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1. On December 23, 2011, Midwest Independent Transmission System Operator, Inc. (MISO) made two filings proposing revisions to its Open Access Transmission, Energy and Operating Reserve Markets Tariff (Tariff). In Docket No. ER12-678-000, MISO proposes to allocate a greater proportion of Revenue Sufficiency Guarantee (RSG) costs associated with resources committed for voltage or local reliability (VLR) requirements to the load in the Local Balancing Authority Area (Local BAA) that benefited from such commitments. In Docket No. ER12-679-000, MISO proposes a mechanism by which to mitigate the exercise of market power with regard to offers for resources committed to address VLR issues. The Commission, by order dated March 31, 2012,¹ accepted and suspended for five months both of MISO’s filings, subject to the outcome of a technical conference and further Commission order. The Commission held the technical conference on May 15, 2012 and subsequently received briefs and reply briefs from the parties. In this order, we conditionally accept MISO’s proposals based on the entire record of the proceeding, including the technical conference and subsequent pleadings, and we order a compliance filing.² Additionally, as described below, we require MISO and the Independent Market Monitor (IMM) to submit an informational report regarding lack of inclusion of must-run period revenue in Day-Ahead and Real-Time RSG credit calculations.

¹ *Midwest Indep. Sys. Trans. Operator, Inc.*, 138 FERC ¶ 61,235 (2012) (March Order).

² The Commission's decision in the March Order to suspend the effectiveness of the filings for five months means that although MISO requested an April 1, 2012 effective date for its proposed tariff revisions in both dockets, the effective date for the proposed tariff revisions is September 1, 2012. The protests, comments and answers to the filings are discussed below in addition to any further clarifications provided by parties in their subsequent pleadings. The intervening parties are identified in Appendix A, and the party abbreviations listed in Appendix A will be used throughout this order. Those intervening parties that also filed protests are collectively referred to as protesting parties.

I. Background

2. Under section 39.3.2B of the Tariff, a generation or demand response resource receives day-ahead RSG credits if MISO commits it in the Day-Ahead Energy and Operating Reserve Markets and if the resource then receives insufficient Day-Ahead Energy and Operating Reserve revenues to cover its as-offered production and operating reserve costs. To fund these RSG credits, pursuant to section 39.3.1A of the Tariff, MISO assesses market participants a day-ahead RSG charge based on their cleared demand bids, virtual bids, and export schedules.

3. Under section 40.2.19 of the Tariff, a generation or demand response resource receives real-time RSG credits if MISO commits it through the Reliability Assessment Commitment process after the close of the Day-Ahead Energy and Operating Reserve Markets and if the resource then receives insufficient Real-Time Energy and Operating Reserve Market revenues to cover its as-offered production costs. To fund these RSG credits, pursuant to section 40.3.3 of the Tariff, MISO assesses market participants a real-time RSG charge based on their virtual supply offers and real-time load, injection, export, and import deviations from their day-ahead schedules at constraints and system-wide.

4. In addition, Module D of the Tariff provides for mitigation of offers by resources in Narrow Constrained Areas and Broad Constrained Areas³ that fail both conduct and impact tests. MISO's conduct test determines whether a resource's offers differ from its reference levels by more than certain threshold amounts.⁴ The conduct test includes sets of thresholds for both economic withholding and uneconomic production. The economic

³ A Narrow Constrained Area is an electrical area identified by the IMM that is defined by one or more Binding Transmission Constraints or Binding Reserve Zone Constraints that are expected to be binding for at least 500 hours during a given twelve-month period and within which one or more suppliers are pivotal. A Broad Constrained Area is an electrical area in which sufficient competition usually exists even when there are one or more Binding Transmission Constraints or Binding Reserve Zone Constraints, or into which the Binding Transmission Constraints or Binding Reserve Zone Constraints bind infrequently, but within which a transmission or reserve constraint can result in substantial locational market power under certain market or operating conditions. Tariff, sections 63.4.1.a and 63.4.1.b.

⁴ A resource's reference level is a price estimate that is "intended to reflect a Generation Resource's or Stored Energy Resource's marginal costs, including legitimate risk and opportunity costs or justifiable technical characteristics for physical Offer parameters." Midwest Independent Transmission System Operator, Inc., FERC Electric Tariff, Module D, 64.1.4, Reference Levels, 0.0.0; *see also* Tariff, section 1.544.

withholding thresholds include price-based and non-price thresholds for increases in offer prices or other parameters from a resource's reference levels. The uneconomic production thresholds also apply price and non-price offer parameters, but are triggered by offers featuring decreases from reference levels or operation of units at above reference level capacity.

