

136 FERC ¶ 61,025
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Jon Wellinghoff, Chairman;
Marc Spitzer, Philip D. Moeller,
John R. Norris, and Cheryl A. LaFleur.

Midwest Independent Transmission
System Operator, Inc.

Docket No. ER11-3572-000

ORDER ACCEPTING TARIFF REVISIONS

(Issued July 12, 2011)

1. On May 13, 2011, Midwest Independent Transmission System Operator, Inc. (MISO) filed, pursuant to section 205 of the Federal Power Act (FPA)¹ and section 35 of the Commission's regulations,² proposed revisions to Schedule 27 (Real-Time Offer Revenue Sufficiency Guarantee Payment and Day-Ahead Margin Assurance Payment) of its Open Access Transmission, Energy, and Operating Reserves Tariff (Tariff) to modify the calculation of the Day-Ahead Margin Assurance Payment to address significant risks associated with MISO's energy markets (May 13, 2011 Filing). In this order, we accept MISO's proposed tariff revisions, to become effective May 14, 2011, as requested, subject to MISO refileing the tariff record as described below, and grant waiver of the 60-day prior notice requirement.

I. Background

2. MISO filed on September 29, 2006, in Docket No. ER06-1552-000, a proposed new section 40.3.5 of its Transportation and Energy Markets Tariff (TEMT) to provide a real-time price volatility make-whole payment (PV MWP) to certain generation resources when the real-time locational marginal price (LMP) is insufficient to cover their incremental energy costs.³ MISO stated in its filing that this payment was designed to incent Market Participants to offer energy in a more flexible manner, with a wider dispatch range for their resources.

¹ 16 U.S.C. § 824d (2006).

² 18 C.F.R. § 35 (2011).

³ The formulas associated with the PV MWP are set forth in Schedule 27 of the Tariff.

3. The Commission conditionally approved the PV MWP provisions on December 22, 2006, subject to MISO revising the tariff to ensure that potential manipulation of the PV MWP is clearly covered by the MISO Independent Market Monitor's (IMM) market monitoring and mitigation procedures.⁴ MISO submitted a compliance filing in January 2007 proposing that the IMM would review and analyze offers resulting in revenue sufficiency guarantee payments, PV MWPs, and "other similar payments."⁵ In its compliance filing, MISO stated that, due to vendor limitations, it was unable to develop software, test, and provide training, and thus was unable to fully implement the PV MWP provisions at that time.⁶ The Commission accepted this delay in a March 4, 2008 Order.⁷

4. On September 14, 2007, MISO proposed revisions to the PV MWP in its Ancillary Service Market (ASM) proceeding.⁸ Among other things, MISO proposed to modify the PV MWP to restructure it into two separate components – the Day-Ahead Margin Assurance Payment and a Real-Time Offer Revenue Sufficiency Guarantee Payment. The Day-Ahead Margin Assurance Payment addresses incentives for Market Participants when their resources are dispatched below their day-ahead schedules either economically or through manual dispatch.⁹ The Commission conditionally accepted the ASM proposal, including the Day-Ahead Margin Assurance Payment provisions on February 25, 2008.¹⁰ The Day-Ahead Margin Assurance Payment was ultimately implemented on January 6, 2009 with the commencement of MISO's ASM market.

⁴ *Midwest Independent Transmission System Operator, Inc.*, 117 FERC ¶ 61,325 at P 43 (2006).

⁵ MISO, Compliance Filing, Docket No. ER06-1552-002, at 2 (filed Jan. 22, 2007).

⁶ MISO, Compliance Filing, Docket No. ER06-1552-003, at 5 (filed June 18, 2007).

⁷ *Midwest Independent Transmission System Operator, Inc.*, 122 FERC ¶ 61,198 (2008).

⁸ See MISO, ASM Filing, Docket No. ER07-1372-000.

⁹ The Real-Time Offer Revenue Sufficiency Guarantee Payment addresses incentives for Market Participants when their resources are dispatched above their day-ahead schedules either economically or through manual dispatch.

¹⁰ *Midwest Independent Transmission System Operator, Inc.*, 122 FERC ¶ 61,172, at P 540 (2008).

