

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Midwest Independent Transmission System Operator, Inc.)	Docket No. ER04-961-000
)	

COMMENTS
OF THE ORGANIZATION OF MISO STATES

Pursuant to the Federal Energy Regulatory Commission's (FERC or Commission) Rule 211 *Rules of Practice and Procedure* 18 C.F.R. 385.211, the Organization of MISO States (OMS) hereby submits these Comments.

I. Background

On June 25, 2004, the Midwest Independent Transmission System Operator, Inc. (Midwest ISO or MISO) filed a proposed Schedule 21-Reactive Supply and Voltage Control from Independent Generation Resources Service as an addition to the current Midwest ISO Open Access Transmission Tariff Second Revised, First Volume,¹ with a requested effective date of October 1, 2004. By Notice issued June 30, 2004, the FERC established a comment date of July 16, 2004, for this filing.

The Organization of MISO States (OMS) filed a motion on July 9, 2004, requesting the Commission to extend the comment period to July 30, 2004, to allow OMS and its member agencies sufficient time to determine whether a common position can be reached in order to allow a single filing on behalf of OMS member agencies. The motion asserts that an extended comment period will still provide the Commission and its staff

¹ *Midwest Independent Transmission System Operator, Inc.*, 99 FERC ¶ 61,302 (2002).

ample time to review the comments and act on the Midwest ISO June 25, 2004 filing.

Upon consideration, FERC issued a Notice on July 14, 2004, granting an extension of time for the filing of comments, interventions, and protests to and including July 30, 2004, as requested by OMS.

II. Summary of Comments

The OMS thanks the FERC for the opportunity to comment on the Midwest ISO's new Schedule 21 filing and offers the following with regard to the Midwest ISO's proposed Schedule 21:

- A. FERC SHOULD REJECT THE PROPOSED SCHEDULE 21:** The inconsistency in cost recovery between MISO's existing Schedule 2 and the proposed Schedule 21 creates issues of unfairness and discrimination. This inconsistency also violates regulatory principles regarding the recovery of costs for assets that are used and useful and results in rates that ignore any concept of cost causation.
- B. AN ALTERNATIVE TO A "NEEDS TEST" REQUESTED BY VERTICALLY-INTEGRATED TRANSMISSION OWNERS IN THE MISO:** The OMS recommends that the recovery of costs associated with voltage control and reactive supply be recovered on a multi-zonal basis. Such an approach resolves the issues of discrimination and violation of cost causation that exists between MISO's existing Schedule 2 and the proposed Schedule 21.
- C. EMBEDDED COST RECOVERY AND PENALTIES LINKED TO PERFORMANCE:** The distribution of monthly revenues for reactive supply and voltage control for all generators should be tied to that generator's performance records. Such a requirement will apply to all generators within the MISO footprint, regardless of ownership.
- D. AVAILABILITY OF COMPENSATION FOR "LOST OPPORTUNITY COSTS:"** Lost opportunity costs should be available to all providers of reactive supply and voltage control regardless of ownership, based on the Locational Marginal Price (LMP) at the generation bus on the occasions where the Transmission Provider requests additional production of reactive power at the expense of energy obligations.
- E. FERC DIRECTIVE FOR A MIDWEST ISO STAKEHOLDER RESOLUTION OF THE SCHEDULE 2 EQUITY ISSUES:** In light of the many equity issues regarding fairness and non-discriminatory treatment of

Generation Resources providing Ancillary Services under a MISO Schedule 2 as well as the OMS call for FERC to reject the proposed MISO Schedule 21, the OMS further requests FERC to direct the Midwest ISO to take these issues to a MISO-led Stakeholder Process for resolution, including a multi-zonal approach for cost recovery, with a target date for the Midwest ISO to make a filing eliminating unduly discriminatory treatment under Schedule 2 and Schedule 21 no later than December 1, 2004.

III. Discussion

In its deliberations in the matter of the MISO filing of Schedule 21, the OMS was informed of the central issues surrounding the need for reactive power and voltage control to assure grid reliability. The need for reliability is the same for all local electric service customers, whether those customers receive energy service at traditionally determined rates or at market-based prices from alternative retail suppliers. Lack of sufficient reactive power and voltage support when it is needed can lead to reliability problems on the interconnected transmission system, without respect for State or international boundaries, as these comments will describe.

