118 FERC ¶ 61,009
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

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

Midwest Independent Transmission System Operator, Inc.	Docket Nos. ER06-1099-000 ER06-1099-001

ORDER ON TECHNICAL CONFERENCE

(Issued January 5, 2007)

1. On June 5, 2006, as amended on June 7, 2006, Midwest Independent Transmission System Operator, Inc. (Midwest ISO) filed proposed revisions to its procedures for addressing shortage and emergency conditions occurring in the real-time energy market under its Open Access Transmission and Energy Markets Tariff (TEMT). On August 4, 2006, the Commission issued an order that: 1) directed Commission staff to hold a technical conference regarding Midwest ISO's proposal; and 2) accepted and suspended Midwest ISO's filing, to become effective either January 8, 2007, or at an earlier date specified by the Commission, and subject to refund and to further orders following the technical conference.[1]

2. In this order, the Commission addresses the supplemental evidence originating from the technical conference proceeding and, as discussed below, accepts Midwest ISO's proposed revisions, to be effective January 8, 2007, subject to Midwest ISO making certain modifications to its proposal in a compliance filing. The Commission also directs Midwest ISO to undertake reporting requirements.

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[1] *Midwest Independent Transmission System Operator, Inc.*, 116 FERC ¶ 61,124 (2006) (August 2006 Order).

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I. Background

A. Summary of the Proposal

3. As a transmission system operator, Midwest ISO must plan, commit and dispatch generation in an economic and reliable manner, which includes maintenance of short-term reliability through the real-time energy market. To enhance its ability to manage potential real-time energy shortage conditions, Midwest ISO, working with its stakeholders, determined that it would both improve reliability and be more economic to use a portion of an on-line generator's capacity that lies above its economic maximum (EcoMax) but below its emergency maximum capacity to respond to pre-emergency system conditions.[2]

4. Accordingly, in June 2006, Midwest ISO proposed to revise the real-time energy market shortage condition procedures established in section 40.2.15 of its TEMT to include an Adequate Ramp Capability (ARC) procedure. ARC, says Midwest ISO, would provide an additional means, beyond procedures already in the TEMT, for addressing capacity shortage conditions that may affect short-term reliability.[3] ARC is intended to help avoid potential emergency conditions (through more effective dispatching of on-line resources), while providing appropriate payment to generation resources.

5. Under the proposal, ARC would be implemented as a new "Step One" in TEMT section 40.2.15. The procedure would enable Midwest ISO to use, for up to 60 minutes, up to 50 percent of a generating unit's capacity above that unit's EcoMax, but below its emergency maximum. According to Midwest ISO, this procedure would not replace other emergency procedures, but would provide an additional method of avoiding declining frequency and other pre-emergency conditions when there is a substantial imbalance between generation and load which cannot be addressed within the normal operating ranges of on-line resources. Under such circumstances, if on-line generators

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[2] A generation resource's economic maximum capacity is the maximum megawatt (MW) level at which it may operate under normal system conditions. Its emergency maximum is the maximum MW level at which it may operate under emergency conditions. The generator submits these parameters in its offer.

[3] The proposal would also modify and clarify the remaining procedures established in section 40.2.15 to be implemented with the occurrence of a short-term shortage condition.

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cannot ramp up quickly enough to bring the system into balance, Midwest ISO would invoke ARC and potentially avoid an emergency situation. Once ARC is invoked, then Midwest ISO would take additional actions to solve the problem in a more permanent manner.

6. According to Midwest ISO, ARC would also allow management of shortage conditions while providing market participants with more appropriate price signals. Under ARC (*i.e.*, Step One), the price for capacity dispatched would be the higher of either the market participant's submitted offer or a shortage condition peaker proxy offer.[4] Midwest ISO explains that segments of capacity called for under ARC would be dispatched in merit order based on the offer price so determined (and would be eligible to set locational marginal prices). If ARC does not resolve a contingency within 60 minutes, or if Midwest ISO requires more than the 50 percent of capacity available under ARC to manage the contingency, then Midwest ISO could proceed to the procedures available in revised Step Two.[5]

7. Midwest ISO notes that its proposal allows it to take an "incremental" approach to addressing contingencies; that is, depending on the severity of the shortage, Midwest ISO would be authorized to initiate the procedure that best addresses the severity of the shortage condition, generally, but not necessarily, proceeding in a step-wise fashion. Midwest ISO also states that implementation would be undertaken in accordance with Good Utility Practice, in order to ensure reliability of the transmission system.

8. Midwest ISO would post the existence of conditions requiring it to dispatch capacity, as well as the period of time such capacity was dispatched on its Open-Access Same-Time Information System (OASIS).

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[4] The shortage condition peaker proxy offer would be established daily. *See* Midwest ISO Transmittal Letter, at 3 n. 4. The choice between the higher of (1) the market participant's submitted offer or (2) the shortage condition peaker proxy offer will herein be called "higher of" pricing.

[5] Midwest ISO' proposal reconfigures other steps listed in section 40.2.15 that are meant to address shortage conditions. Revised "Step Two," would combine the TEMT's current Steps One, Two and Three. Existing Step Four (which provides for load shedding) is renumbered as a new "Step Three."

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B. The Commission's August 2006 Order

9. In its August 2006 Order, after considering concerns raised by Midwest ISO's proposal, the Commission stated that Midwest ISO needed to clarify several points about the shortage procedures, such as the amount of reserves needed in ARC and Step Two, and the circumstances under which different steps can be implemented. The Commission also sought a more detailed discussion of how the shortage condition peaker proxy offer price would be developed. In addition, the Commission listed the following issues it wished to understand more fully: justification for "higher of" pricing, application of market mitigation in the new process, and effects of using ARC on Revenue Sufficiency Guarantee (RSG) payments. Finally, the Commission questioned how the procedure would impact reliability in the Midwest ISO region. The Commission found that a five month suspension of Midwest ISO's filing was justified, and directed staff to convene a technical conference to address the aforementioned concerns.

II. Filings and Technical Conference

A. Notice of Filing, Interventions and Protests

10. Notice of the filing was published in the *Federal Register*, 71 Fed. Reg. 34,914 (2006), with interventions and protests due on or before June 26, 2006. Notice of the amendment to the filing was published in the *Federal Register*, 71 Fed. Reg. 35,644 (2006), with interventions and protests due on or before June 28, 2006.

11. American Municipal Power-Ohio, Inc., WPS Companies,[6] and Duke Energy Shared Services, Inc. filed timely motions to intervene. Consumers Energy Company (Consumers Energy), Coalition of Midwest Transmission Customers (CMTC) and Midwest Industrial Customers (MIC) (collectively, CMTC & MIC), Xcel Energy Services Inc. (Xcel Energy), Midwest Transmission Dependent Utilities (Midwest TDUs), [7] and Wisconsin Electric Power Company (Wisconsin Electric) filed timely motions to intervene and comments or protests. Midwest ISO filed an answer.

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[6] WPS Companies include Wisconsin Public Service Corporation, Upper Peninsula Power Company, WPS Energy Services, Inc., and WPS Power Development, LLC.

[7] Midwest TDUs consist of Great Lakes Utilities, Indiana Municipal Power Agency, Lincoln Electric System, Madison Gas & Electric Company, Midwest Municipal Transmission Group, Missouri Joint Municipal Electric Utility Commission, Missouri

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12. E.ON U.S. LLC (E.ON) and Dynegy Companies[8] filed motions to intervene out of time.[9]

B. Notice of Technical Conference and Comments

13. Pursuant to the August 2006 Order, the Commission issued a notice on August 24, 2006 scheduling a technical conference for September 26, 2006.[10] In the notice, the Commission posed questions for Midwest ISO to answer prior to the conference and identified topics Midwest ISO should be prepared to address at the conference. Midwest ISO submitted its response on September 15, 2006. At the technical conference, Commission staff asked participating parties to submit post-conference comments by October 12, 2006, and post-conference reply comments by October 19, 2006. Midwest ISO, CMTC, Midwest TDUs, and Consumers Energy submitted post-conference comments and post-conference reply comments. Midwest ISO also submitted supplemental post-conference reply comments. WPS Companies submitted post-conference reply comments. E.ON submitted post-conference comments. Midwest ISO filed a motion to strike E.ON's post-conference comments and E.ON filed an answer to Midwest ISO's motion to strike.

III. Discussion

A. Procedural Matters

14. In the August 2006 Order, pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2006), the Commission found that the timely, unopposed motions to intervene served to make the entities that filed them parties to this proceeding.