5. In its PV MWP filing in September of 2006 MISO stated that there was a financial incentive for some generators to make inflexible offers when Revenue Sufficiency Guarantee payments do not guarantee recovery of their costs. In particular, affected generators were tending to submit real-time offers that minimized the spread between the economic maximum and economic minimum¹¹ or decrease the ramp rates¹² of their resource in order to maintain the resource's dispatch at the levels they cleared in the day-ahead market, or in the case of must-run units, at the levels they considered to be the most profitable.¹³ MISO stated that Market Participants bid their resources in this inflexible manner in order to minimize the risk of being cleared by the real-time dispatch at levels other than the day-ahead dispatch levels when the ex post real-time LMP would be too low to permit full recovery of a resource's incremental energy costs.¹⁴ This inflexibility in bids could then force MISO to commit additional resources which would result in unnecessary production costs and corresponding additional Revenue Sufficiency Guarantee charges.¹⁵

6. MISO ultimately addressed this issue when it instituted the Day-Ahead Margin Assurance Payment and Real-Time Offer Revenue Sufficiency Guarantee Payments in early 2009 with the commencement of MISO's ASM market. MISO notes in the instant filing that it designed the Day-Ahead Margin Assurance Payment to provide an incentive for Market Participants to provide flexible offers for their resources such that a resource's output can be reduced in the real-time market (as compared to their day-ahead commitment) by providing a make-whole payment to the Market Participant when both (i) the Market Participant's real-time dispatch of its resource is reduced below the day-ahead schedule level, and (ii) the Market Participant would have been financially better

¹¹ A Market Participant's resource's economic minimum and economic maximum are the minimum and maximum megawatt (MW) levels, respectively, at which a resource may operate under normal system conditions. The Market Participant submits these parameters in its offer.

¹² Ramp rates are the expected response rate of a resource measured in MW/minute.

¹³ MISO, Section 205 Filing, Docket No. ER06-1552-000, at 9 (filed Sept. 29, 2009).

¹⁴ *Id.* at 3.

¹⁵ *Id.* Gardner Aff. ¶ 7.

off in real-time had it operated at its day-ahead schedule for the hour in question.¹⁶ This combination of circumstances can occur during periods of price volatility.^{17 18}

7. The Day-Ahead Margin Assurance Payment guarantees receipt of the day-ahead margin¹⁹ to a Market Participant, when its resource is dispatched at a lower level in the real-time market than in the day-ahead market.²⁰ In guaranteeing the margin, the Day-Ahead Margin Assurance Payment reimburses the Market Participant for its cost of buying back its resource's day-ahead schedule (i.e. for the MWs scheduled in the day-ahead market that are not to be delivered in the real-time market) in a particular hour minus the resource's assumed production costs savings from producing less output in the real-time market than in the day-ahead market for that hour.²¹ The assumed production cost savings in the calculation are the reduction in quantity from the Market Participant's day-ahead schedule to its real-time dispatch, multiplied by the Market Participant's accepted day-ahead bid for energy.²² This calculation of the "costs of the buy-back" (and

¹⁶ IMM Testimony at 4.

¹⁷ IMM Testimony at 4.

¹⁸ Such price volatility can occur when there is an excessive downward spike within a five minute dispatch interval resulting in a drastic lowering of the time-weighted LMP. The real-time dispatch occurs on a five minute basis, with dispatch based on ex ante LMPs that are recalculated every five minutes. Settlement of the real-time market, however, occurs on an hourly basis at integrated hourly average LMPs. Accordingly, a Market Participant's resource may be dispatched in a manner that appears to be economic, but at ex post prices, the dispatch may no longer be economic for the Market Participant. *See* MISO, Section 205 Filing, Docket No. ER06-1552-000, at 9 (filed Sep. 29, 2006), approved in *Midwest Independent Transmission System Operator, Inc.*, 117 FERC ¶ 61,325.

¹⁹ The day-ahead margin is the dollar value of the revenues the Market Participant receives in the day-ahead market that are in excess of the offer that is accepted for the resource. If a Market Participant has bid just to recover the costs of its resource, the margin would represent its profits.