5. When resources fail the conduct test, MISO applies an impact test to determine whether their conduct substantially changes market prices or increases RSG payments. The impact test contains thresholds including a \$50 per MW per hour increase in the market clearing prices, or day-ahead or real-time RSG credits.⁵ Offers failing the impact test are subject to mitigation under section 65 of Module D.

6. As described below, MISO and the IMM identified the offer behavior of resources taken to meet VLR requirements as leading to large increases in RSG credits. Finding that the existing mitigation provisions have not been effective in addressing potential market power exercised by suppliers resolving local reliability requirements, MISO proposes mitigation revisions as well as cost allocation modifications. The IMM has continued to monitor the offer behavior of resources that are frequently accepted for VLR requirements and has found that "suppliers with resources committed for VLR have recently been offering consistent with offer reference levels."⁶

A. MISO's Filing in Docket No. ER12-678-000

7. In its filing in Docket No. ER12-678-000, MISO proposes Tariff revisions to change the allocation of those RSG costs associated specifically with resources committed for VLR requirements. MISO would categorize as a VLR commitment a resource commitment that it issues "in addition to, or in lieu of, commitments resulting from the Security Constrained Unit Commitment, in the Day-Ahead Energy and Operating Reserve Market or any Reliability Assessment Commitment in order to mitigate issues with Transmission System voltage or other concerns."⁷ Similarly, under the proposed Tariff revisions, additional resource commitments are made through the Reliability Assessment Commitment processes of the real-time market to meet planning or other real-time operational requirements related to VLR issues. The proposed definition of VLR commitments also includes resources on facilities under 100 kV that are committed to manage congestion. Under the current Tariff provisions, RSG costs

⁵ Tariff, section 64.2.1(d).

⁶ IMM Technical Conference Presentation at 3.

⁷ Proposed Tariff section 1.697a.

related to VLR commitments are allocated region-wide. MISO proposes to allocate an increased proportion of those costs to the load in the Local BAA that benefits from such commitments.

8. MISO proposes to allocate RSG costs resulting from VLR commitments either by default to load in the Local BAA where the committed resources are located, or to the load in any Local BAA associated with a commercially significant VLR issue for which the resource commitments were made. In both circumstances, costs would be allocated to load on a *pro rata* basis using actual energy withdrawals.

9. MISO asserts that the proposed allocation is necessary because VLR commitments are being made routinely to ensure the reliability of transmission facilities, and neither day-ahead schedule deviations nor deviations computed via the real-time RSG Constraint Management Charge are primary causers of the resulting costs. MISO states that starting in January 2010, there was a significant increase in the frequency of RSG costs associated with resources committed to address VLR issues on the transmission system. MISO states that the associated RSG costs increased from approximately \$500,000 in 2009 to \$29 million in 2010.⁸ MISO states that its IMM noted that “[t]his increase [in real-time RSG costs] was due primarily to more than \$25 million in payments made from September to December to select units that were committed routinely *to resolve a local voltage issue* in [Wisconsin and the Upper Peninsula of Michigan].”⁹

10. MISO notes that an RSG cost analysis for the period from April 1, 2011 through November 30, 2011 shows that approximately 75 percent of the RSG costs associated with VLR commitments were allocated market-wide in the day-ahead schedule deviation charge.¹⁰ However, MISO notes that an independent analysis performed by the IMM shows that only 8 percent of the RSG costs associated with VLR commitments benefit the broader market, resulting in significant cost shifts under the current market-wide allocation of such costs.¹¹ The IMM also noted that much of the increase in RSG costs was due to increased offers (i.e., offers above the resources’ competitive reference levels)

⁸ Transmittal Letter, MISO December 23, 2011 Filing, Docket No. ER12-678-000 (MISO ER12-678-000 Transmittal) at 2.

⁹ *Id.* at 3 (quoting IMM, *2010 State of the Market Report* at xiii (italics added by MISO)).

¹⁰ MISO ER12-678-000 Transmittal at 2-3.

¹¹ *Id.* at 3; *see* Affidavit of Dr. David Patton, Attachment to MISO ER12-678-000 Transmittal (IMM ER12-678-000 Affidavit).

under circumstances involving significant market power not covered by existing Tariff thresholds,¹² which the IMM recommended be tightened.

