FPA, it must either dynamically perform market-based rate authority analyses, or preclude the Midwest ISO from dynamically defining the relevant geographic market.

### c. Midwest ISO Answer

87. The Midwest ISO maintains that the capability to modify reserve zones on a daily basis is reasonable and is needed to reliably reflect changes to the transmission system topology and generation resources. The Midwest ISO notes the negative consequences that could result from infrequent reserve zone updates, such as the inability of the system operator to recognize the deliverability limitations of the transmission system (thus impacting reliability), and the use of stale zone data that contains problems that no longer exist (thus increasing costs). However, the Midwest ISO does agree that the four-step process used to conduct the reserve zone study and set the minimum operating reserve requirements described in the testimony of Mr. Roy Jones would add clarity to the tariff, and Midwest ISO states its willingness to incorporate such language if directed to do so by the Commission.

### d. Commission Determination

88. The Midwest ISO's proposal to study and define reserve zones two days prior to the operating day strikes us as a reasonable method of determining the reserve responsibilities of market participants. We note that the Commission has not mandated that every RTO/ISO define its reserve zones in an identical fashion.

89. In its new role as Balancing Authority for the entire region, the Midwest ISO must determine which resources are capable of delivering reserve products in the time period required to maintain system reliability. The ability to change configurations of the reserve zones as system conditions warrant has inherent reliability and economic benefits. This is because the Midwest ISO's proposal recognizes that the deliverability of reserves is a fundamental requirement when satisfying system reserve needs. However, it is important to note that, although the Midwest ISO will conduct the reserve zone studies daily, the Midwest ISO will only change the reserve zones as necessary and does not

anticipate changes on a daily basis.[66] Conducting the reserve zone studies does not appear to add a significant burden to the Midwest ISO's responsibilities because it has to calculate the reserve needs of each zone regardless of whether the reserve zones are static or dynamic. We do not expect that these studies will be time consuming or costly to implement. Although other RTOs such as ISO-NE use static reserve zones, we note that ISO-NE still possesses the ability to change the reserve zone configuration as system conditions warrant.[67] Finally, as noted elsewhere herein, the Midwest ISO region does not have a history of tight power pool operation; plus, the Midwest ISO's large geographic size and its seams configuration—with PJM to the east and non-market areas to the west—add to the need for dynamically defined reserve zones.[68]

90. Regarding commenters' concerns about the level of specificity in the tariff versus the business practices manuals as to the reserve zone determinations, we encourage the Midwest ISO to include in its tariff a level of detail similar to the level of detail PJM includes in its tariff.[69] As with any new system, it has taken stakeholders and PJM some time to become familiar with the zone determination process. Likewise, we expect that there will be a transition period in the Midwest ISO after the implementation of the reserve zone system.

91. The Midwest ISO has indicated its willingness to incorporate in its tariff the four step process and general information related to how the reserve zones will be studied and established on a daily basis. In addition to incorporating this information in its tariff, we encourage the Midwest ISO to provide further detail regarding the reserve zone study and establishment process.

92. The Midwest ISO proposal provides that resources would be paid for reserves based on their marginal clearing price and market participants would be charged for

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[66] *See* Midwest ISO ASM Filing, Exhibit E, Testimony of Roy Jones at 53.

[67] *See* section III.2.7(g) of Market Rule 1, Original Sheet No. 7145A.

[68] *See infra* n.79.

[69] For example, PJM's tariff identifies that PJM uses a process to set the regulation and synchronous reserve requirements for its reserve zones, (*see* PJM Tariff sections 1.7.18 Regulation and 1.7.19A Synchronized Reserve. Fifth Revised Sheet Nos. 345 – 346), while standards and requirements are specified in PJM's applicable manuals and utilized by system operators in decision-making.

reserves procured by the Midwest ISO on a market-wide load ratio share basis.[70] Hence, while suppliers of reserves will be paid scarcity prices for each MW, buyers will not pay those prices, but rather will pay the average procurement price per MW, which is likely to be less than the scarcity price. Furthermore, the Midwest ISO anticipates that the hours of the highest scarcity prices (*i.e.*, $3,500/MW/Hour) will likely be less than the 20 to 30 hours of total expected scarcity hours per year. While it is possible that market participants may pay more for reserves than their resources receive in payment, to the extent the resources are in low cost zones with low marginal clearing prices, we do not expect the difference between payments and revenues to represent a significant exposure to scarcity pricing, as commenters contend, and therefore we do not consider complete zone hedging to be necessary for the efficient functioning of the market.

93. Nonetheless, we agree that market participants should be able to mitigate potential higher costs, and we expect market participants will be able to mitigate the impacts of scarcity pricing by contracting bilaterally between load and generation for all types of reserve products. Also, there is the presumption of deliverability of the reserves built into the four-step process outlined by the Midwest ISO, which dictates the configuration of the reserve zones. Therefore, market participants that currently have deliverable reserves through a bilateral contract can continue to provide reserves under that arrangement going forward. The reserve zone methodology will recognize the physical constraints of the transmission system, but it will not alter them. And finally, we note that commenters submitted data showing the limited hours in which scarcity prices historically have been exercised in other markets in relation to cost recovery; however, it would also follow that the hours the hedge was economic would be limited as well.[71] In other non-shortage times, market participants could self-schedule their reserves so that market participants in the zone would pay for the needed reserves at the market clearing price of delivering reserves in that zone.