²⁰ Schedule 27 of the Tariff establishes the formula for the Day-Ahead Margin Assurance Payment.

²¹ MISO May 13, 2011 Filing at 3.

²² Prior to the determination of the eligible amounts of energy, regulating reserve, spinning reserve, and/or supplemental reserve for use in Day-Ahead Margin Assurance Payment calculations, the day-ahead energy schedules for those products are adjusted to account for MISO-approved real-time reductions in resource capability caused by

thus the calculation of an appropriate Day-Ahead Margin Assurance Payment) assumes a day-ahead offer that reflects the costs to the Market Participant of supplying the energy.²³

8. By providing a Day-Ahead Margin Assurance Payment, MISO removed the disincentive for Market Participants to offer their resource(s) flexibly with respect to quantity. With additional offer flexibility with respect to dispatch ranges and ramp rates, MISO could avoid committing additional generators and thereby lower Revenue Sufficiency Guarantee charges to the market.²⁴ More flexibility from existing on-line resources gives the dispatch algorithm additional choices to resolve congestion, potentially lowering price volatility and congestion costs.²⁵ The Day-Ahead Margin Assurance Payment is funded via uplift charges on all Market Participants on a pro-rata basis, based on their Market Load Ratio Share.²⁶

9. As a part of the adoption of PV MWP, MISO proposed, and the Commission accepted, a number of eligibility conditions designed to prevent gaming of the payments.^{27 28} These eligibility conditions now apply to Market Participants receiving

physical operating conditions. *See* Step One of the Day-Ahead Margin Assurance Payment calculation as detailed in Schedule 27 of the Tariff.

²³ IMM Testimony at 5-6.

²⁴ MISO's report on the MISO Day-Ahead Margin Assurance Payment and Real-time Offer Revenue Sufficiency Guarantee Payment shows a substantial decrease in the average volumes committed in the Reliability Assessment Commitment process and in average make-whole payments by hour since the imposition of these payments. MISO, Report, Docket No. ER06-1552-000, at p. 8 (filed Jan. 6, 2010). In the day-ahead Reliability Assessment Commitment process, established in section 40 of the Tariff, MISO commits additional resources outside the market process to ensure that forecasted energy and operating reserve needs are met.

²⁵ MISO, Section 205 Filing, Docket No. ER06-1552-000, Gardner Aff. ¶ 8 (filed Sept. 29, 2006). On December 22, 2006, the Commission conditionally accepted the PV MWP, and required changes with respect to market monitoring and mitigation procedures, but not with respect to the underlying concept or formula. *See Midwest Independent Transmission System Operator, Inc.*, 117 FERC ¶ 61,325.

²⁶ MISO Tariff, section 40.3.6.6.

²⁷ Under section 40.3.6.4 of the Tariff, the eligibility conditions include positive ramp levels (applicable to all but DRR-Type I resources) and a minimum dispatch range of 1 MW. Resources that fail to meet the eligibility criteria for four or more consecutive dispatch intervals are ineligible for the Day-Ahead Margin Assurance Payment. Any resource receiving an excessive/deficient energy deployment charge in an hour is

the Day-Ahead Margin Assurance Payment and the Real-Time Offer Revenue Sufficiency Guarantee Payments. The Day-Ahead Margin Assurance Payment is paid only to Market Participants that satisfy the eligibility criteria specified in the Tariff on an hourly basis.²⁹

II. MISO Filing

10. MISO states that the IMM informed MISO of a potential gaming opportunity associated with a flaw in the Day-Ahead Margin Assurance Payment on April 8, 2011. MISO states that when the IMM initially informed it of the potential gaming opportunity, there was no indication that any Market Participant was employing an offer strategy to take advantage of the Day-Ahead Margin Assurance Payment. However, MISO states that the IMM has recently informed it that certain Market Participant(s) are now actively engaging in bidding strategies that appear to specifically target the flaw in the Day-Ahead Margin Assurance Payment.³⁰