River Energy Services, Southern Minnesota Municipal Power Agency, and Wisconsin Public Power Inc.

[8] Dynegy Companies include Dynegy Power Marketing, Inc., Dynegy Midwest Generation, Inc. and Dynegy Power Corp.

[9] E. ON and Dynegy Companies filed their motions on September 21, 2006 and September 26, 2006, respectively.

[10] A supplemental notice was issued on September 15, 2006.

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15. We will grant E.ON and Dynegy Companies' late interventions. Generally, when late intervention is sought after the issuance of a dispositive order, the prejudice to other parties and burden upon the Commission of granting the late intervention may be substantial. Thus, movants bear a higher burden to demonstrate good cause for granting such late intervention.[11] Here, the August 2006 Order was not dispositive but rather established a technical conference to address the various issues. We find that E.ON and Dynegy Companies have demonstrated good cause and we will grant the motions for late intervention given the absence of any undue delay, prejudice, or burden to the parties.[12]

B. Issues

1) Need for ARC

a) Proposal

16. ARC is proposed by Midwest ISO to help avoid system emergencies. Midwest ISO expects to use ARC only infrequently, when an unforecasted supply-demand imbalance exists and has resulted in either insufficient capacity or inadequate ramping capability to increase generation. ARC will allow the temporary use of a portion of spinning reserves (50 percent or less), to be restored within 60 minutes, to maintain a stable and reliable electric system while preserving operating reserves for emergency conditions.

17. Midwest ISO explains that ARC will allow it to use on-line resources to respond to sudden changes in demand. When a substantial imbalance arises between demand and generation that exceeds the normal operating capabilities of on-line resources providing load-following services, Midwest ISO should be able to avoid emergency conditions by invoking ARC while simultaneously taking other actions to solve the problem in a more permanent manner.

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[11] *See, e.g., California Independent System Operator Corp.*, 114 FERC ¶ 61,194 at P 10 (2006); *Midwest Independent Transmission System Operator, Inc.*, 102 FERC ¶ 61,250 at P 7 (2003).

[12] 18 C.F.R. § 385.214 (2006).

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b) Comments

18. Wisconsin Electric, Consumers Energy, and Xcel Energy generally support ARC.[13]

19. Midwest TDUs assert that ARC is not really intended for a "real-time shortage" of energy but for a shortage of within-the-hour ramp capability.[14] Midwest TDUs and CMTC & MIC contend that use of ARC instead reflects economic dispatch decisions and not a response to a true generation shortage. CMTC & MIC's reasoning: Midwest ISO will not commit as many generation resources up-front, and thus will dip into spinning reserves in real-time if ramping capability becomes a limiting factor, and then will bring additional units on-line or ramp up other on-line units to replenish spinning reserves.[15]

20. Midwest ISO responds that ARC is an appropriate extension of its existing authority to address and resolve shortage conditions and that ARC provides the additional authority necessary to address shortage conditions before they develop into emergency conditions. Midwest ISO asserts that it is proper and prudent to prepare for possible energy shortages by assessing and addressing the potential inadequacy of ramp capability, which affects the timeliness of the energy supply needed to correct sudden imbalances. Further, Midwest ISO states that there is no merit to the claim that ARC reflects economic dispatch decisions rather than a response to manage an energy shortage situation; unforeseen energy shortages are as unpredictable with regard to ramp capability as they are with respect to the on-line energy supply.[16]

c) Discussion

21. We find that ARC is an appropriate extension of Midwest ISO's existing authority to address shortage conditions before they develop into actual emergency conditions. ARC addresses the sudden occurrence of an energy imbalance. Whether such occurrence arises from a loss of capacity or inadequate ramping capability of on-line resources, the shortage is no less real. We further find that ARC is a response to true real-time shortages. ARC allows Midwest ISO to manage short-term conditions that threaten

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[13] Wisconsin Electric June 26, 2006 Comments at 4; Consumers Energy June 26, 2006 Comments at 3; and Xcel Energy June 26, 2006 Comments at 5.

[14] Midwest TDUs June 27, 2006 Protest at 5.

[15] CMTC & MIC June 26, 2006 Protest at 4-5.

[16] Midwest ISO July 11, 2006 Answer at 9-10.

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supply-demand imbalances through the use of on-line resources. The fact that ARC efficiently uses on-line (and less expensive) generation resources to meet a reliability need does not make it solely an economic dispatch decision.

2) Benefits of ARC

a) Proposal

22. ARC is intended to provide an additional means of addressing system reliability and avoiding potential emergency conditions (through more effective dispatching of on-line resources), while providing appropriate payment to generation resources. Midwest ISO maintains that the proposed pricing should ensure that prices reflect operational conditions during shortages. Midwest ISO proposes that ARC and other procedures to address shortage conditions (provided for in Step Two) will be used on an "incremental" basis (*i.e.*, Midwest ISO will be able to use the procedure that best addresses the severity of the shortage condition, generally, but not necessarily, proceeding in a step-wise fashion). Midwest ISO adds that ARC should reduce RSG payments by making more reserve capacity available for dispatch, which should reduce the level of forward commitment of generation units and the associated cost.

b) Comments

23. Opinions vary on the benefits of implementing ARC. Consumers Energy supports Midwest ISO's proposed "incremental" approach to using ARC and Step Two procedures and believes that ARC will most likely reduce the level of RSG payments.[17]

24. Midwest TDUs and CMTC & MIC are not convinced that the changes will be beneficial. Between them, they express the following concerns regarding ARC: (1) Midwest ISO has failed to show that it will result in least-cost dispatch; (2) it may not produce just, reasonable, and not unduly discriminatory rates; (3) market participants will be unable to protect themselves from exposure to excessive locational marginal prices (LMPs) associated with implementation of ARC; (4) Midwest ISO has failed to provide analysis supporting its witness McNamara's claim that total RSG payments will decline with ARC in place; and (5) after-the-fact commitment of generation associated with ARC may trigger RSG costs when spinning reserves used for ARC are replaced by committed generation resources on an after-the-fact basis.[18]

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[17] Consumers Energy Comments at 3.

[18] Midwest TDUs Protest at 7-9; CMTC & MIC Protest at 6-7.

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25. Commenters[19] request that the Commission do the following: (1) require Midwest ISO to supply an analysis that considers both RSG and the impact of ARC-elevated LMPs; (2) reject ARC until Midwest ISO provides operational procedures that ensure it results in at least no higher cost than the status quo; (3) require Midwest ISO to provide periodic performance reports on ARC; and (4) require that any acceptance of ARC be subject to an 18-month sunset date if Midwest ISO cannot demonstrate that first-year operating costs are lower with ARC than without.[20]

26. In addition, Midwest TDUs question Midwest ISO's justification for setting LMPs at peak or super-peak prices in shoulder periods. They contend that offer prices for certain capacity may be very high because market participants tend not to want to run their units beyond EcoMax, and balancing authorities may want to keep that capacity available to respond to deviations in their own Area Control Errors. Midwest TDUs assert that Midwest ISO's dispatch choices could produce peak or super-peak period price signals during shoulder periods and increase LMPs over large portions of the Midwest. Midwest TDUs also state that the proposed changes may reduce the ability to determine both the causes of price movements and Midwest ISO's accountability for the costs resulting from its commitment choices. [21]

27. CMTC argues that Midwest ISO system operators could manufacture scarcity pricing in the absence of true shortage conditions, irrespective of the overall cost. CMTC asserts that statements made at the technical conference by Midwest ISO representative Gardner counter Midwest ISO's original assertion that ARC would be used only in response to sudden, unanticipated conditions. CMTC understands Mr. Gardner's statements to mean that Midwest ISO would commit fewer peakers ahead of time and use ARC to rely upon available generation resources. CMTC states that, if the Commission approves ARC, Midwest ISO should be held to certain reporting requirements, including: periodic performance reporting on reductions in RSG costs attributable to the use of ARC; quarterly performance reporting to ensure that market outcomes are consistent in all hours with the Federal Power Act's "just and reasonable" standard; and reporting on

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[19] Commenters here include Midwest TDUs, CMTC & MIC, and WPS Companies.

[20] Midwest TDUs Protest at 9-10; CMTC & MIC Protest at 8; and WPS Companies October 19, 2006 Post-Conference Reply Comments at 1-2.

[21] Midwest TDUs Protest at 5-6.