94. Regarding MISO Industrial Customers' concern about the ability to define a geographic market where the reserve zones are dynamic, we note that we have directed the Midwest ISO to provide the Commission with a market power analysis; a requirement of this analysis is that the Midwest ISO define the relevant geographic market for ancillary services. Therefore, we await the Midwest ISO's filing before we address MISO Industrial Customers' concern. We do note, however, that while mitigation measures without an accompanying market power analysis are not sufficient for the

[70] We find this cost allocation to be generally acceptable as discussed in the Cost Allocation section.

[71] *See* Duke March 30, 2007 Comments at 6.

Commission to approve sales of ancillary services at market-based rates, mitigation measures, if specifically tailored, may help address concerns about market power that arise from using dynamically defined reserve zones.

### 6. Cost Allocation

#### a. Midwest ISO Proposal

95. The Midwest ISO proposes to allocate the cost of procuring and deploying contingency reserves in both the day-ahead and real-time markets under Schedules 5 and 6 based upon a market load ratio share which includes load and export schedules. The costs of procuring and deploying regulating reserves in both the day-ahead and real-time markets under Schedule 3 will be allocated to both load and resources subject to Excessive/Deficient Energy Deployment Charges, but will not include exports. The Midwest ISO explains that the proposed allocation is consistent with that approved by the Commission for other RTOs operating ancillary services markets including PJM, ISO-NE and NYISO.

#### b. Comments

96. MISO Industrial Customers and Alcoa express concerns that the Midwest ISO's proposal revises the current allocation of ancillary services costs from a capacity or demand-based allocation to an energy-based allocation—even though these costs represent availability payments that should be allocated as capacity costs—which will result in cross-subsidies from high load factor market participants. WEPCO argues that day-ahead reserve charges should be based on the day-ahead energy and operating reserves market.

97. Commenters[72] also assert that the Midwest ISO's proposal is unreasonable in that it does not allocate any contingency reserve costs to generators for units that trip off-line and cause reserve deployments; or to generation that deviates; or to all beneficiaries, including imports and exports. Other commenters[73] disagree, explaining that allocating costs to generators tripping off-line represent a double penalty since these entities already pay penalties for the differences between real-time performance and the financially binding day-ahead offers. Commenters also note that such cost allocation results in inefficiency because generators will raise their bids to cover the estimated risk. These

[72] Integrys, MISO Industrial Customers, and OMS.

[73] Indiana Utility Regulatory Commission, Indiana Office of Utility Consumer Counselor, and Xcel.

other commenters state that activation of contingency reserves is frequently caused by transmission contingencies and therefore clearly identifying the cost causers would be difficult, if not impossible.

98. OMS and Xcel argue that allocating costs by load-ratio share does not attempt to align costs with cost causers, a potentially significant omission if prices for reserves vary significantly across the Midwest ISO footprint. They express concern that the Midwest ISO's proposal could result in the socialized ASM costs for an entity's load being greater than the compensation paid for generation that is located in a lower-priced ASM zone. They therefore urge the Commission to require the Midwest ISO to develop an allocation methodology that recognizes the price differences across the Midwest ISO footprint.

99. Commenters make recommendations regarding cost allocations to virtual transactions and exports. WEPCO and Southwestern assert that operating reserve costs, like energy, should be allocated to both day-ahead and real-time load as well as to virtual transactions. Ameren and OMS express concern that export load is not included in the cost of regulating reserve.

### c. Midwest ISO Answer

100. The Midwest ISO responds that the cost of contingency reserves should be borne by the beneficiaries (load and exports) and that load is the primary causer of contingency reserves. With regard to regulating reserve, the Midwest ISO avers that the primary cost causers are load and resources that do not follow dispatch instructions, and that regulating reserve is in place primarily because load varies from moment to moment. The allocation to resources that do not follow dispatch, states the Midwest ISO, is made via a penalty and the allocation to load is made via a regulation charge. The Midwest ISO explains that the Commission recently accepted CAISO's proposal to allocate its cost of ancillary services procurement to load.[74]

101. The Midwest ISO contends that the allocation of procurement costs on a zonal basis would cause severe equity issues and that all load benefits from the availability of ancillary services. The Midwest ISO also cites to Commission precedent supporting the allocation of procured ancillary services to all load.[75]

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[74] Midwest ISO Answer at 31, *citing California Independent System Operator Corp.*, 116 FERC ¶ 61,274, at 309 (2006).

[75] *Id.*

102. With regard to allocating costs to virtual transactions, the Midwest ISO states that, unlike energy, operating reserves do not represent commodities that can be traded in financial markets, but instead represent physical services that are necessary to ensure reliable operation of the energy markets, the functions of the Balancing Authority, and the reliability of the Transmission System. Also, states the Midwest ISO, operating reserve requirements are fixed rather than bid in both the day-ahead and real-time energy and operating reserve markets. According to the Midwest ISO, since day-ahead energy and operating reserves markets are financial in nature, they are not cost causers of ancillary services. Thus, virtual transactions should not be allocated any operating reserve charges and day-ahead reserve charges cannot be assessed in the day-ahead energy and operating reserve market.