11. MISO argues that the resulting proposal is just and reasonable and consistent with the principle of cost causation. MISO states that the Commission has found other Tariff provisions that allocate costs locally to be just and reasonable. For example, MISO maintains that the Commission found that contract costs related to System Support Resources and transmission costs for Reactive Supply and Voltage Control Service under Schedule 2 of the Tariff can reasonably be allocated to Local BAAs where the transmission issues addressed by the commitments exist. MISO states that while transmission voltage issues and related costs may sometimes be caused by individual loads, other loads near a resource that is committed to maintain system reliability also benefit from the commitment of that resource; therefore, assessing such costs to all load in the impacted Local BAAs is appropriate.

12. MISO also contends that the proposal is consistent with approved provisions in other regional transmission organization (RTO) tariffs that allocate these types of costs to local loads. MISO states that RSG costs are comparable to ISO New England Inc.'s (ISO-NE) Net Commitment Period Compensation costs, which are used to calculate the cost of energy produced in developing rates paid by regional network load. MISO adds that RSG costs are similar to PJM Interconnection, LLC's (PJM) Operating Reserve Costs, which are part of PJM's Reactive Services costs and are allocated to loads in the transmission zones where reactive reliability is maintained by reactive services (i.e., on a less than market-wide basis).¹³

¹² In other words, "[s]uppliers face little or no competition when they are needed to resolve local reliability requirements and can extract substantial market power rents under the current mitigation measures," because the offer prices did not increase sufficiently to warrant mitigation under those mitigation measures. MISO Docket No. ER12-678-000 Transmittal at n.12 (quoting IMM, *2010 State of the Market Report* at xiii, xxvii).

¹³ MISO ER12-678-000 Transmittal at 6 (citing to Section 3.2.3B of PJM's Operating Agreement). MISO also notes that the proposal is similar to the 2005 FERC Staff Report addressing the allocation of reactive power costs, which recommended that those who benefit from the reactive power should pay for it. MISO ER12-678-000 Transmittal at 7 (citing FERC Staff Report, *Principles for Reliable and Efficient Reactive Power Supply and Consumption*, Docket No. AD05-1-000, at 7 (Feb. 4, 2005)).

B. MISO's Filing in Docket No. ER12-679-000

13. In its filing in Docket No. ER12-679-000, MISO proposes to implement new mitigation measures to address the market power problems associated with VLR commitments. The IMM states that resources committed for VLR can exercise market power, and that current market power mitigation measures are not sufficient to prevent such activity.¹⁴ MISO states that it conducted extensive stakeholder discussions throughout 2011 as to the mitigation of offers of resources needed for VLR issues, and that it has modified its proposal in response to stakeholder concerns. MISO adds that the proposed mitigation thresholds are patterned on Commission-accepted proposals by the New York Independent System Operator, Inc. and ISO-NE.¹⁵ MISO maintains that, similar to mitigation measures in those RTOs, its proposed Tariff revisions “provide for appropriate mitigation when generators are needed to address VLR issues under circumstances involving undue market power risks.”¹⁶

14. In Docket No. ER12-679-000, MISO proposes the same definition of VLR commitments as it proposes in Docket No. ER12-678-000. Additionally, it proposes to add a new section 64.1.2.g of the Tariff describing thresholds for identifying economic withholding for resources committed for VLR. It also proposes new provisions in section 64.1.3.a.i of the Tariff for identifying uneconomic production. Finally, MISO proposes revisions to section 64.2.1 of the Tariff that eliminate use of the impact test for RSG impacts for resources committed for VLR.

C. March Order and Technical Conference

15. In its March Order, the Commission found that MISO's proposed definition of VLR commitments, its proposed allocation of the costs associated with VLR commitments in Docket No. ER12-678-000, and its proposed mitigation measures in Docket No. ER12-679-000, may be unjust, unreasonable, unduly discriminatory or preferential. However, in light of the significant increase in RSG costs associated with

¹⁴ Transmittal Letter, MISO December 23, 2011 Filing, Docket No. ER12-679-000 (MISO ER12-679-000 Transmittal) at 2-3 (citing IMM, *2010 State of the Market Report* at xiii).

¹⁵ MISO ER12-679-000 Transmittal at 4 (citing *ISO New England, Inc.*, 129 FERC ¶ 61,008, at P 24 (2009); *New York Indep. Sys. Operator, Inc.*, 131 FERC ¶ 61,169, at P 2 (2010); and *New York Indep. Sys. Operator, Inc.*, 133 FERC ¶ 61,030, at P 44 (2010)).