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the anticipated increase (in total dollars) in energy costs resulting from the imposition of "higher of" pricing.[22]

28. Midwest ISO responds that during the brief periods of time when resources are needed to address temporary supply and demand imbalance conditions that could lead to emergency conditions, prices should reflect prevailing supply and demand conditions or reliability will be undermined. Midwest ISO asserts that its proposed pricing -- based on either the higher of the unit offer or a proxy peaker price -- assures that when ARC is employed, prevailing market prices will not fall and discourage appropriate market responses.[23] Midwest ISO also states that economic-based dispatch decisions it makes prior to the emergence of a shortage condition will not undercut the reliability rationale and price signal advantages underpinning ARC (as CMTC claims). Midwest ISO points out that energy shortages are, by nature, unpredictable with regard to ramp capability (so until a shortage condition arises, it is reasonable to make economic-based dispatch decisions).[24]

29. Midwest ISO responds to CMTC's concern that ARC is being promoted as having both reliability and RSG reduction benefits. Midwest ISO notes that the TEMT's fundamental principle of centralized dispatch should achieve both reliability and economic benefits, and that the Commission did not consider such a duality of benefits a "flaw" in the implementation of Midwest ISO's energy markets.[25] At the technical conference, Midwest ISO representatives Gardner and Doying noted that it would be difficult to quantify the pricing benefits of ARC before implementation.[26]

30. Midwest ISO dismisses CMTC's contention that the potential for reducing RSG payments would prompt Midwest ISO to manufacture scarcity pricing when there is no true shortage. Midwest ISO states that ARC is a transparent process, involving alerts issued on the Reliability Coordinator Information System (RCIS) upon the occurrence of shortages, and the posting on OASIS of the conditions and timing that necessitated ARC dispatch. Midwest ISO references Mr. Doying's technical conference statement that

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[22] CMTC October 12, 2006 Post-Conference Comments at 3-5, 7-8.

[23] Midwest ISO Answer at 12.

[24] *Id.* at 10.

[25] Midwest ISO Post-Conference Reply Comments at 3-5.

[26] Tr. at 70.

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shortages occur due to Midwest ISO's imperfect knowledge (*i.e.* incomplete information) of changes in demand and import/export schedules. Midwest ISO explains that such uncertainty necessitates either committing additional resources each day as "headroom," or resorting to a mechanism that can be called upon when needed such as ARC. Midwest ISO continues to believe it is appropriate and cost-effective to address such contingencies through ARC.[27]

31. Midwest ISO points to its Independent Market Monitor (IMM) Patton's technical conference argument that ARC is superior because it helps avoid: (1) the commitment cost of peakers, which is greater than the cost of brief usage of operating reserves; (2) the use of regulation up,[28] which would have to be utilized in the absence of ARC; and (3) the cost of frequency fluctuations that occur when regulation service is incapable of dealing with such fluctuations.[29]

c) <u>Discussion</u>

32. In addition to the reliability benefits ARC promises, we find that ARC should reduce costs by helping to avoid the commitment cost of peakers, use of regulation up, and the cost of frequency fluctuations. The benefits of using less regulation up and reducing frequency fluctuations should be present as soon as ARC is implemented; Midwest ISO's ability to use on-line resources when ARC is invoked will remove the need to use regulation up to balance the system, and help Midwest ISO prevent frequency fluctuations. Reduced commitment costs will depend on corresponding changes in commitment procedures. We believe ARC promises a significant long run benefit: reduction in the level of commitment needed to maintain reliable system operation once Midwest ISO gains experience with ARC. The ability to use on-line resources for short-term shortages should reduce the need and costs associated with over-commitment of peaking resources to ensure reliable system operation.

33. While we believe that ARC will provide economic benefits, it is not possible to estimate accurately the magnitude of those benefits until experience has been gained

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[27] Midwest ISO October 19, 2006 Post-Conference Reply Comments at 5-6.

[28] Regulation is used to respond to very short-term changes in system frequency to comply with reliability standards for Area Control Error and Control Performance Standards. Regulation up refers to generator reserve capacity that is used to increase output to ensure reliability standards compliance.

[29] Midwest ISO Post-Conference Reply Comments at 7.

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using ARC. With respect to RSG reduction, however, the IMM stated at the technical conference that approximately 75 percent of RSG payments are associated with commitment of peaking resources in real-time. Therefore, reducing the commitment of these resources could have a significant impact on total RSG payments, compared to the cost of using a small amount of operating reserves for a short period. We address the issue of pricing below, but note here that the proposed proxy pricing could also reduce the level of RSG payments.[30] While there may be additional costs to customers because LMPs are raised during these periods, use of ARC is expected to be infrequent.

34. We believe it is important to ensure that the system conditions causing the use of ARC are transparent to market participants. We therefore direct Midwest ISO to post sufficient information about system conditions leading to the use of ARC on OASIS each time ARC is used.

35. We direct Midwest ISO to gain at least three months' experience under ARC before changing generation unit commitment procedures. Our decision complements Midwest ISO's stated intention to defer ARC-related changes in commitment procedures until it gains experience with ARC under current commitment practices. The delay will also ensure a smooth procedural transition before Midwest ISO attempts to capture the potential benefits stemming from greater flexibility in commitment and dispatch.

36. We also direct the IMM to analyze, after one year, Midwest ISO's experience under ARC before and after these changes in commitment of units, and assess the benefits of the changes. Assessment results must be included in the IMM's annual state of the market report, along with recommendations for changes in ARC procedures, should any prove to be warranted.

37. Consistent with our assessment of ARC's economic benefits and our direction to Midwest ISO to delay making changes in commitment procedures, we will not require Midwest ISO to provide additional evidence of the expected savings from ARC before its implementation.

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[30] The proposed proxy pricing could reduce RSG payments to the extent that it raises market prices during periods when RSG would have been significant. These market price increases could cause revenues to be sufficient such that resulting RSG payments are lower or become unnecessary.

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3) "Higher Of" Pricing

a) Proposal

38. Under ARC (*i.e.*, Step One), the offer price for capacity dispatched would be the higher of either the market participant's submitted offer or a shortage condition peaker proxy offer price.[31] Midwest ISO explains that segments of capacity used in ARC would be dispatched in merit order based on the offer price so determined (and which would also be eligible to set LMPs). In Step Two, the offer price for capacity would be the higher of the market participant's submitted offer or $1,000.

b) Comments

39. CMTC & MIC assert that use of "higher of" pricing has not been shown to be just and reasonable. CMTC & MIC state that instead of "higher of" pricing, Midwest ISO should rely on generators offering their reserve segments of capacity and then dispatch in merit order, unless Midwest ISO determines it is unable to replenish spinning reserves within the 60-minute window. In the event Midwest ISO makes such a determination, CMTC & MIC suggest that pricing under emergency procedures should apply as it does without Midwest ISO's proposed changes.[32]

40. Midwest TDUs believe that Midwest ISO has not justified "higher of" pricing for ARC. Midwest TDUs argue that value-based pricing is not consistent with the Federal Power Act and that the Supreme Court has rejected seller claims justifying higher prices for electricity based on the value ascribed to the product by the buyer.[33] Midwest TDUs also argue that value-based pricing is not consistent with the kind of energy market design adopted by Midwest ISO and others, a design that contemplates LMPs being set by the highest in-merit bid of the units dispatched to meet demand.[34]

41. Midwest TDUs state that Midwest ISO's proposed "higher of" pricing fails to satisfy the requirement that higher rates be rationally related to the attraction of new

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[31] Again, this pricing method will be referred to as "higher of" pricing.

[32] CMTC & MIC Protest at 6.

[33] Midwest TDUs October 12, 2006 Post-Conference Comments at 5 (citing *Gainesville Utilities Department, et al. v. Florida Power Corp.*, 402 U.S. 515, 528 (1971)).

[34] Midwest TDUs Post-Conference Comments at 5.

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capacity. Midwest TDUs believe the Commission should forecast or estimate the need for additional capacity and find the balance between increased rates and attraction of new capital.[35]

42. Midwest TDUs assert that the conditions causing ARC to be implemented --e.g., loss of a large generating unit or loss of substantial import capability due to transmission loading relief -- do not represent "supply scarcity" conditions. According to Midwest TDUs, resorting to the peaker proxy price to raise LMPs in non-supply scarcity conditions would be irrational. Moreover, they claim that it makes no sense to set the price for reserves based on peakers. In support, Midwest TDUs point to the IMM's technical conference statement that it is inefficient to rely on peaker resources to provide ramping capability, which increases RSG costs, as compared with calling upon steam unit reserves.[36]

43. Additionally, Midwest TDUs aver that Midwest ISO does not need to use an administratively determined peaker proxy price to prevent LMPs from dropping when ARC is triggered; Midwest ISO could just set the LMP at the highest dispatched offer.[37]

44. Other commenters focus on details of the peaker proxy pricing formula. Consumers Energy argues that Midwest ISO should clarify that only natural gas combustion turbines should be used in the proxy price calculation.[38] Consumers Energy and WPS Companies also want Midwest ISO to insert the formula for conversion of the offer data into a proxy heat rate in the TEMT rather than the Business Practices Manual.[39] WPS Companies believe the proxy heat rate should be included in the TEMT because it

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[35] *Id.* at 6.