103. With regard to not allocating costs to exports for regulating reserves, the Midwest ISO asserts that the primary cost causers of regulating reserves are transactions that create a regulating reserve burden, namely loads and resources that do not follow dispatch signals, and that regulating reserve is in place primarily because load is generally not fixed, but varies from moment to moment. Also, resources that do not follow dispatch signals require other resources to compensate, or regulate, to maintain real-time balance between generation and demand, according to the Midwest ISO.

### d. Commission Determination

104. We agree with the Midwest ISO that allocating the costs of procuring and deploying contingency reserves on a market load ratio share, which includes export schedules, is a reasonable approach.[76] We do not consider the allocation of costs for the current cost-based charges in Schedules 3, 5 and 6 to be relevant to the ASM charges. The current system allocates the cost-of-service for regulation and reserve services provided by control areas to transmission customers using the control area transmission system. Accordingly, the charges for the current Schedules are assessed based on reserved transmission capacity for point-to-point service or network service, representing an assessment based on use of facilities, as opposed to the energy costs being recovered in the proposed ASM charges. Therefore the cost allocation of the current rates does not provide guidance for allocating ancillary services costs.

[76] Since reserve requirements are a function of hourly energy requirements, an energy-based allocation is appropriate and other allocations, such as those based on peak demands or day-ahead financial schedules, would not be appropriate since they do not reflect cost incurrence.

105. We do not consider an allocation of contingency reserve costs to generators that trip or deviate in real-time and cause deployment of reserves to be necessary for a just and reasonable allocation of contingency reserve costs. First, it is not clear why the generators should be singled out, since failure of transmission facilities can also cause reserve deployments. In the event that a reserve deployment has multiple causes due to equipment failures, such a rule will put the Midwest ISO in the position of having to determine cause and effect, which may not be straightforward. Second, as commenters note, generators would already have to buy back any settled day-ahead positions at the real-time price, which could be substantially above the day-ahead price. Furthermore, the proposed Excessive/Deficient Energy Deployment Charge and the Contingency Reserve Deployment Failure Charge serve the purpose of ensuring timely and complete performance of contingency reserves, and therefore additional charges are not needed for this purpose.

106. As a general matter, we consider a market-wide allocation of ancillary services costs to be reasonable, because regulation and reserve energy are procured on a system-wide basis in the co-optimization analysis,[77] and therefore ancillary services are provided for the benefit of the entire market. At the same time, it would be beneficial for the Midwest ISO to continue discussions with stakeholders on cost allocation issues, in recognition of circumstances such as self-supply that may require refinements to the proposal to ensure that costs are allocated based on cost causation principles to the extent possible.

107. We consider it reasonable not to assign ancillary services costs to virtual transactions since operating reserve requirements are a function of physical service requirements and, as such, there is no cost causation basis for allocating costs to purely financial virtual transactions. We also consider it reasonable not to allocate regulation costs to exports because regulation requirements are a function of variances in load and resource outputs, whereas export schedules are fixed at a specific MW level for an hour,[78] and therefore do not contribute to the regulation reserve burden.

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[77] The market-wide basis for regulation and reserve requirements is specified in section 39.2.1A.c of the proposed TEMT, which provides that "the cleared Regulating Reserve in one or more Reserve Zones may exceed the corresponding Regulating Reserve Requirement for that Reserve Zone when necessary" and that "the cleared Operating Reserve in one or more Reserve Zones may exceed the corresponding Operating Reserve Requirement for that Reserve Zone when necessary."

[78] *See* Midwest ISO ASM Filing, Exhibit E, Testimony of Roy Jones at 74.

### 7. Must-Offer Requirement

#### a. Midwest ISO Proposal

108. The Midwest ISO proposes to extend its must-offer requirement, currently applicable to resources participating in the energy markets, to resources participating in the reserve markets. Accordingly, as proposed, any network resources qualified to provide both energy and reserves would have to self-schedule or offer into the day-ahead market. Any network resource capacity not cleared in the day-ahead market would be required to offer into the first Reliability Assessment Commitment (RAC) processes operated prior to the operating day. Any network resource not committed in the day-ahead market or Reliability Assessment Commitment would be released from its must-offer obligation in the real-time market. Market participants could satisfy their operating reserve requirements in a bilateral arrangement by self-scheduling their operating reserves, but self-schedulers would be submitting a quantity-only offer and would be "price takers" in the market.

109. The must-offer requirement for regulating reserves is proposed to expire 180 days after implementation of the energy and operating reserve markets. The must-offer requirement for energy and contingency reserves would remain in effect beyond the initial 180-day period.

#### b. Comments

110. The proposal for a transitional must-offer requirement for regulating reserves received some conditional support in comments. Ameren and FirstEnergy both support the 180-day regulating reserve must-offer provision, but Ameren asserts that the Midwest ISO should be required to analyze the necessity of the requirement and its impact on reliability during the initial 180-day effective period. FirstEnergy asserts that if the March 2008 timeline slips, a shorter transitional must-offer, such as 60 days, should be required because market participants will have had more time to review procedures. The Midwest TDUs and OMS assert that the must-offer requirement for regulating reserves should not sunset after the 180 days. OMS asks the Midwest ISO to reevaluate lifting the requirement prior to the 180-day deadline.