Reactive supply and voltage control constitutes one of six ancillary services included by FERC in its Order 888 Pro Forma Tariff as a necessary element of transmission service to be offered to transmission customers by a Transmission Provider under its Open Access Transmission Tariff to be filed at the FERC.² The OMS recognizes that FERC allows non-transmission-owning independent power producers to seek compensation for producing reactive supply and voltage control.³ The OMS also is aware of the August 14, 2003 Outages and the Bi-National Task Force Final Report and

² Federal Energy Regulatory Commission (FERC), *Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Service by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order 888, FERC Stats. & Regs. [Regs. Preambles 1991-1996] ¶31,036 at 31,705 (1996), on reh'g, Order No. 888-A, FERC Stats. & Regs. [Regs. Preambles 1996-2000] ¶ 31,048 (1997), on reh'g, Order No. 888-B, 81 FERC, ¶ 61.248 (1997), on reh'g, Order No. 888-C, 82 FERC, ¶ 61, 046 (1998).

³ *PJM Interconnection L.L.C.*, Docket No. ER00-3327 (September 25, 2000) (unpublished letter order), as cited in 105 FERC 61,250 (hereinafter PJM 2000 Order).

recommendations, the uncontested Agreement and Settlement in the Troy L.L.C. Complaint Case, as well as the concerns of the Midwest ISO vertically-integrated transmission owners regarding Schedule 2-related issues.⁴

A. FERC Should Reject the Proposed Schedule 21

In its review of the MISO Schedule 21, the OMS has discovered that there is a fundamental inconsistency between uplifting reactive power revenue requirements from independent generation resources across the MISO footprint in Schedule 21 and zonal recovery by control areas under MISO's existing Schedule 2. For example, in the existing MISO Schedule 2, rates for reactive power are based on the control area operator rates on file with FERC and are paid where the load is located, while loads located outside MISO are charged an average system-wide rate.⁵ Conversely, Schedule 21 rates are based on the sum of the gross annual reactive power revenue requirement for all newly qualified generators in the Transmission System netted for calculation as a single system-wide rate.

A.1 OMS Recommendation: FERC Should Reject Schedule 21 as Filed by the Midwest ISO

The inconsistency in cost recovery between the MISO's existing Schedule 2 and the proposed Schedule 21 creates issues of unfairness and discrimination and violates regulatory principles of cost recovery for assets that are used and useful and results in

⁴ U.S.–Canada Power System Outage Task Force, *Final Report on the August 14, 2003 Blackout in the United States and Canada: Causes and Recommendations* (April 2004) (hereinafter the Bi-National Final Report); Certified Uncontested Agreement Settlement, between Troy Energy, L.L.C. (an affiliate of Dominion Power in Virginia), Firstenergy, the Midwest ISO (MISO), the Midwest Standalone Transmission Companies and Calpine, L.P., *Troy, LLC Complaint Case* (Docket ER03-1396-000) (April 21, 2004); Vertically Integrated Transmission Owners to OMS resource Adequacy Working Group members, "RAWG Conference Call Reactive Power Discussion: A PowerPoint Presentation (May 11, 2004) (hereinafter VITOs Presentation) at 5 – 7.

⁵ MISO, FERC Electric Tariff, Second Revised Volume No. 1, effective April 1, 2003, Original Sheet No. 153;

rates that ignore any concept of cost causation. As a result, the OMS recommends that FERC reject Schedule 21 as filed by the Midwest ISO.

B. An Alternative to a “Needs Test” Requested by Vertically-Integrated Transmission Owners in the MISO.

OMS members realize that without adequate reactive power support, areas of the grid can be exposed to reliability risks, potential voltage collapse and could become the source of instability on other parts of the system. OMS is also informed that according to NERC, heavy power transfers across a transmission interface and heavy loading on transmission lines can cause voltage in an area to become depressed if sufficient reactive supplies are not available to the system. The need to maintain adequate levels of reactive support for the transmission system in its evolution toward regional wholesale markets has increased.⁶

All synchronous generators over 10 MW are typically set to hold the voltage constant at their connection points in the system. The units are set to provide a fixed amount of MWs. Their excitation systems control the pre-set voltage by producing volt amperes-reactive (VARs) and sometimes consuming VARs to hold the voltage steady. The VARs change by the second. The amount of voltage control needed in an area is usually determined the week and finally the day before units are committed to run. This check of reactive power control is done to prevent a system wide voltage collapse due to contingencies (the loss of a line or a generator). In reality, it is not possible to exactly balance out these components at all times or at all locations on the system. The loads and associated reactive characteristics faced by utility generation and transmission systems

⁶ Dale T. Bradshaw, Tennessee Valley Authority, “It’s Time to Address the Critical Issue of VAR Compensation” (April 1, 2004) at unnumbered page 1.

are constantly changing such that system power factors vary depending on time and location. While some correction is available by adding capacitor banks or expensive load-following synchronous condensers in known problem areas, it is not possible to eliminate the need for reactive power supply. The trick is to try to match the reactive power produced by the generators with that being demanded by the load. If not enough reactive power is supplied there tends to be voltage sags. Similarly, too much reactive supply tends towards over-voltages. Generators have to be ready to either produce or absorb reactive power, depending upon real-time needs of the system. Thus, the need for reactive power is determined by the size and type of demand, power transactions across the transmission grid, and the loading of transmission facilities.⁷