[36] *Id.* at 5-7.

[37] *Id.* at 7.

[38] Consumers Energy Comments at 4.

[39] WPS Companies October 19, 2006 Post-Conference Reply Comments at 3-4; Consumers Energy October 12, 2006 Post-Conference Comments at 7-8. Consumers Energy supports the formula's inclusion in the TEMT because it considers the proxy heat rate too important to be dealt with only in the stakeholder process (where changes to the Business Practices Manual are addressed). Consumers Energy contends that any changes to formula could hurt ARC's potential for mitigating RSG and therefore, these changes must be vetted with the Commission.

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establishes a key term of service, and that including it would enable the Commission to address the synergy between ARC procedures and RSG payments.[40]

45. Similarly, Wisconsin Electric contends that Midwest ISO should describe in a compliance filing why the particular proxy heat rate calculation was chosen and should describe it completely in the TEMT. Wisconsin Electric also would like the Commission to require Midwest ISO to post the calculated monthly proxy heat rate.[41]

46. Consumers Energy notes that it tried using the proposed formula (described in the technical conference) to calculate a proxy heat rate using the values that Midwest ISO presented, with unexpected results. In particular, Consumers Energy noticed that values calculated using the proposed formula for the one-hour cost of a combustion turbine varied wildly and bore little relationship to Midwest ISO examples. As a result of its analysis, Consumers proposes changes it believes will improve the formula.[42]

47. Concerns were also raised at the technical conference with respect to Step Two pricing, which provides that the price for capacity dispatched will be the higher of the submitted offer or $1,000. The concern: if the offer cap were raised or removed at some point in the future, the proxy price might be raised significantly without any associated mitigation. The IMM noted that Midwest ISO would need to revisit ARC and shortage procedures should the bid cap be lifted.[43]

48. Midwest ISO responds to Midwest TDUs' arguments against "higher of" pricing, saying it has sufficiently explained that "higher of" pricing is justified by the principle of scarcity pricing, which is more conducive to demand response.[44] At the technical conference, Midwest ISO representative Doying clarified the basic rationale for adopting the proxy price for ARC: to ensure that when Midwest ISO releases reserve capacity to address a shortage condition, the prices that clear the market accurately reflect the supply scarcity. He further stated that Midwest ISO does not want prices to fall when the

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[40] WPS Companies Post-Conference Reply Comments at 3-4

[41] Wisconsin Electric June 28, 2006 Comments at 4-5.

[42] Consumers Energy Post-Conference Comments at 2-6.

[43] Tr. at 111.

[44] Midwest ISO Post-Conference Reply Comments at 11(citing Tr. at 18-19, 138-39, 145-46).

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reserves are released because that would send the wrong economic signal to all generators and load on the system.[45]

49. Midwest ISO also clarifies the manner in which it will convert the offer price to the proxy heat rate. Midwest ISO adds that it is willing to incorporate the calculation method and components of the shortage condition peaker proxy offer price in either its Business Practices Manual or its TEMT, as the Commission determines to be appropriate.[46]

50. Midwest ISO rejects Consumers Energy's assertion that calculation of the peaker proxy price should only use natural gas-fired combustion turbines, stating that while the large majority of combustion turbine peaking units are natural gas-fired, such units may be both natural gas and/or oil-fired units. Midwest ISO further states that the purpose of the shortage condition peaker proxy pricing methodology is to provide a proxy price that reflects the type of unit(s) (*i.e.*, peaking units) that would otherwise have been dispatched to immediately resolve the reliability condition.[47]

51. Midwest ISO also states that, after reviewing Consumers Energy's proposed corrections to the proxy heat rate, it believes no changes are warranted. Midwest ISO agrees that Consumers Energy's proposed revisions are not inconsistent with the logic of the ARC proposal, but says they do not improve the derived proxy heat rate or the dispatch and pricing results obtained when ARC is utilized. Midwest ISO further asserts that the numerical example submitted by Consumers is not correct, because Consumers failed to divide by the denominator (Ecomax –Ecomin) specified in the formula. In fact, Midwest ISO believes that the proposed changes submitted by Consumers Energy will yield different results only in the limited case where the offered economic minimum (EcoMin) generation level is near zero, which is generally not the case for combustion turbine units.[48]

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[45] Tr. at 138-139.

[46] Midwest ISO Answer at 5-6. Midwest ISO also re-specifies the source of the gas index used in the calculation to be Platts Gas Daily in its response to the Commission's data request and provides a clarification to the calculation where EcoMin equals EcoMax. Midwest ISO Post-Conference Comments at 4 and Midwest ISO October 20, 2006 Supplemental Post-Conference Reply Comments at 1, respectively.

[47] Midwest ISO Answer at 5-6.

[48] Midwest ISO Post-Conference Reply Comments at 10-11.

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c) Discussion

52. We find Midwest ISO's proposed "higher of" pricing to be just and reasonable because, in the event of a temporary shortage period when conditions warrant use of on-line operating reserves to supply energy, Midwest ISO's pricing methodology will provide the right incentives to the market in the form of an appropriate pricing signal. The proxy price, subject to the clarifications and modifications provided by Midwest ISO, provides a reasonable approximation of the marginal cost of additional supply (*i.e.*, a reasonable estimate of the cost of replenishing reserves used by Midwest ISO to supply energy for a brief period).

53. We agree with the premise that prices should reflect shortage conditions when ARC is imposed. We also recognize the potential for prices to fall (and thus not reflect shortage conditions) should Midwest ISO call on on-line resource capacity without "higher of" pricing. Prices could fall because Midwest ISO would be calling into the energy market on-line resource capacity that is usually withheld by balancing authorities to meet reserve obligations.[49] This capacity is lower cost than the capacity likely to be clearing the market at the time at which ARC is invoked.[50] The result could be falling prices just when more expensive generation may be needed to replenish reserves that are being used for energy. We find that Midwest ISO's use of an administratively determined peaker proxy price is an appropriate mechanism to prevent LMPs from dropping when ARC is triggered.[51]

54. We also find Midwest TDUs' arguments against the proposed "higher of" pricing to be misplaced. First, Midwest TDUs fail to note that the peaker proxy price component of ARC's "higher of" pricing is not based on value ascribed to the product by the buyer. Rather, the peaker proxy price is based on the cost of resources needed on the margin to replenish reserves that are used for energy during an ARC event. Thus, the Supreme Court's rejection of higher prices for electricity based on value ascribed to the product by the buyer is inapplicable. Second, we find that under ARC, potentially higher rates are rationally related to the attraction of new capacity inasmuch as the pricing signals ARC

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[49] For example, an online coal plant would be allowed to sell generation capacity above its EcoMax level.

[50] Capacity likely to be clearing the market would be from units such as peakers or other higher cost generation units that have already been dispatched.

[51] LMP pricing reflects the marginal cost of supplying an additional megawatt at each location.

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creates more accurately reflect the need for additional capacity in the market. Third, ARC will only be triggered when scarcity supply conditions actually exist, which will be determined by Midwest ISO. Midwest ISO simply presented examples of situations that could cause a scarcity supply condition, but did not designate such situations as creating de facto scarcity supply conditions. We refer to our reasoning above for avoiding falling prices to address Midwest TDUs' concern that the price for reserves is based on peakers.

55. Regarding criticisms of the proxy pricing formula, first, we agree with Midwest ISO that Consumers Energy bases its contention that the formula is in error on its own mistaken calculation, which failed to include the appropriate denominator. Second, agree with Midwest ISO that Consumers Energy's suggested changes to the formula do not improve Midwest ISO's formula since they only address a limited case that is already covered by Midwest ISO's more general formula.