11. MISO's filing includes testimony from MISO's IMM, Dr. David Patton, showing how Day-Ahead Margin Assurance Payments can be gamed. According to the IMM, to execute the identified gaming strategy, the Market Participant would offer its resource's energy at a very low (perhaps negative, and in the extreme as low as \$-500) price in the day-ahead market. This offer could drastically understate the resource's costs of providing the energy and, by being so low, would ensure that all of the energy the Market Participant offers associated with that resource, up to its economic maximum, is selected in the day-ahead market. With a LMP well above the offer the Market Participant submits for the resource, the resource has a very large day-ahead margin, and appears to be making a substantial profit in the day-ahead market, by offering well under its costs, losing a substantial amount on the transaction (in isolation of its other actions described below).³¹

ineligible to receive the Day-Ahead Margin Assurance Payment in that hour and in all remaining hours in the day-ahead transmission provider commitment period.

²⁸ *Midwest Independent Transmission System Operator, Inc.*, 117 FERC ¶ 61,325 at P 39.

²⁹ Those resources that can qualify for the Day-Ahead Margin Assurance Payment include generation resources, Demand Response Resources-Type II, and Demand Response Resources-Type I with day-ahead schedules for contingency reserve, external asynchronous resources with day-ahead schedules for energy, or stored energy resources with day-ahead schedules for regulating reserve.

³⁰ MISO May 13, 2011 Filing at 3.

³¹ IMM Testimony at P 6-8.

12. The IMM explains that the Market Participant will then complete the gaming strategy in the real-time market by offering the resource in real-time at a much higher price, such that it is selected to supply substantially less (such as the resource's economic minimum) in real-time than it was committed to supply in the day-ahead market. In doing so, the Market Participant essentially is buying back the difference between its day-ahead and real-time output levels for the resource at the real-time price. The IMM explains that, on its face, this could be a losing proposition for the Market Participant, as it has offered to supply under its cost in the day-ahead market, and would be buying energy back at a much higher rate in the real-time market. However, the Day-Ahead Margin Assurance Payment improves the profitability of the Market Participant's actions drastically. Provided that the Market Participant meets the eligibility criteria with the offer, the resource locks in a substantial Day-Ahead Margin Assurance Payment associated with its supposed "lost profits" from the reduction in quantity that it sells in the real-time, as opposed to the day-ahead market. This equates to a Day-Ahead Margin Assurance Payment of the difference between the Market Participant's day-ahead offer and the real-time LMP multiplied by the difference between the day-ahead scheduled MW and real-time scheduled MW for that resource.³²

13. The IMM's testimony includes an example in which a Market Participant offers its resource at \$-500 in the day-ahead market and \$50 in the real-time market. The Market Participant could receive a Day-Ahead Margin Assurance Payment of \$159,000 per hour, and earn profits of \$155,000 per hour or \$3,720,000 on a daily basis even if there is no price volatility and the resource's costs are greater than the LMP in both the day-ahead and real-time markets.³³

14. MISO states that the Day-Ahead Margin Assurance Payment was not intended to enable Market Participants supplying energy to extract or inflate make-whole payments by inducing reductions in output of their resources through Market Participants' own changes in day-ahead and real-time offers. It maintains that, to the contrary, the Commission has found that MISO's "plan to apply the [Day-Ahead Margin Assurance Payment and Real-Time Offer Revenue Sufficiency Guarantee Payment] eligibility criteria, monitor for behavior that violates market rules or manipulative conduct to

³² *Id.*

³³ *Id.* This example involves a Market Participant with 200 to 500 MW with incremental energy costs of \$50/MWh, and day-ahead and real-time LMP of \$30, that bids \$-500/MWh in the day-ahead market and \$30/MWh in the real-time market. In this example, Day-Ahead Margin Assurance Payment = $(\$30/\text{MWh} - (-\$500/\text{MWh})) \times (500\text{MW} - 200\text{MW}) = \$159,000/\text{hour}$. The Market Participant's profits will be slightly less than \$159,000, at \$155,000/hour because it has produced 200 MW at an LMP under its costs. The resource earns \$775/MWh for each of the 200 units it actually provides in the real-time market, which is well over its incremental energy costs and well over market prices.

increase the [Day-Ahead Margin Assurance Payment and Real-Time Offer Revenue Sufficiency Guarantee Payment], and make any associated Commission referrals,” are intended to “appropriately address the corresponding gaming risks.”³⁴