111. However, several commenters do not support the must-offer requirement at all or they do not support the ongoing must-offer for contingency reserves. In general, commenters assert that the must-offer provision should be eliminated because it is overly conservative, hard on their generating units providing regulation service, not used in PJM, and not needed for a smooth transition to the ancillary services markets. Hoosier and Southern Illinois Coop and Detroit Edison state that an ASM which is sending the

proper price signals will cause market participants to provide reserves voluntarily. Xcel requests that the Midwest ISO be directed to periodically reevaluate the need for the must-offer requirement.

112. Several commenters ask the Midwest ISO to provide more clarity or resolve apparent conflicts in tariff language regarding the must-offer requirement. For example, OMS notes that the testimony of Roy Jones regarding the must-offer requirement conflicts with section 63.3 of Module D discussing physical withholding. OMS also notes an ICF International study released February 28, 2007, which found that certain units were considered to be "must run" units for Midwest ISO voltage and system support. OMS questions how the Midwest ISO will ensure that these must run units are available without an ongoing must-offer requirement. The MISO TOs and Ameren note that the tariff is unclear as to whether a resource subject to the must-offer is required to offer its full capability or just a partial range. In addition, the MISO TOs request that the Midwest ISO clarify its expectations of market participants after the 180-day must-offer requirement expires, particularly the hourly regulation minimum and maximum limits. Consumers asks the Commission to direct the Midwest ISO to clarify that the must-offer requirement for contingency reserves is temporary or reject it as filed. Furthermore, Calpine finds it unclear how the must-offer requirement will be implemented and enforced in conjunction with the existing Module E must-offer requirement for energy.

113. Several commenters ask for more flexibility in the must-offer requirement. Xcel asks for more flexibility in the offer templates so that, for example, a market participant may offer a different ramp rate for each segment of its offer curve, instead of the hourly ramp rate outlined in TEMT section 39.2.5(a)(viii). Alliant asks the Commission to consider directing the Midwest ISO to waive all penalties related to regulation service during the 180-day transitional must-offer period.

### c. Midwest ISO Answer

114. After reviewing the comments requesting varying changes to the must-offer requirement, the Midwest ISO states that it continues to believe that a must-offer requirement for regulation reserves during the first 180 days of market operation is appropriate. According to the Midwest ISO, a 180-day transitional period will give it time to gain operational experience as the sole Balancing Authority, and will give market participants experience in submitting offers or self schedules into the new market. In addition, the Midwest ISO confirms its intent that the must-offer for contingency reserves will not expire after the 180 days.

115. The Midwest ISO asserts that an ongoing must-offer requirement for contingency reserves is appropriate because it will be paired with the existing requirement that designated network resources must offer their energy in the day-ahead market.

Contingency reserves can be provided by the same designated network resources already providing their capacity in the day-ahead market. In contrast, the Midwest ISO notes that not all network resources are capable of providing regulating reserves. The Midwest ISO also asserts that the must-offer requirement is necessary for contingency reserves because certain units may withhold contingency reserves on a high cost network resource, which would cause the market to clear energy in lieu of contingency reserves and thus drive up the costs to the market.

### d. Commission Determination

116. We support the Midwest ISO's general proposal to include a must-offer requirement for regulation reserves during the transition to operating the ASM. We note that other RTOs/ISOs that have a market for ancillary services have not had a similar transitional regulation must-offer requirement. However, we acknowledge the need for a transitional must-offer requirement here because the ASM will be a new paradigm for the existing Midwest ISO Balancing Authorities; the Midwest ISO does not have the operational experience dispatching regulation reserves;[79] and the region does not have a history of tight power pool dispatch similar to other RTOs/ISOs.[80] Therefore, a transitional regulation must-offer requirement, along with the other safeguards mentioned herein, will aid a smooth ASM launch.

117. In contrast to the transitional must-offer for regulation reserves, the Midwest ISO is proposing an ongoing contingency reserve must-offer tied to the interim must-offer for energy contained in Module E. Contingency reserve is distinguished from other energy produced by the same unit due to its ability to quickly respond to system events.[81] In the

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[79] We note that the Midwest ISO is currently gathering data from its network resource units about their capability to respond to automatic generation control (AGC) signals used to dispatch regulating reserves. Midwest ISO ASM Filing, Transmittal Letter at 30.

[80] *See* TEMT II Order, 108 FERC ¶ 61,163, at P 3 ("In order to address the Midwest ISO's unique features, such as the fact that this ISO does not have prior experience operating as a single power pool and has only a short period of experience operating under a single reliability framework, we will order the Midwest ISO to implement additional safeguards and confidence-building protections at startup and for a transition period.").

[81] *See* Midwest ISO ASM Filing, Exhibit H, Testimony of Roy Jones at 10. "Contingency Reserves consists of unloaded Resource Capacity that is set aside to offset an abnormal supply deficiency event, such as the loss of a large generator or a transmission line carrying significant flow; . . . Spinning Reserve is defined as a specified

(continued)

absence of contingency reserves, the Midwest ISO still has to balance the system and procure energy, but without a must-offer requirement, it may have to do it at a higher cost. We note, however, that we will reevaluate the need for any permanent energy and contingency reserve must-offer requirement as part of the long-term resource adequacy proposal. Also, depending on the timing of the Midwest ISO completing and filing Phase II of its resource adequacy proposal, the must-offer requirement for contingency reserves could be substantially altered or obviated before it is implemented.