56. Therefore, we will accept Midwest ISO's peaker proxy pricing formula. We direct Midwest ISO to include the formula in the TEMT, with the following revisions: Midwest ISO shall revise the pricing formula for the circumstance when EcoMin equals EcoMax, as indicated by Midwest ISO in its supplemental post-conference reply comments, and shall also revise the price index to be used in the formula.[52] While we direct Midwest ISO to include the proxy pricing formula in the TEMT, we will permit the specific index used in the formula to be stipulated in the Business Practice Manuals or other documentation on Midwest ISO's website so that it may be amended when necessary. We direct Midwest ISO to make the aforementioned changes in its compliance filing.

57. Regarding concerns raised at the technical conference about future changes to Step Two bid caps, we find that the shortage procedures established in section 40.2.15 will need to be re-evaluated should offer caps be raised or removed.

58. Though not raised in the comments or at the technical conference, we note that while section 40.2.15 contains a $1,000 offer cap and a $1,000 limit on the price associated with a Step Two shortage condition, there is no similar provision limiting ARC's (*i.e.*, Step One's) proxy price to $1,000. We therefore direct Midwest ISO to add language to section 40.2.15 that limits the proxy price used in ARC to $1,000; thus, pricing under ARC will be the higher of the proxy price or the market participant's submitted offer, but in no case shall the price exceed $1,000.[53]

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[52] These are uncontested revisions and clarifications Midwest ISO submitted to improve the accuracy of its calculations.

[53] Thus, the "higher of" offer cap will be $1,000.

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4) Reliability Issues

a) Proposal

59. As stated in paragraph 15, ARC is proposed by Midwest ISO to help avoid system emergencies. Midwest ISO expects to use ARC only infrequently, when an unforecasted supply-demand imbalance exists and has resulted in either insufficient capacity or inadequate ramping capability to increase generation quickly enough. ARC will allow the temporary use of a small amount (50 percent or less) of spinning reserves, to be restored within 60 minutes, to maintain a stable and reliable electric system while preserving operating reserves for emergency conditions. The 60 minute replenishment allowance for spinning reserves is shorter than the default 90 minute North American Electric Reliability Council (NERC) standard.[54]

b) Comments

60. Xcel Energy proposes that Midwest ISO release capacity back to the relevant market participant if a Disturbance Control Standard (DCS) or a reserve sharing event occurs while Midwest ISO is requiring generators to be dispatched during ARC or Step Two.[55]

61. E.ON states that the Commission should condition its acceptance of ARC on the following: (1) Midwest ISO indemnifying the Contingency Reserve Sharing Group (CRSG) for penalties assessed against it due to non-compliance with NERC's DCS that are attributable to Midwest ISO's invocation of ARC; and (2) Midwest ISO obtaining approval from NERC to implement ARC, because specification of contingency reserve policies by an entity other than a Regional Reliability Council, sub-Regional Reliability Organization, or Reserve Sharing Group constitutes a deviation from NERC's existing standard governing Disturbance Control Performance.[56] Consumers Energy supports E.ON's second condition.[57]

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[54] The NERC standard allows 90 minutes to restore contingency reserve levels following a specific contingency. NERC Standard BAL-0-002-0, Requirement R6.2.

[55] Xcel Energy June 26, 2006 Comments at 11.

[56] E.ON October 12, 2006 Post-Conference Commments at 3-6.

[57] Consumers Energy October 19, 2006 Post-Conference Reply Comments at 1.

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62. Midwest ISO states that it is willing to amend its proposal to specify that the portion of operating reserves utilized pursuant to ARC will be returned to a market participant upon the occurrence of a reserve sharing or DCS event.[58]

63. Midwest ISO responds that E.ON confuses ARC with contingency reserve policies promulgated by NERC. Midwest ISO states that its proposal makes clear that use of reserves is recallable, and is subject to any contingency reserve obligations of the generation owners. Similarly, Midwest ISO asserts that NERC standards clearly apply DCS requirements to balancing authorities, not to RTOs or to energy market operators. Further, regarding E.ON's request that Midwest ISO indemnify CRSG members for NERC penalties associated with ARC, Midwest ISO states that any Midwest ISO member's liability and right to indemnification under such scenario would be governed by the Balancing Authority Settlement Agreement approved by the Commission in 2005.[59] Midwest ISO states that, having withdrawn from membership in Midwest ISO, E.ON is attempting to secure for itself the advantages of the Balancing Authority Settlement Agreement without the concurrent obligations of Midwest ISO membership.[60]

64. Midwest ISO adds that if E.ON wishes to impose restrictions on the use of generating units that supply contingency reserves, or to propose that all balancing authorities agree to indemnify each other for DCS violations, it should raise those proposals in the Contingency Reserves Committee of the CRSG for discussion and voting under the terms of that agreement. Midwest ISO believes the current proceeding is the wrong forum to achieve a uniform rule on that topic, or a consistent application of any remedy to all CRSG members.[61]

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[58] Further, Midwest ISO explains that, when ARC is invoked, the dispatch software allows dispatch of the 50 percent range between the EcoMax and emergency maximum of each resource. If an event occurs during the time ARC is being utilized the dispatch software returns control of that capacity back to the appropriate balancing authority. The need for additional capacity for ARC then would be met from capacity in other areas. Midwest ISO Answer at 8.

[59] Midwest ISO Post-Conference Reply Comments at 13 (*citing Midwest Independent Transmission System Operator, Inc.*, 110 FERC ¶ 61,177 (2005)).

[60] Midwest ISO Post-Conference Reply Comments at 12-13.

[61] *Id.*

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c) Discussion

65. We find ARC's temporary use (for a period not to exceed 60 minutes) of up to half of a generation resource's reserve capacity between its EcoMax and emergency maximum to be consistent with the reliability rationale for maintaining such reserves. Midwest ISO has designed ARC to appropriately call on on-line resources, rather than off-line resources, where efforts to solve an unforeseen energy imbalance require it.

66. We will require Midwest ISO to amend the tariff language (as opposed to just the dispatch software) to specify that the portion of operating reserves utilized pursuant to ARC or Step Two shall be returned to a market participant upon the occurrence of a reserve sharing or DCS event. We reject E.ON's request that approval of ARC be conditioned upon NERC's review of the proposal. We believe that a NERC review is not necessary because reserves will be recallable for reserve sharing or DCS events.

67. We also reject E.ON's request that ARC approval be conditioned upon Midwest ISO indemnifying the CRSG. Midwest ISO is correct in its assertion that any rights to indemnification would be governed by the Balancing Authority Settlement Agreement.[62] However, since E.ON is no longer a member of Midwest ISO, any indemnification rights afforded to E.ON would be pursuant to its membership in the CRSG, and should be governed by that agreement.[63] We agree with Midwest ISO that E.ON should raise its concerns about the CRSG's indemnification provisions with the CRSG's Contingency Reserves Committee, in which E.ON has voting rights. We further agree with Midwest ISO that this proceeding is not the proper forum to address E.ON's concerns.

68. We find that Midwest ISO should be able to implement ARC, as amended pursuant to this order, in a manner that allows the parties to meet NERC's reliability standards. However, we again emphasize the need for Midwest ISO to communicate to market participants via a posting on OASIS when ARC is invoked and completed. Each posting should include information regarding the conditions requiring dispatch of capacity above a resource's EcoMax, and the period of time that such capacity was

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[62] See Balancing Authority Settlement Agreement section 6.1, filed October 5, 2004 in Docket ER04-691-002, and approved in *Midwest Independent Transmission System Operator, Inc.*, 110 FERC ¶ 61,177 (2005).

[63] CRSG Agreement section 13.2, filed August 25, 2006 in Docket No. ER06-1420-000, and approved by the Commission in *Midwest Independent Transmission System Operator, Inc.*, 117 FERC ¶ 61,092 (2006). Midwest ISO currently functions as the Group Administrator for the CRSG.

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dispatched. In addition, Midwest ISO also must post on OASIS (or other suitable forum), as soon as practicable following an event, a narrative describing: (1) the portion of the ARC range utilized; (2) the consequences for operating reserves; and, (3) if a reserve sharing or DCS event occurred during the process (including the amount of capacity returned and noting any consequences on reliability standards compliance).