The Midwest ISO footprint is populated by thirty-five control areas, several of which are standalone transmission companies. Many of these thirty-five control areas in the MISO footprint are poorly interconnected to their neighbors within MISO, either due to the unique geography of the Great Lakes region or by the geographical interdiction of the MISO territory by proposed or current PJM companies' high-voltage electrical systems. The physical circumstances regarding the existing MISO control areas, the inability to move reactive power across long distances and the compensation problems discussed above give rise to the concern that many end-use customers in the MISO footprint will pay for reactive supply and voltage control service that is either not available to them, or not needed by the control area where the customers are served.

The OMS also is informed of the unique locational nature of reactive power production. The VARs produced do not require real power, but they do limit capacity of

⁷ Michael J. Zimmer, "Reactive Power Capability – A Challenge to Grid Reliability " Michael.J.Zimmer@bakernet.com (Washington D.C.) at 1.

generators and lines. A generator at the 138 kV level can support the transmission voltage up to 80 miles or so. A large generator on a 345 kV network can support the voltage over 100 miles. VARs cannot be “pushed” to support the system elsewhere.⁸

The ideal solution would be to require a needs test to determine if a generator in a control area is needed to provide voltage control and reactive supply service. However, the OMS acknowledges that the complicated and dynamic nature of VAR production and absorption would likely result in a test that could be extremely difficult to perform effectively and could also result in costs that outweigh the benefits of the test.

B. 1. OMS Recommendation: A Multi-zonal Approach to Cost Recovery:

As an alternative to a needs test, the OMS recommends that FERC require MISO to implement a “multi-zonal” approach to the pricing of Schedule 2 services in its footprint.⁹ A multi-zonal approach would recognize groups of control areas (often referred to as “pricing zones”) that are electrically consistent and homogeneous with their neighboring systems. A multi-zonal approach for cost recovery would move toward resolving the fairness issues produced by the flaws inherent in the uneven cost recovery treatment of the two separate MISO schedules for reactive supply and voltage control.

C. Embedded Cost Recovery and Penalties Linked to Performance

Cost recovery for qualified generators results primarily in a capacity charge for a generator’s revenue requirement for recovery of embedded “sunk costs” and a minor

⁸ Electric Power Research Institute, “Electric Generators,” *Power Plant Electrical Reference Series*, Vol. 1 (1987) Figure 1-19 Generator Reactive Capability Curve (hereinafter EPRI Generator Capability Curve) at 1-32.

⁹ The Missouri Commission and the Nebraska Power Review Board do not necessarily support a “multi-zonal” approach to the pricing of ancillary services. These two agencies, however, would support a needs test determination.

amount of labor costs as an incentive for “being there”—standing ready to to produce or absorb volt amperes-reactive (VARs).

C. 1. OMS Recommendation: Penalties Linked to Performance (“Three Times and You’re Out”)

Under the provisions of the proposed Schedule 21, MISO shall determine whether a qualified generator may continue to be qualified if the generator fails to comply with the control area operator’s voltage control requirements three or more times in a month, and has operated consistently with its design characteristics or was prevented from doing so by system conditions. The proposed Schedule 21 also requires the independent generator to file an annual revenue requirement for reactive power with the Commission. MISO’s existing Schedule 2 contains none of these requirements, penalties or obligations.

MISO’s existing Schedule 2 does not place the same obligations on the vertically integrated transmission owners that Schedule 21 would require of the independent power producers. Such a discrepancy may be unduly discriminatory.

C.2. OMS Recommendation: Penalties Linked to Performance (Mandatory Response Time)

The OMS recommends that MISO include more detail, including the penalty provisions of Schedule 21 mentioned in C.1. above, with any evaluation of performance conducted fairly and impartially by the Midwest ISO. MISO also should include additional terms and conditions to prevent poor communications and unequal treatment of generation resources on the part of the control area operator or lack of performance by the generation resource to ensure availability when called upon by the control area

operator. To that end, a mandatory “response time” requirement, based on a generation resource’s design and operating characteristics should be included to assure there is no unwarranted delay in the generation resources’ response to the control area operator’s call for changes in reactive power and voltage control. All evaluations of a generation resource’s performance should be conducted impartially and fairly by the Midwest ISO.

C.3. OMS Recommendation: Cost Recovery Linked to Performance

MISO’s monthly revenue distribution formulae should be tied to the performance records of all generation resources, regardless of ownership, as well as annual Midwest ISO re-evaluation results. MISO should immediately discontinue payments for reactive supply and voltage control to generators that fail the MISO re-evaluation, consistent with the MISO’s determination regarding the generator’s design characteristics, scheduled outages for maintenance or pollution-control permit operating limitations as well as system conditions that prevented the generation resource from responding as required by the control area operator.