¹⁶ MISO ER12-679-000 Transmittal at 4.

VLR commitments since January 2010 noted above, and the potential financial harm from allocating such costs in a manner that could be inconsistent with cost causation and from enabling the exercise of market power by resources that are involved in VLR commitments, the Commission accepted and suspended for five months MISO's proposals in these two dockets, subject to a technical conference and further order by the Commission.

16. The Commission held a technical conference on May 15, 2012, at which both MISO and the IMM made presentations, and in which Commission staff and stakeholders participated.

II. Procedural Matters

17. As stated in the March Order, multiple parties intervened and filed comments and protests in Docket Nos. ER12-678-000 and ER12-679-000, and the list of intervenors and protesters are provided in Appendix A to this order. After the May 15, 2012 technical conference, by supplemental notice dated May 18, 2012, the Commission posed questions for all parties to discuss in their post-conference filings.¹⁷

18. MISO, the IMM, Midwest TDUs and Ameren filed post-conference comments. Wisconsin Electric, MISO, and Midwest TDUs filed post-conference reply comments; MISO also filed a supplement to its post-conference reply comments. In addition to those filings, Wisconsin Electric filed a confidential appendix to its post-conference reply comments, and Midwest TDUs, MISO and Wisconsin Electric filed further replies.

19. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2012), prohibits an answer to a protest or an answer unless otherwise ordered by the decisional authority. We accept the further replies of Midwest TDUs, MISO and Wisconsin Electric, because they have provided information that has assisted us in our decision-making process.

III. Discussion

20. The Commission conditionally accepts, effective September 1, 2012, MISO's proposed definition of VLR commitments, its proposed allocation of the costs associated with VLR commitments in Docket No. ER12-678-000, and its proposed mitigation measures in Docket No. ER12-679-000. The Commission also directs MISO to file a compliance filing and an informational report, as discussed below.

¹⁷ Post-conference comments were due on or before June 5, 2012, and reply comments were due on or before June 19, 2012; *see* notice dated May 14, 2012.

A. VLR Commitment Definition

21. Parties in both the cost allocation and mitigation proceedings contest the definition of VLR commitments and to which commitments the definition should apply. This is a threshold issue in both proceedings, so we will address it first, and then discuss separately the remaining issues of both filings.

1. MISO's Filings in Docket Nos. ER12-678-000 and ER12-679-000

22. MISO states that identification of VLR commitments is essential for the application of proper mitigation thresholds and cost allocation. In its filings in Docket Nos. ER12-678-000 and ER12-679-000, MISO proposes to add a new definition for Voltage and Local Reliability Commitments to identify situations that warrant localized RSG cost allocation and enhanced mitigation thresholds. A VLR Commitment is defined in Proposed Section 1.697a of the Tariff as:

A Transmission Provider issued Resource commitment in addition to, or in lieu of, commitments resulting from the Security Constrained Unit Commitment in the Day-Ahead Energy and Operating Reserve Market or any Reliability Assessment Commitment, in order to mitigate issues with Transmission System voltage or other local reliability concerns. These Resource commitment requirements are established prior to or during an Operating Day and are based on projected system reliability requirements, operational considerations, and generation and transmission outages. Resource commitments to manage congestion on facilities below-voltage levels of 100 kV will be designated in this category. Resource commitments to relieve a potential or actual [Interchange Reliability Operating Limits (IROL)]¹⁸ violation will not be designated in this category.

23. MISO also states that the definition of VLR commitments describes resource commitments necessitated by local reliability needs and system operational considerations that are otherwise not addressed by the results of the Security Constrained Unit Commitment process. MISO adds that these VLR issues, which cause VLR commitments, typically precede the initiation of both the day-ahead and real-time market processes. However, MISO explains that VLR resource requirements may be issued at

¹⁸ While MISO refers to the term IROL as Interchange Reliability Operating Limit in its transmittal letter, we note that the term is Interconnection Reliability Operating Limit according to its Tariff and the North American Electric Reliability Corporation (NERC) Glossary of Terms.

various points in the sequence of administering the real-time market process, depending on when the VLR issues become known.¹⁹