5) Mitigation

a) Proposal

69. Midwest ISO did not propose additional market monitoring procedures or mitigation of market power associated with ARC, beyond what is currently conducted by the IMM.

b) Comments

70. Midwest TDUs note that Midwest ISO does not provide any analysis of the competitiveness of the market for capacity above EcoMax and the opportunities for exercising market power, potentially with locational impacts due to the constraints.[64]

71. At the technical conference, the IMM stated that nothing exempts output from the range above a generator's EcoMax from market power mitigation measures.[65] The IMM noted that, to the extent such output violates the conduct threshold, it can still be subject to Commission sanctions and to non-automated economic withholding mitigation. The IMM explained that subjecting output above EcoMax to automated mitigation is probably imprudent, because the software would be mitigating without any review of the basis for changing the range above EcoMax but below the emergency maximum operating level.[66] The IMM added that the actual costs of operating above EcoMax are uncertain, and that ratings can change with conditions – potentially subjecting output above EcoMax to reference prices based on periods when the output was in a more typical operating range.[67]

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[64] Midwest TDUs Protest at 8.

[65] Tr. at 107.

[66] *Id.* at 121.

[67] *Id.* at 118-19.

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72. Midwest TDUs seek clarification of Midwest ISO's technical conference statement that "mitigated offers are not excluded" from the calculation of the proxy heat rate. Midwest TDUs note that Midwest ISO's statement may mean that (1) an offer that exceeds Midwest ISO mitigation measures' conduct threshold and raises the LMP by more than the market impact threshold will still be used to calculate the proxy heat rate, even if that offer would have been substituted with the seller's default bid (*i.e.*, its reference price), or (2) the Midwest ISO will use the default bid in the proxy heat rate calculation.[68]

73. Midwest TDUs question the IMM's position that automated mitigation procedures should not apply to ARC. Midwest TDUs claim that, absent automated mitigation, a seller could increase LMPs via economic withholding, even if "higher of" pricing were used. Midwest TDUs argue that the Commission's obligation to protect consumers from the exercise of market power requires application of Midwest ISO's mitigation measures to ARC. Midwest TDUs state that an LMP reflecting a peaker proxy offer based upon a calculation that incorporates unmitigated, excessive offers would violate the conditions under which market-based pricing can occur. According to Midwest TDUs, ARC will set -- and in some cases increase -- LMPs for a potentially large number of MWHs of energy.[69]

74. Midwest TDUs argue that mitigation measures provide three mechanisms by which the marginal costs of operating a unit above EcoMax may be addressed: (1) reference prices can be set for specific output segments; (2) a seller can contact Midwest ISO to obtain a change in its reference price based upon changes in its marginal costs; and (3) the thresholds for broad constrained areas, in particular, accommodate a broad range of changes in marginal costs. Midwest TDUs note the IMM's acknowledgement at the technical conference that it would be possible to establish a second set of reference prices that would apply when a unit operated above EcoMax.[70]

c) <u>Discussion</u>

75. We do not believe the inclusion in the proxy heat rate calculation of original offers that may ultimately be mitigated will significantly affect the proxy price, given that only offers from the previous 30-day period are included in the calculation, and the proportion

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[68] Midwest TDUs Post-Conference Reply Comments at 1.

[69] *Id*. at 7-8.

[70] *Id*. At 8-9.

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of mitigated offers is small compared with the number of total offers that go into the calculation. However, we direct the IMM to monitor the level of original offers that are ultimately mitigated in the calculation and provide an estimate of their impact after one year's experience with ARC. The result must be included in the IMM's annual state of the market report, along with recommendations for changes in the calculation, should any be warranted. Concurrent with the report, the IMM and Midwest ISO must also provide an assessment of the changes in market software that would be needed to exclude these offers from the calculation.

76. While we generally agree with the IMM that applying automatic mitigation to offered output in the range between EcoMax and emergency maximum may be problematic, we also note that ARC is expected to permit dispatch in this range more frequently than in the past. It is important to emphasize, therefore, that the market mitigation provisions in the TEMT apply. Thus, the IMM should closely monitor bids during ARC events to identify any behavior indicating economic withholding or market manipulation and take appropriate action as prescribed in the tariff.

6) Tariff Penalties and RSG Eligibility

a) Comments

77. Xcel Energy states that complying with an ARC or Step Two event may require a generation resource to deviate by more than ten percent from its real-time dispatch instructions and thus be subject to: (1) RSG uplift charges; (2) uninstructed deviation penalties; or (3) the loss of eligibility to receive a full RSG make-whole payment. Thus, Xcel Energy says, the Midwest ISO should revise section 40.3.4 and/or section 40.2.15 of the TEMT and section D.12 of the Market Settlements Business Practices Manual to establish that that generation resource will not be subject to RSG charges and uninstructed deviation penalties when complying with these steps. Likewise, Xcel Energy believes that section 40.3.3 and/or 40.2.15 of the TEMT should be revised to prevent the loss of RSG make-whole payments by those responding to an ARC or Step Two event.[71]

78. Consumers Energy states that "[o]ffsets used in the [Unit Dispatch System (UDS)] solution are intended to make generation vary from the base point sent by the Midwest ISO through the indirect action of responding to the Balancing Authorities Area Control

[71] Xcel Energy Comments at 8-11.

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error."[72] Consumers Energy argues that such offsets[73] could lead generators into uninstructed deviation penalties and increased RSG distribution. Both Consumers Energy and WPS Companies request that the Commission order Midwest ISO to report all instances in which offsets are used and then waive RSG and uninstructed deviation penalties that are attributable to those offsets. Both parties also advocate that language addressing offsets should be included in the TEMT.[74]

79. Midwest ISO agrees that market participants should not be penalized for following its directives, including dispatch instructions and ARC instructions. It states that this is already recognized in TEMT section 10.7, however, and that no further tariff changes are needed. Midwest ISO affirms that it is willing to modify proposed section 40.2.15 to specify that the portion of operating reserves utilized pursuant to the ARC procedure would be returned to a market participant upon the occurrence of a reserve sharing or DCS event. As such, the loss of eligibility for RSG make-whole payments would be avoided.[75]

b) <u>Discussion</u>

80. We agree that market participants should not be penalized for following Midwest ISO directives, including dispatch instructions and ARC instructions. TEMT sections 10.7 and 10.6.1.d ensure that market participants and generation owners, when following Midwest ISO's directives, will not be subject to uninstructed deviation penalties and RSG uplift charges, or lose eligibility to receive a full RSG make-whole payment.[76] We find that there is no need for further tariff changes on this matter.

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[72] Consumers Energy Post-Conference Comments at 9.

[73] While the parties do not provide a definition of offsets, the term generally applies to a system whereby Midwest ISO permits a generator to operate above its EcoMax by allowing a higher than normal Area Control Area for the balancing area where the generator is located.

[74] Consumers Energy Post-Conference Comments at 9-10; WPS Companies Post-Conference Reply Comments at 3-4.

[75] Midwest ISO Answer at 7-8.

[76] TEMT section 10.7 states that provisions regarding limitations on liability, damages, and indemnification (set forth in sections 10.2, 10.3, and 10.6) shall be applicable to market participants and generation owners acting in good faith to implement

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81. We agree that Midwest ISO must report the use of offsets associated with an ARC event. We direct Midwest ISO to provide for such reporting.

7) Triggering ARC and Step Two

a) Proposal

82. Midwest ISO's proposal establishes that the level of severity of the shortage or emergency condition would determine whether Midwest ISO should initiate either ARC or Step Two.[77] Midwest ISO's proposal further establishes that Step Two will be used if the shortage conditions last for longer than sixty minutes or when the capacity in ARC is insufficient to restore supply-demand balance.

b) Comments

83. Multiple parties express concern that Midwest ISO's proposal does not clearly indicate when ARC (Step One) will be called. CMTC requests that the Commission require operational parameters to define when Midwest ISO can implement ARC, instead of leaving it to the discretion of Midwest ISO operators. CMTC also notes that as Midwest ISO's proposal stands, the mechanisms for determining when ARC should be invoked are either a moving target or do not exist, inviting disputes over whether use of ARC is appropriate. CMTC states that at the technical conference, Mr. Gardner seemed to concede that clarity could be improved regarding when ARC would be utilized and the interplay between ARC and other procedures.[78]

84. Midwest TDUs note that calling upon capacity segments above EcoMax can impose costs on generators and therefore Midwest TDUs would like clearly-stated, Commission-approved decisional criteria to govern Midwest ISO discretion in invoking

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or comply with the directives of the transmission provider. TEMT section 10.6.1.d provides that the control area operator and its representatives shall not be liable for acts or omissions done in compliance or good faith attempts to comply with directives of the transmission provider.

[77] Such conditions arise where the transmission provider's forecast of real-time demand within its region cannot be satisfied with all available offers (generation, self-schedules, and demand response offers) at EcoMax (or during an emergency).

[78] CMTC Post-Conference Comments at 6-7. CMTC states that Midwest ISO's proposed approach will bring "higher of" scarcity pricing, administratively elevating prices and impacting customer bills.