D. Availability of Compensation for “Lost Opportunity Costs”

Consistent with the fair and non-discriminatory treatment recommended by the OMS, and if it can be demonstrated as a reliability enhancement measure, any “lost opportunity costs” for producing reactive power at the expense of energy obligations should be available to all providers of reactive supply and voltage control. Both MISO’s original Schedule 2 and new Schedule 21 are silent on this issue, although generation owners have expressed an interest in recovering “lost opportunity costs.”¹⁰ The OMS

¹⁰ VITOs Presentation at 8-9.

notes that PJM pays lost opportunity costs to both incumbents and non-utility generators whose revenue requirements have been accepted by FERC under a February 12, 2004 Tariff Revision (Docket No. ER03-1086). The California ISO's total payments to each scheduling coordinator are the sum of short-term voltage procurement payments, based on opportunity costs and payments under long-term contracts.¹¹ The ability to track reductions in energy output for obligations relative to calls for increased production of VARs, however, is done more efficiently in a centrally-dispatched security-constrained energy market which does not exist in MISO today.

D.1 OMS Recommendation: Award Lost Opportunity Costs to Any Generation Resource, Regardless of Ownership

The OMS recommends that lost opportunity costs be available to all providers of reactive supply and voltage control regardless of ownership, based on the locational marginal price (LMP) at the generation bus on the occasions where MISO requests additional production of reactive power at the expense of energy obligations. Given the need to use LMP pricing on which to base fair compensation to a generator for such costs, the OMS recommends that such compensation not occur until such time as the Midwest ISO is able to provide a centrally-dispatched security-constrained energy market for its entire footprint.

E. OMS Recommendation: FERC Directive for a Midwest ISO Stakeholder Resolution of the Schedule 2 Equity Issues

In light of the many equity issues regarding fairness and non-discriminatory treatment of generation resources providing Ancillary Services under a MISO Schedule

¹¹ PJM Interconnection, L.L.C. , Sixth Revised Volume No.1, Original Sheet No. 228, effective May 1, 2004, as included in the EPSA Memorandum, and in FERC Docket ER03-1086 and California ISO, Section 2.5.3.4 Voltage Support, effective October 13, 2000, as included in Electric Power Supply Association (EPSA) Memorandum to Karlak: "Informational Material on Reactive Power"(June 25, 2004) in response to a verbal data request.

2, as well as the OMS call for FERC to reject the proposed MISO Schedule 21, the OMS requests FERC to direct the Midwest ISO to take the issues outlined above to a MISO-led stakeholder process for resolution. Many of these issues can be controversial. For example, in the matter of compensation for “lost opportunity costs,” some State Commissions such as Minnesota, North Dakota, Wisconsin, South Dakota, Montana, Iowa, Missouri, Illinois, Nebraska, and Ohio feel such compensation may or may not be appropriate, but requires more research, discussion or negotiation. In order to expedite this recommended stakeholders process for further discussion and resolution, the OMS requests that FERC direct the Midwest ISO to submit a compliance filing that reduces the undue discrimination between Schedule 2 and Schedule 21 no later than December 1, 2004.

IV. Conclusion

The Organization of Midwest ISO States submits these comments and recommendation for the Midwest ISO’s new Schedule 21–Reactive Supply and Voltage Control from Independent Generation Resources Service. We respectfully request FERC to take them into consideration in their deliberations regarding provisions contained in this amendment to the Midwest ISO Open Access Transmission Tariff in the above-captioned Docket.

The Organization of MISO States submits these comments because a majority of the members have agreed to generally support them. The following members generally support these comments, with the exceptions noted herein. Individual OMS members

reserve the right to file clarifying comments or minority reports on their own regarding the issues discussed in these comments.

Missouri Public Service Commission
Wisconsin Public Service Commission
Iowa Utilities Board
Illinois Commerce Commission
Minnesota Public Utilities Commission
North Dakota Public Service Commission
Nebraska Power Review Board
Montana Public Service Commission
South Dakota Public Utilities Commission
Ohio Public Utilities Commission

For procedural reasons, the Kentucky Public Service Commission is not able to express a formal position at this time:

Members not participating in these comments are:

Indiana Utility Regulatory Commission
Michigan Public Service Commission
Pennsylvania Public Utility Commission
Manitoba Public Utilities Board

The Minnesota Department of Commerce, as an associate member of the OMS, generally supports these comments.

Respectfully submitted,

FILED ELECTRONICALLY W/ FERC

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Dated: July 29, 2004

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document on all parties on the official service list compiled by the Secretary in this proceeding.

Dated at Des Moines, Iowa, this 29th day of July 2004.

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