15. MISO and the IMM state that they have identified a solution to prevent the aforementioned gaming, and MISO has submitted the instant filing to propose a change to its Tariff to implement that solution. In the existing calculation of the Day-Ahead Margin Assurance Payment, the resource receives a payment of the difference between the adjusted day-ahead scheduled MW³⁵ and real-time scheduled MW, multiplied by the hourly real-time LMP minus the resource’s day-ahead offer for that hour. MISO proposes to modify the Day-Ahead Margin Assurance Payment formula such that the last term (that is subtracted) is *the higher of the day-ahead or real-time energy offers* rather than the day-ahead energy offer.³⁶

16. MISO states that this modification in the calculation of the Day-Ahead Margin Assurance Payment will prevent Market Participants from improperly extracting Day-Ahead Margin Assurance Payments based on real-time reductions in output of their resources that are due to the Market Participant’s own actions, such as the resource understating its production costs in its day-ahead offers and then increasing the real-time offer prices for that resource above those levels.³⁷

17. The IMM states that the modification to the Day-Ahead Margin Assurance Payment calculation addresses the described gaming opportunity.³⁸ The IMM maintains that the change proposed by MISO would improve suppliers’ incentives to offer into the real-time market at their true marginal cost. With the modification, if the Market Participant raised its real-time offer above its marginal cost, it would reduce its Day-Ahead Margin Assurance Payment. He argues that the modification to the Day-Ahead Margin Assurance Payment calculation would not undermine the effectiveness of the Day-Ahead Margin Assurance Payment in providing incentives for suppliers to be flexible in the real-time market because make-whole payments for real-time reductions in output caused by price volatility would not be affected by this change. He maintains that the only Market Participants negatively impacted by this change would be those that

³⁴ MISO May 13, 2011 Filing at 2 (citing *Midwest Independent System Operator, Inc.*, 123 FERC ¶ 61,296, at P 95 (2008)).

³⁵ The adjustments are to account for MISO-approved real-time reductions in resource capability caused by physical operating conditions.

³⁶ MISO May 13, 2011 Filing at 3.

³⁷ *Id.* at 3-4.

³⁸ IMM Testimony at 9.

increase the price in their offer for their resource(s) between the day-ahead and real-time market. The IMM notes that even if an increase in the real-time offer price to levels above the day-ahead offer price is cost-related, such as with the increase of underlying fuel costs, the Day-Ahead Margin Assurance Payment was not intended to hold Market Participants that offer energy harmless against such increases in underlying generation costs. He states that, accordingly, the proposed change would constitute a clear improvement even when the increase in the day-ahead offer price is cost related.³⁹

18. MISO requests that the Commission waive its requirements, under section 35.11 of the Commission's Regulations, in order to allow a proposed effective date of one day following the date of its filing. MISO further requests expedited resolution of this filing. MISO states that the requested waiver, one-day effective date, and expedited treatment are necessary to ensure timely and effective resolution of the gaming issue detailed above. It states that the effective date is necessary to avoid further gaming by the Market Participant(s) engaging in this behavior, and that expedited treatment of this filing is needed to avoid the potential for other Market Participants engaging in such strategies while the proposed Tariff revisions are pending before the Commission.

III. Notice and Responsive Pleadings

19. Notice of the May 13, 2011 Filing was published in the *Federal Register*, 76 Fed. Reg. 29,231, with interventions and comments due on or before June 3, 2011. American Municipal Power, Inc., the Detroit Edison Company, JP Morgan Ventures Energy Corporation and BE KJ LLC, Constellation Energy Commodities Group, Inc. and Constellation NewEnergy, Inc., Xcel Energy Services Inc.,⁴⁰ Ameren Services Company,⁴¹ and Consumers Energy Company filed timely motions to intervene. DC Energy Midwest, LLC and Westar Energy, Inc. (DC Energy and Westar) filed a timely motion to intervene and joint comments. Wisconsin Electric Power Company filed a motion to intervene out-of-time.

20. In joint comments, DC Energy and Westar applaud the IMM and MISO for seeking a timely solution to eliminate the identified gaming opportunity, and they support

³⁹ *Id.* at 9 -10.