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ARC.[79] Midwest TDUs also assert that triggers for Step Two should be added to the TEMT to ensure that the Midwest ISO does not resort to Step Two inappropriately. Midwest TDUs want language to ensure that $1,000/MWH prices are only triggered when truly needed as a signal for new capacity.

85. WPS Companies maintain that language clarifying the triggering mechanisms for ARC should be included in the TEMT because ARC establishes a term of service. Also, WPS Companies would prefer that the Commission process be utilized in subsequent changes to ensure they are just and reasonable.[80]

86. Consumers Energy requests that the Commission order Midwest ISO to file tariff language specifying that ARC will be triggered after three consecutive offsets (as they say Mr. Gardner agreed to in the technical conference). Consumers Energy notes that, if Midwest ISO later determines that three consecutive offsets is an inappropriate trigger, Midwest ISO can make a filing at that time to modify it.[81]

87. Xcel Energy states that the definition of "Emergency" in TEMT section 1.80[82] is circular and that without a clear definition there could be inconsistent application of section 40.2.15's real-time balancing of supply and demand. Xcel Energy is concerned that without a clear standard for applying section 40.2.15, Midwest ISO could require market participants to dispatch their generation as if an emergency existed without compensating those generators as specified in section 40.2.15. According to Xcel Energy, the Commission should require Midwest ISO to revise section 1.80 and/or

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[79] Midwest TDUs Post-Conference Comments at 3-5. Midwest TDUs argue that buyers could be subjected to higher LMPs, not because of their own increased demands, but because of Midwest ISO system operator determinations.

[80] WPS Companies Post-Conference Reply Comments at 4.

[81] Consumers Energy Post-Conference Comments at 8-9.

[82] TEMT section 1.80 defines "Emergency" as:

> (i) an abnormal system condition requiring manual or automatic action to maintain system frequency, or to prevent loss of firm Load, equipment damage, or tripping of system elements that could adversely affect the reliability of any electric system or the safety of persons or property; (ii) a fuel shortage requiring departure from normal operating procedures in order to minimize the use of such scarce fuel; or (iii) a condition that requires implementation of Emergency procedures as defined in this Tariff.

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section 40.2.15 to more clearly state what constitutes an emergency and the conditions under which section 40.2.15's rates, terms and conditions should apply.[83]

88. Midwest ISO responds that the TEMT provides a sufficiently detailed statement of the reliability-related basis for determining the existence of shortage conditions that warrant the use of ARC. It asserts that the conditions typically involve the actual or reasonably anticipated failure of the system to come up with a solution within three 5-minute UDS cycles. Midwest ISO also submits that, consistent with its role as reliability authority, it is prudent to avoid incorporating into the TEMT overly specific or detailed language about shortages because such language could reduce Midwest ISO's ability to address new variants of shortage conditions and causes. Midwest ISO also suggests that overly specific language would prevent Midwest ISO and its stakeholders from periodically adjusting the operator guidelines for invoking ARC based on experience. Midwest ISO affirms that such flexibility is consistent with NERC reliability standards that require the transmission provider to have enough flexibility to respond properly to a variety of contingencies.[84]

89. Midwest ISO also contends that further specification of conditions for triggering Step Two is unnecessary. Midwest ISO maintains that the TEMT already contains a definition of "Emergency" in section 1.80, which section 40.2.15 adopts by reference. Midwest ISO believes that it is appropriate and adequate to rely on this definition, adopted by the Commission as part of the TEMT, for purposes of describing in section 40.2.15 the steps it may take to address events to which the definition applies. Midwest ISO states that adding details to the definition of "Emergency" would be unwise because that would unduly reduce the Midwest ISO's flexibility in dealing with contingencies.[85]

c) <u>Discussion</u>

90. We believe it is important for market participants to be able to anticipate when ARC will be triggered. However, we also do not believe it is appropriate to tie the hands of Midwest ISO by incorporating tariff language that is too confining. Doing so could reduce Midwest ISO's ability to react to new shortage situations or to adjust its actions based on experience. As such, we will require Midwest ISO to specify in its Business Practices Manual that the triggering mechanism is generally three UDS cycles.

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[83] Xcel Energy Comments at 5-7.

[84] Midwest ISO Post-Conference Comments at 8-9.

[85] *Id.* at 9-10

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91. We will also require Midwest ISO to add to the TEMT the clarifying term "on-line" to the phrase "Generation Resource" to ARC/Step One, in order to better indicate that this step does not include off-line resources.

92. We agree with Midwest ISO that it is appropriate and adequate for it to rely on the definition of "Emergency" already contained in the TEMT for purposes of describing situations that may require the use of the shortage procedures. Midwest ISO is correct that adding details to the definition would be unwise because it would unduly reduce Midwest ISO's flexibility in dealing with contingencies, and could make the system less reliable.

8) Notification

a) Proposal

93. Proposed section 40.2.15 of the TEMT states that every time the procedures for shortage conditions and emergencies are utilized (ARC, Step Two, and Step Three), the transmission provider will post on OASIS the existence of conditions requiring it to dispatch capacity and the period of time that such capacity was dispatched.

b) Comments

94. Midwest ISO noted during the technical conference that section 40.2.15 of the TEMT requires notification posting on OASIS every time ARC, Step Two, or Step Three is implemented. Mr. Gardner stated that Midwest ISO has a draft procedure for notifying market participants when the shortage procedures are triggered.[86] When a shortage procedure is initiated, Midwest ISO will put a message out on its messaging system to the balancing authorities, to reliability entities, and Midwest ISO will also send a separate message to the market.[87]

c) Discussion

95. We direct Midwest ISO to notify market participants in a timely manner when the shortage procedures are in effect.

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[86] Tr. at 75.

[87] Tr. at 75, 96.

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9) Pricing When Told to Run above EcoMax or Prior to Notification

a) Background

96. Midwest ISO's proposal provides a pricing mechanism when ARC is triggered. However, the proposal does not address pricing in other circumstances when, for example, ARC is not triggered but participants are notified to run a generation unit above EcoMax.

b) Comments

97. Xcel Energy argues that the TEMT should explicitly state that by default, any time Midwest ISO directs a generator to dispatch into its operating reserve range, ARC is in effect and the pricing provisions in section 40.2.15 apply. Xcel Energy states that Midwest ISO would not have brought the unit on-line if an emergency did not exist, and thus the units should be paid according to section 40.2.15 for the period between being called on-line and when the notification period expires. Xcel Energy asserts that notification times are included in offers such that generation units can be brought on safely and reliably; therefore, when Midwest ISO asks a unit to be dispatched prematurely, it is asking the market participant to risk safe and reliable start-up. Xcel Energy contends that requiring payment of section 40.2.15's emergency rate would ensure that Midwest ISO carefully considers any premature dispatch decision. Xcel Energy says, thus, the Commission should require Midwest ISO to add definitions to the TEMT for resource status and notification times and/or otherwise revise section 40.2.15 to clarify that resources started prior to their offered notification time are deemed to be in emergency only status and available only under Step Two of the emergency procedure.[88]

98. Midwest ISO argues that concerns over the use of off-line resources are misplaced and that the tariff language makes clear that ARC does not apply to off-line resources. However, Midwest ISO expresses a willingness to clarify the tariff by revising section 40.2.15 to state explicitly that only on-line resources will be used in Step One.[89]

99. Midwest ISO notes, in response to Xcel Energy's request to clarify the scope of emergencies in section 40.2.15, that ARC does not apply to emergencies, and Step Two can be invoked without declaring an emergency. Midwest ISO states that Xcel Energy

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[88] Xcel Energy Comments at 7-8.

[89] Midwest ISO Answer at 6-7.

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thus misunderstands the proposal and its comments are off point.[90] At the technical conference, Mr. Gardner clarified that Midwest ISO will not send out base points above the EcoMax, so Midwest ISO will not directly ask generators to operate outside their economic range without ARC. However, Midwest ISO may currently encounter operating circumstances where shortage conditions will require generators to run above their EcoMax briefly to maintain frequency in their balancing area. At the technical conference, Mr. Doying stated that one of the principal benefits of ARC was to solve this problem by modifying section 40.2.15 to apply when shortage conditions occur.[91]

c) Discussion

100. We accept the Midwest ISO's clarification in response to Xcel Energy, limiting Step One to on-line resources, and direct Midwest to modify the tariff to reflect this clarification.