118. Finally, we are encouraged that the Midwest ISO provided in its answer the clarification requested by commenters that the must-offer for contingency reserves will continue so that designated network resources offer their full capacity. However, we find that several other requests for clarification by commenters have merit, but were not addressed in the Midwest ISO's answer. For the future filing, we advise the Midwest ISO to consider responding to commenters concerns regarding ramp rates, offer parameters, and the requirements of market participants beyond the initial 180-day period.[82]

### 8. Tolerance Bands

#### a. Midwest ISO Proposal

119. The Midwest ISO proposes to replace the energy market's Uninstructed Deviation calculations and penalties with Excessive and Deficient Energy calculations and penalties related to energy deployments. In conjunction, the Midwest ISO proposes to reduce the tolerance band for deviations to its dispatch instructions from plus or minus 10 percent, with a 5 MW minimum and a 25 MW maximum, to plus or minus 4 percent, with a 3 MW minimum and a 20 MW maximum. If a generating unit supplies more than instructed, its deployment will be excessive; if less than requested, it will be deficient. If a resource has excessive or deficient energy in three or more consecutive five-minute intervals, the resource will be subject to an Excessive/Deficient Energy Deployment Charge.

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percentage of the total Midwest ISO Contingency Reserve requirement that must be immediately available . . . ."

[82] *See, e.g.,* Ameren March 30, 2007 Comments at 18-19; Calpine March 30, 2007 Comments at 3-5; Xcel March 30, 2007 Comments at 17; and OMS March 30, 2007 Comments at 9-10.

**b. Comments**

120. Commenters assert that the existing 10 percent tolerance band should be maintained under the new ASM. Reliant, Detroit Edison, and Dynegy comment that the Midwest ISO has not sufficiently justified a departure from the existing tolerance band. They also argue that the proposed tolerance band of plus or minus 4 percent is too narrow and that it might result in lower offered ramp rates and increased regulation service needed as less flexible units defensively lower their ramp rates. Reliant notes that the Midwest ISO's transmittal letter states that a charge applies if the generator fails to follow set-point instructions three or more times within the hour, while the tariff and Roy Jones' testimony indicate that a penalty only applies if a violation occurs in three or more consecutive five-minute intervals. Dynegy asks the Commission to instruct the Midwest ISO to implement a 10 percent band and Reliant asks the Commission to convene a technical conference to analyze tolerance band issues.

121. However, some commenters generally supported the revised tolerance band. FirstEnergy supports the revised tolerance band, finding it both reasonable and achievable. Ameren states that it tested its actual units that provide regulating reserves against the 4 percent tolerance band and found that it was sufficiently wide for large units with large ramp rates, advantageous for mid-size to large units with small ramp rates, but it put small units (less than 200 MW capacity) at a disadvantage. Ameren suggests an alternative standard that uses both total output and ramp rates coupled with a 4 percent tolerance band, and a minimum standard of 3 MW or 4 MW/unit of ramp rate and a maximum standard of 20 MW or 10 MW/unit of ramp rate.

**c. Midwest ISO Answer**

122. The Midwest ISO responds that it finds the 4 percent tolerance band a reasonable balance between minimizing the opportunity for "free riders" and respecting the physical limitations of generators that are legitimately trying to follow set-point instructions. The Midwest ISO also notes that it provided an opportunity for all stakeholders to provide unit data that was considered when choosing the 4 percent tolerance band.

123. In addition, the Midwest ISO reiterates and clarifies that, because the regulating reserve charge rate applies to all load, to make it equitable the charge should also apply to all generation that is not following its instructions in three or more consecutive dispatch intervals.

**d. Commission Determination**

124. We share the Midwest ISO's concern that, as the Balancing Authority for the entire region going forward under the new ASM, a 10 percent tolerance band applied to

just the hourly average dispatch target has the potential to increase the amount of regulating reserve procured. During a given operating hour a resource's output could vary dramatically, but its hourly average dispatch could correspond to dispatch instructions. Therefore, we support the application of the tolerance band to each five-minute dispatch instruction.

125. In addition, we share the Midwest ISO's concern that a "free rider" issue arises because of an overly generous bandwidth around dispatch instructions. As an example, the Midwest ISO notes that with a 10 percent tolerance band a 200 MW unit with a ramp rate of 3 MW/minute could potentially clear 15 MW of regulation reserve and then after deployment not change its output, but still be within the 10 percent tolerance band. We support a tolerance band of less than 10 percent. However, we also recognize that the Midwest ISO arrived at 4 percent as a product of compromise, and we encourage the Midwest ISO to continue to evaluate its tolerance band for effectiveness.

126. We are not persuaded, as commenters argue, that the Midwest ISO must adopt the tolerance band of the other RTO/ISOs, such as PJM which has a 10 percent tolerance band; nor are we persuaded that a technical conference dedicated to tolerance band issues is warranted. Each region has a unique make-up of generating resources in its region, with differing capacity to respond to dispatch instructions, and therefore, a unique tolerance band may be appropriate.