⁴⁰ Xcel Energy Services, Inc. filed on behalf of its utility operating company affiliates Northern States Power Company, a Minnesota corporation, and Northern States Power Company, a Wisconsin corporation.

⁴¹ Ameren Services Company filed on behalf of its affiliated public utility operating companies, Ameren Illinois Company and Union Electric Company d/b/a Ameren Missouri, and on behalf of its affiliated marketing and generating companies, Ameren Energy Marketing Company, Ameren Energy Generating Company and AmerenEnergy Resources Generating Company.

MISO's proposed tariff revisions. They state that the proposed modification will remove an incentive for Market Participants to understate their day-ahead offers. DC Energy and Westar assert that the proposed modification also retains the original intended use of the Day-Ahead Margin Assurance Payment in that Market Participants who follow MISO's dispatch instructions in the real-time market will still be appropriately compensated in the event MISO directs them to operate their resource(s) below their day-ahead schedule(s). They state that MISO's proposed solution also serves to reduce the unnecessary uplift charges associated with the bidding behavior identified by the IMM. DC Energy and Westar note that they have consistently supported the reduction of all forms of uplift, to the extent practical, as "uplifts represent a failure of the price signal to reflect operating conditions."⁴²

IV. Discussion

A. Procedural Matters

21. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2011), the timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

22. Pursuant to Rule 214(d) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214(d) (2011), the Commission will grant Wisconsin Electric Power Company's late-filed motion to intervene given its interest in the proceeding, the early stage of the proceeding, and the absence of undue prejudice or delay.

B. Commission Determination

23. The Day-Ahead Margin Assurance Payment is an important tool for MISO to provide an incentive for generators to bid flexible quantities and reasonable ramp rates in the real-time market. In incenting generators to bid flexible quantities and reasonable ramp rates, the Day-Ahead Margin Assurance Payment provides reliability and economic benefits to the market as a whole by providing that flexibility and reducing the need for re-dispatch in the real-time market. Accordingly, it is important that the Day-Ahead Margin Assurance Payment continue to provide these benefits to the market.

24. The current Day-Ahead Margin Assurance Payment formula allows Market Participants to bid at levels not associated with their costs as described above in order to increase the Day-Ahead Margin Assurance Payments they receive. Such bidding could distort the bid stack in the day-ahead and real-time energy markets, result in inefficient dispatch, and add unduly to the uplift payments in the market. Such bidding behavior could significantly undermine the efficiency of the market and counteract the benefits shown to date associated with the Day-Ahead Margin Assurance Payment.

⁴² DC Energy and Westar June 3, 2011 Comments at 4-5.

25. We find that the proposed modification to the formula for the Day-Ahead Margin Assurance Payment is appropriate.⁴³ It corrects the Day-Ahead Margin Assurance Payment formula by removing an incentive for Market Participants to bid at levels not associated with their costs, resulting in a more efficient dispatch. Accordingly, we find the tariff revision to be just and reasonable and therefore we will accept MISO's proposed modification to the Day-Ahead Margin Assurance Payment calculation.

26. We find good cause to grant waiver of the 60-day prior notice requirement. MISO has demonstrated that the current method of calculating the Day-Ahead Margin Assurance Payment could lead to inappropriate payments, and the Commission finds that because the bidding behavior described by MISO and the IMM can result in less efficient market results and increased uplift payments solely due to the bidding behavior, the sooner the new method of calculation goes into effect, the sooner the market can be confident that Day-Ahead Margin Assurance Payments are being properly awarded. Therefore, we accept MISO's proposed revisions to become effective on May 14, 2011.

The Commission orders:

(A) Waiver of the 60-day prior notice requirement is hereby granted.

(B) MISO's proposed revisions to its Tariff are hereby accepted to become effective May 14, 2011, subject to MISO refiling the Tariff record as described above within 30 days of the date of this order, as discussed in the body of this order.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.

⁴³ In the tariff text, the formulas in Schedule 27 were not readable. Accordingly, Schedule 27 must be refiled with the formulas retyped in an RTF-compatible format.