101. With respect to Xcel Energy's concerns over section 40.2.15, we find that revised section 40.2.15 addresses these concerns. Except for very brief periods before ARC is triggered, the provisions of section 40.2.15 should ensure that real-time prices will rise in a manner consistent with prevailing shortage conditions, whenever generators are required to operate above their EcoMax.

10) <u>Demand Response</u>

a) <u>Proposal/Background</u>

102. In the August 2006 Order, the Commission suggested that Midwest ISO consider how demand response may or may not be able to be integrated into its shortage procedures. This issue was set for discussion at the technical conference.

b) <u>Comments</u>

103. At the technical conference, Midwest ISO explained that, at present, ARC would not have a direct effect on the deployment of demand response capability. Midwest ISO pointed to the fact that, in most cases, available demand response is controlled by Midwest ISO's balancing authorities and is not under direct operational control of Midwest ISO. Furthermore, Midwest ISO explained that most demand response currently in place is not designed for the short-term, quick response procedures ARC

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[90] *Id.* at 7.

[91] Tr. at 79-82

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contemplates. However, Midwest ISO pointed to a secondary, positive effect ARC would have on demand response; to the extent ARC procedures improve the accuracy of market prices, market participants will have a clear incentive to take advantage of potential demand reduction response capability.[92]

104. Midwest ISO stated that it shares its stakeholders' interest in having better mechanisms for demand participation in the market. Midwest ISO recognizes that, with respect to ARC, demand response would provide additional flexibility and alternatives that might enable Midwest ISO to avoid instances where it would otherwise have to go into ARC. To this end, Midwest ISO states that its stakeholders are initiating a demand response taskforce which could address, among other things, how demand response programs might be designed or re-designed to help account for the short-term, quick response times that ARC contemplates.[93]

c) <u>Discussion</u>

105. We continue to acknowledge the importance of demand response resources as an element of efficient and reliable markets.[94] To the extent possible, we would like demand response resources to be available for short-term, quick response needs and so help Midwest ISO avoid instances where it would otherwise have to go into ARC. We also fully support the creation of a demand response taskforce and we encourage Midwest ISO and its stakeholders to use this taskforce to actively seek and implement better methods for integrating demand response resources into Midwest ISO shortage procedures. Given that the new shortage procedures will not adversely impact the status quo with regard to the position of demand response in the markets, in particular the fact that demand response resources will continue to receive the same LMP as other resources when they are dispatched by the market, no further changes to the ARC procedures appear necessary at this time. In addition, within one year of implementation of ARC, Midwest ISO must file a report of the stakeholder taskforce addressing how demand response protocols between Midwest ISO and demand response providers might be designed or re-designed to provide for the short-term, quick response resources that ARC contemplates.

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[92] Tr. at 28-29, 71-73.

[93] *Id.*

[94] *See Southwest Power Pool, Inc.*, 114 FERC ¶ 61,289 at P 229 (2006), *order on reh'g*116 FERC ¶ 61,289 at P 62 (2006).

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11) Clarifications and Corrections

106. Wisconsin Electric notes that on proposed Second Revised Sheet No. 567, the phrase "below Hourly Emergency Maximum" appears twice in the second-to-last and third-to-last lines of the sheet. Wisconsin Electric requests that Midwest ISO make the required deletion so that the phrase appears only once.[95]

107. Midwest ISO provides clarification of concepts discussed at the technical conference, and clarifications and corrections to its September 15, 2006 response letter to Commission staff questions.[96]

108. We accept these corrections and clarifications and order Midwest ISO to include the clarifications and corrections relevant to the revised tariff sheets in its compliance filing in this docket.

The Commission orders:

(A) We accept Midwest ISO's proposed tariff revisions, to be effective January 8, 2007, subject to Midwest ISO making certain modifications in a compliance filing, and subject to reporting requirements, as discussed in the body of this order (and summarized below).

(B) We direct Midwest ISO to revise its proposal, as discussed in the body of this order (and summarized below), and to submit a compliance filing in this docket, within 30 days of the issuance of this order.

(C) We direct Midwest ISO to include the peaker proxy pricing formula in the TEMT. Midwest ISO shall revise the pricing formula for the circumstance when EcoMin equals EcoMax and shall also revise the price index to be used in the formula.

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[95] Wisconsin Electric Comments at 5.

[96] For example, Midwest ISO confirms that mitigated offers are not excluded from the calculation of the proxy heat rate and states that if there is a future significant increase in mitigated offers, Midwest ISO would be willing to work with the IMM to develop a suitable mechanism for identifying and excluding mitigated offers from the calculation. Midwest ISO Post-Conference Comments at 3-4. Midwest ISO also provides a clarification to the September 15, 2006 response letter. Midwest ISO October 20, 2006 Supplemental Post-Conference Reply Comments at 1-2.

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(D) We will permit the specific index used in the formula to be stipulated in the Business Practices Manual or other documentation on Midwest ISO's website so that it may be amended when necessary. We also require Midwest ISO to specify in its Business Practices Manual that the triggering mechanism for ARC is generally three UDS cycles.

(E) We direct Midwest ISO to add language to section 40.2.15 that limits the proxy price used in ARC to $1,000.

(F) We direct Midwest ISO to amend the tariff language to specify that the portion of operating reserves utilized pursuant to ARC or Step Two shall be returned to a market participant upon the occurrence of a reserve sharing or DCS event.

(G) We direct Midwest ISO to better indicate that ARC/Step One does not include off-line resources by adding the clarifying term "on-line" to the phrase "Generation Resource" in the tariff. Midwest ISO shall also clarify where appropriate that Step One/ARC is limited to on-line resources.

(H) We direct Midwest ISO to include all other clarifications and corrections relevant to the revised tariff sheets in its compliance filing in this docket.

(I) We direct Midwest ISO to notify market participants in a timely manner when shortage procedures are in effect. We direct Midwest ISO to post on OASIS when ARC is invoked and completed. Each posting should include information regarding system conditions leading to the use of ARC, and the period of time covering when capacity above a resource's EcoMax was dispatched. Midwest ISO also must post on OASIS (or other suitable forum), as soon as practicable following an event, a narrative describing: (1) the portion of the ARC range utilized; (2) the consequences for operating reserves; and (3) if a reserve sharing or DCS event occurred during the process (including the amount of capacity returned and noting any consequences on reliability standards compliance).

(J) We direct Midwest ISO to gain at least three months' experience under ARC before changing generation unit commitment procedures.

(K) We direct the IMM to analyze, after one year, Midwest ISO's experience under ARC before and after these changes in commitment of units, and assess the benefits of the changes. Assessment results must be included in the IMM's annual state of the market report, along with recommendations for changes in ARC procedures, should any prove to be warranted.

(L) We direct the IMM to monitor the level of original offers that are ultimately mitigated in the peaker proxy price calculation and provide an estimate of their impact

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after one year's experience with ARC. The result must be included in the IMM's annual state of the market report, along with recommendations for changes in the calculation, should any be warranted. Concurrent with the report, the IMM and Midwest ISO must also provide an assessment of the changes in market software that would be needed to exclude these offers from the calculation.

(M) Midwest ISO must report the use of offsets associated with an ARC event. We direct Midwest ISO to provide for such reporting.

(N) Midwest ISO is directed, within one year of implementation of ARC, to file a report of the stakeholder taskforce addressing how demand response protocols between Midwest ISO and demand response providers might be designed or re-designed to help provide for the short-term, quick response resources that ARC contemplates.

By the Commission. Commissioner Wellinghoff concurring with a separate statement attached.

(S E A L)

Magalie R. Salas,
Secretary.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Midwest Independent Transmission System Operator, Inc.	Docket Nos. ER06-1099-000 and ER06-1099-001

(Issued January 5, 2007)

WELLINGHOFF, Commissioner, concurring:

1.

Today, we approve revisions to Midwest ISO's shortage and emergency procedures to allow the temporary use of a portion of spinning reserves (50 percent or less), to be restored within 60 minutes, to avoid system emergency conditions until other actions can be taken to solve the problem in a more permanent manner. We also require Midwest ISO to file, within one year of implementation of those changes, a report addressing how demand response protocols might be designed to help provide for the short-term, quick response resources that are contemplated by the new program.

I support these decisions, but I also would have taken a further step. Specifically, I would have required Midwest ISO to establish at this time pricing parity in its tariff for supply side and demand response resources that meet the short-term, quick response needs that Midwest ISO is seeking to address.

For these reasons, I respectfully concur with the Commission's order.

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Jon Wellinghoff
Commissioner