### 9. Resource Adequacy

#### a. Midwest ISO Proposal

127. The Midwest ISO submitted a "Resource Adequacy Plan" as Attachment A to its filing in order to comply with the directives of the September 26, 2006 Commission Order.[83] In Attachment A, the Midwest ISO states that it did not propose substantive changes to Module E of its tariff other than certain conforming changes related to its ASM filing. The Midwest ISO regards the ASM filing as Phase I of the establishment of a long-term resource adequacy plan for its region and commits to file Phase II, a permanent resource adequacy plan, by December 2007, as part of the milestones and deadlines outlined in Attachment A.

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[83] *See Midwest Independent Transmission System Operator, Inc.*, 116 FERC ¶ 61,292 (2006) (September 26 Order) (directing the Midwest ISO to file a timetable regarding its two-phase approach for developing and implementing a permanent resource adequacy plan).

128. In Attachment A, the Midwest ISO outlines the plan elements for Phase II of its resource adequacy plan. In Phase II, the Midwest ISO will modify Module E to address, among other issues: (1) adopting state resource adequacy requirements; (2) establishing regional reliability requirements; (3) establishing a default reserve margin for load-serving entities with neither a state resource adequacy standard nor membership in a regional reliability organization; (4) developing a planning capacity reserve margin; (5) converting regional reliability requirements into planning reserve margins; (6) integrating the permanent resource adequacy plan into the Midwest Transmission Expansion Plan (MTEP); (7) enhancing demand response resource participation; (8) facilitating planning reserve margin achievement for load-serving entities without resources; and (9) establishing compliance protocols.

**b. Comments**

129. Several commenters filed in support of the milestones and goals outlined in Attachment A generally, but they ask the Commission to require the Midwest ISO to meet a specific timeline. OMS asks the Midwest ISO to revise its stated timeline to complete the load-serving entity achievement of planning reserve margins and compliance protocols by October 2007 rather than December 2007. Detroit Edison asks the Commission to set a deadline for the Midwest ISO to file its long-term resource adequacy plan by December 31, 2007 and for implementation of such plan by Summer 2008.

130. However, other commenters ask the Commission to reject Attachment A because it does not comply with the September 26 Order's requirement to include specific milestones and deadlines. For example, Reliant asks the Commission to reject the Midwest ISO's resource adequacy plan because it relies on the interim plan in Module E as the basis for future resource adequacy plan development. Integrys asserts that the Midwest ISO has made little progress beyond the interim plan in Module E despite two years of market operation, and Attachment A will not lead to any more progress. In addition, other commenters state that they do not support the timeline because it does not include adequate stakeholder input.

131. Several commenters aver that a system-wide planning reserve margin administered by the Midwest ISO is needed. Detroit Edison believes it is important that the Midwest ISO establish an enforceable minimum planning reserve margin standard applicable to all load-serving entities in its region. Detroit Edison argues that a Midwest ISO-wide standard is needed due to the large number of states and Regional Reliability Organizations involved in developing long-term resource adequacy standards. Reliant asks the Commission to provide specific guidance for future stakeholder discussions regarding, among other things, common definitions for a planning reliability product that is consistent with NERC Regional Reliability Organization requirements. Integrys

believes it is unrealistic to rely on state commissions for action to develop a long-term resource adequacy plan. Integrys notes that not all state commissions have state statutory authority to require their load-serving entities to maintain a planning reserve margin, and, moreover, some commissions do not have authority over municipals and/or cooperatives. Integrys believes the best way to achieve a regional long-term resource adequacy plan is through the Regional Entities.[84] However, Integrys is not convinced that the Regional Entities can achieve any planning reserve objective within the prescribed timeline without a concerted effort that includes the Regional Entities, the Midwest ISO, stakeholders, and state commissions.

### c. Midwest ISO Answer

132. The Midwest ISO commits to continuing ongoing efforts to develop a long-term resource adequacy plan, including "fine-tuning" the milestones with stakeholders and OMS, to culminate in a filing that amends Module E in December 2007. In response to OMS' request to develop planning reserve margins and compliance protocols in October 2007, the Midwest ISO states that it is committed to achieving the milestones as soon as practicable, but it emphasizes that the milestones and goals listed in Attachment A are all interdependent. The Midwest ISO also notes that it is working with NERC and the applicable Regional Reliability Organizations to ensure that its revisions to Module E are consistent with national resource adequacy standards.

133. Regarding questions of who should be responsible for enforcing the resource adequacy standards, the Midwest ISO responds that such authority is most appropriately exercised by the ERO and state commissions, which either have authority vested by Congress or have traditionally possessed authority to enforce resource adequacy standards. The Midwest ISO views its function in the resource adequacy process as monitoring, analyzing, and reporting resource adequacy requirements compliance, but not enforcing resource adequacy compliance.

134. In addition, the Midwest ISO disputes that its resource adequacy program will not send pricing signals that are sufficient to induce resource additions to the region. The Midwest ISO believes that the proposed scarcity pricing program will ensure that prices

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[84] Regional Entities were previously referred to as NERC Regional Reliability Organizations. *See North American Electric Reliability Council*, 119 FERC ¶ 61,060 (2007) (accepting applicable delegation agreements between: NERC and Midwest Reliability Organization, Docket No. RR07-2-000; NERC and Reliability First, Docket No. RR07-4-000; and NERC and SERC Reliability Corporation, Docket No. RR07-5-000).

rise high enough to send the proper signals during times of resource shortages. And the Midwest ISO notes that it will analyze and publicly identify, years in advance, potential resource deficiencies so that projects with long lead times can be built before constraints manifest themselves.

135. The Midwest ISO notes that stakeholders are divided over whether to implement a strict "energy-only market" design or to develop a capacity market, such as the Reliability Pricing Model in PJM or the Forward Capacity Market in ISO-NE. The Midwest ISO states that it is not proposing to develop the type of capacity markets that are being used in other RTOs. Instead, the Midwest ISO plan is predicated on the price of energy reflecting all costs associated with resource adequacy. The Midwest ISO states that its intent is to develop a plan in good faith that meets the needs of as many of its stakeholders as possible.

### d. Commission Determination

136. Responding to the large number of commenters who consider the resource adequacy component of the Midwest ISO filing to be deficient and who recommend that the Commission reject the filing, we note that the Midwest ISO is not making a resource adequacy proposal in the instant proceeding. The Commission will address long-term resource adequacy in the Midwest ISO when it has a comprehensive Phase II resource adequacy proposal to evaluate. Thus, we clarify that we are providing limited guidance for future resource adequacy discussions, in response to the Midwest ISO's Attachment A, but are not prejudging the merits of any future Midwest ISO filing which details a proposal to ensure long-term resource adequacy.

137. We clarify our impression of the purpose of the present ASM filing as it relates to the future resource adequacy filing. The market for ancillary services proposed here is intended to provide the correct financial incentives so that sufficient quantities of reserves of all types are available to the system operator at all times, but especially during shortage conditions. The long-term resource adequacy plan due to be filed as Phase II should address providing the proper financial incentives such that new generation entry is economically feasible based on all revenues received from the Midwest ISO's markets, including scarcity payments. We also note that in prior orders the Commission has not mandated a particular method of providing the proper investment incentives to ensure long-term resource adequacy, but has instead endorsed the idea that an energy-only market may be one such reasonable method.[85]

[85] *See Midwest Independent Transmission System Operator, Inc.*, 116 FERC ¶ 61,292, at P 53 (2006) ("We reject calls from commenters that we require the Midwest (continued)

138. In the upcoming months the Midwest ISO should continue to work with its stakeholders on the development of a long-term resource adequacy plan, which will culminate in a filing by the Midwest ISO by December 2007 as committed to in Attachment A. Although long-term resource adequacy plan implementation will have to be coordinated with the launch of the ASM and Balancing Authority Area consolidation, we see no practical reason why the Midwest ISO and stakeholders cannot continue to make progress on a long-term resource adequacy plan on the schedule outlined in Attachment A.

139. Further, there are newly designated Regional Entities in the Midwest ISO region and we believe that a region-wide minimum reserve margin standard determined by the applicable Regional Entities should be considered as part of the long-term resource adequacy plan. We recognize that a number of jurisdictional concerns are implicated when contemplating a region-wide reserve margin. However, if the relevant state commissions, reserve sharing groups, and Regional Entities are able to agree to a common standard, we believe there are administrative efficiencies and reliability benefits to be achieved. We are also encouraged that the state commissions, through OMS, have committed to working with the Midwest ISO on difficult policy issues such as reserve margins.[86] Any region-wide reserve margin would not need to override the work already underway to develop planning reserve sharing groups because a region-wide reserve margin could serve as an enforceable minimum standard that could be exceeded by planning reserve sharing groups. Although having uniform standards applicable to all market participants is generally preferable to a balkanized collection of standards, the Commission has accepted a resource adequacy plan that included different standards previously.[87] We will assess the plan that is ultimately filed to determine whether it is just and reasonable.

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ISO to file a capacity market proposal in lieu of an [energy-only market] approach to resource adequacy. We have consistently allowed for regional differences in the RTO context and have never mandated a one-size-fits-all approach for dealing with resource adequacy.").

[86] *See* OMS Comments at 8.

[87] *See California Independent System Operator Corp.*, 116 FERC ¶ 61,274 (2006).

The Commission orders:

The Midwest ISO's proposed tariff revisions and amendment are hereby rejected without prejudice.

By the Commission. Commissioner Moeller not participating.

( S E A L )

Kimberly D. Bose,
Secretary.

# Appendix A

| Notices of Intervention and Motions to Intervene | Short Cites for Commenters |
|---|---|
| Acciona Wind Energy USA LLC | Acciona |
| Alcoa Inc. and Alcoa Power Generating Inc. | Alcoa |
| Alliant Energy Corporate Services, Inc., a service company affiliate of Wisconsin Power and Light Company and Interstate Power and Light Company | Alliant |
| Ameren Services Company on behalf of Central Illinois Light Company d/b/a AmerenCILCO, Central Illinois Public Service Company d/b/a AmerenCIPS, Illinois Power Company d/b/a AmerenIP, Union Electric Company d/b/a AmerenUE, Ameren Energy Marketing Company, Ameren Energy Generating Company and AmerenEnergy Resources Generating Company | Ameren |
| American Municipal Power – Ohio, Inc. | |
| Calpine Corporation | Calpine |
| Coalition of Midwest Transmission Customers | CMTC |
| Constellation Energy Commodities Group, Inc. and Constellation NewEnergy, Inc. | Constellation |
| Consumers Energy Company | Consumers |
| Dairyland Power Cooperative | Dairyland |
| DC Energy Midwest, LLC | DC Energy |
| The Detroit Edison Company | Detroit Edison |
| Dominion Retail, Inc., Dominion Energy Kewaunee, Inc., and Dominion Energy Marketing, Inc. | Dominion |
| Duke Energy Shared Services, Inc., which, for the purposes of this proceeding, includes Duke Energy Ohio, Inc., Duke Energy Indiana, Inc., and Duke Energy Kentucky, Inc. | Duke |
| Dynegy Power Marketing, Inc., Dynegy Midwest Generation, Inc., and Dynegy Power Corp. | Dynegy |
| Edison Mission Energy and Edison Mission Marketing & Trading, Inc. | |
| EnerNOC, Inc. | EnerNOC |
| EPIC Merchant Energy, LP and SESCO Enterprises, | EPIC & SESCO |

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| LLC | |
| Exelon Corporation | Exelon |
| FirstEnergy Service Company on behalf of FirstEnergy Solutions Corp., American Transmission Systems, Incorporated, and The Cleveland Electric Illuminating Company, Ohio Edison Company, Pennsylvania Power Company, and The Toledo Edison Company | FirstEnergy |
| FPL Energy, LLC | |
| Hoosier Energy Rural Electric Cooperative, Inc. and Southern Illinois Power Cooperative | Hoosier and Southern Illinois Coop |
| Illinois Commerce Commission | Illinois Commission |
| Illinois Industrial Energy Consumers | |
| Illinois Municipal Electric Agency | |
| Indianapolis Power & Light Company | Indianapolis P&L |
| Integrys Energy Group, Inc., and its subsidiaries, Wisconsin Public Service Corporation, Upper Peninsula Power Company, and Integrys Energy Services, Inc. | Integrys |
| International Transmission Company, d/b/a ITC*Transmission*, and Michigan Electric Transmission Co., LLC | ITC & METC |
| Manitoba Hydro | Manitoba Hydro |
| Michigan Public Power Agency and Michigan South Central Power Agency | Michigan Agencies |
| Midland Cogeneration Venture Limited Partnership | |
| Midwest Industrial Customers: American Forestry and Paper Association, Wisconsin Industrial Energy Group, Inc., Wisconsin Manufacturers Commerce, and Wisconsin Paper Council | Midwest Industrial Customers |
| Midwest TDUs: Great Lakes Utilities, Indiana Municipal Power Agency, Madison Gas & Electric Company, Midwest Municipal Transmission Group, Missouri Joint Municipal Electric Utility Commission, Missouri River Energy Services, Southern Minnesota Municipal Power Agency, and Wisconsin Public Power Inc. | Midwest TDUs |
| Midwest ISO Transmission Owners: Ameren Services Company, as agent for Union Electric Company d/b/a AmerenUE, Central Illinois Public Service Company d/b/a AmerenCIPS, Central Illinois Light Co. d/b/a AmerenCILCO, and Illinois Power Company d/b/a AmerenIP; Alliant Energy Corporate Services, Inc. on | MISO TOs |

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| behalf of its operating company affiliate Interstate Power and Light Company (f/k/a IES Utilities Inc. and Interstate Power Company); City of Columbia Water and Light Department (Columbia, MO); City Water, Light & Power (Springfield, IL); Duke Energy Shared Services for Duke Energy Ohio, Inc., Duke Energy Indiana, Inc., and Duke Energy Kentucky, Inc.; Great River Energy; Hoosier Energy Rural Electric Cooperative, Inc.; Indianapolis Power & Light Company; Michigan Public Power Agency; Minnesota Power (and its subsidiary Superior Water, L&P); Montana-Dakota Utilities Co.; Northern Indiana Public Service Company; Northwestern Wisconsin Electric Company; Otter Tail Power Company; Southern Illinois Power Cooperative; Southern Indiana Gas & Electric Company (d/b/a Vectren Energy Delivery of Indiana); Southern Minnesota Municipal Power Agency; Wabash Valley Power Association, Inc.; and Wolverine Power Supply Cooperative, Inc. | |
| Mittal Steel USA Inc. | Mittal Steel |
| Northern Indiana Public Service Company | NIPSCO |
| Nucor Steel Marion, Inc., Nucor Steel-Indiana, and SDIPittsboro | Steel Producers |
| Office of the Ohio Consumers' Council | |
| Organization of MISO States | OMS |
| Public Service Commission of Wisconsin | |
| Otter Tail Power Company | Otter Tail |
| Reliant Energy, Inc. | Reliant |
| Southwestern Electric Cooperative, Inc. | Southwestern |
| Strategic Energy, L.L.C. | Strategic |
| Tenaska Power Services Co. | |
| Wal-Mart Stores, Inc. | Wal-Mart |
| Western Area Power Administration | WAPA |
| Wisconsin Electric Power Company | WEPCO |
| Xcel Energy Services, on behalf of Northern States Power Company and Northern States Power Corporation, both wholly owned subsidiaries of Xcel Energy Inc. | Xcel |