24. MISO proposes that resource commitments on transmission facilities of less than 100 kV will automatically receive VLR designation.²⁰ MISO argues that this 100 kV threshold provides comparability across the market due to the limited situations in which MISO retains functional control of such low-voltage facilities.²¹ MISO argues that the 100 kV threshold is just and reasonable because it is consistent with the Tariff's definition of the Bulk Electric System, which includes transmission facilities generally above the 100 kV voltage level. Therefore, MISO argues that it is reasonable to classify the flows on facilities under 100 kV as local in nature even if they have market-wide impacts. Moreover, to the extent that such commitments have market-wide effects, MISO notes that the proposed Tariff revisions reasonably allocate some costs to the regional market (i.e., 8 percent at the time of the filings). Moreover, MISO contends that this definition is also appropriate for mitigation purposes because resources available to address congestion issues on facilities below 100 kV are likely to face little or no competition in resolving these issues.²² MISO adds that it does not remove thermal constraints on facilities under 100 kV but such modeled thermal constraints are insufficient to address all VLR issues.²³

25. MISO proposes that resources committed to relieve potential or actual IROL violations will not be designated as resources committed for VLR because they are

¹⁹ MISO Answer in Docket No. ER12-678-000 (MISO ER12-678-000 Answer) at 3-4, 7.

²⁰ MISO states that thermal constraints on transmission facilities with voltages greater than 100 kV are generally considered market constraints, and any resource commitments to address such constraints would be associated with an appropriate Active Transmission Constraint for the purposes of RSG cost allocation.

²¹ MISO ER12-678-000 Transmittal at 9.

²² MISO Post-Technical Conference Comments at 10. Moreover, if a resource committed for a thermal constraint also assists with a voltage constraint, it will be treated as a commitment for a thermal constraint. MISO Docket No. ER12-678-000 Transmittal at 11.

²³ MISO Post-Technical Conference Comments at 5-6.

established to prevent regional instability or cascading outages on the Bulk Electric System.²⁴

2. Protests and Subsequent Pleadings

26. Protesting parties in both proceedings raised numerous concerns about the VLR commitment definition. Wisconsin Electric raises the general concern that the proposed language is too broad. Protesting parties also raise specific concerns with respect to: (1) the proposed VLR designation for economic commitments in the Day-Ahead Market; (2) the proposed VLR designation for all resource commitments made on facilities under 100 kV; and (3) the proposed VLR designation exemptions for IROL commitments. Protesting parties also recommend that VLR commitments be limited to commitments documented in an Operating Guide.²⁵

27. In its answer, MISO states that the proposal merely allocates any revenue shortfall for manual commitments to the local beneficiaries.²⁶ MISO also notes that if a VLR commitment is dispatched as part of the market process, and the market revenue is above the offered costs, the market revenues may reduce the RSG costs associated with the commitment.²⁷

a. VLR Designation for Economically Committed Resources

28. Wisconsin Electric recommends that commitments resulting from a Security Constrained Unit Commitment in the Day-Ahead Energy and Operating Reserve Market or the Reliability Assessment Commitment process be exempted from the VLR commitment designation.²⁸

²⁴ MISO ER12-678-000 Transmittal at 9.

²⁵ An Operating Guide is a written set of operating practices that affect the Reliability Coordination Customer Transmission Facilities or the Combined Reliability Systems to be followed for transmission and generation operation, including implementing procedures, actions, and sequences of actions to be taken to maintain operations within operating reliability criteria.

²⁶ MISO ER12-678-000 Answer at 9-10.

²⁷ *Id.* at 8.

²⁸ Wisconsin Electric Protest in Docket No. ER12-678-000 (Wisconsin Electric ER12-678-000 Protest) at 5.

29. MISO replies in its answer in Docket No. ER12-678-000 that accurately categorizing commitments as VLR commitments is essential to ensuring the application of proper mitigation thresholds and cost allocation. It also explains that resources will typically receive a VLR commitment from the day-ahead market after the resources have been evaluated for economics, but that VLR commitments may also be issued at various points in the sequence of administering the Reliability Assessment Commitment process. Wisconsin Electric points out that currently there are no Day-Ahead Market VLR commitments and that under current procedures, certain units that would otherwise be committed in the Forward Reliability Assessment Commitment under the Operating Guides are being regularly committed in the Day-Ahead Market by the Day-Ahead Security Constrained Unit Commitment. Nonetheless, according to Wisconsin Electric, such units would be “permanently” designated as VLR units under the proposed Tariff provisions, even though they are regularly selected in the Day-Ahead Market based on economics.²⁹ Wisconsin Electric also states that MISO’s assertion that a unit that is needed for a VLR issue will never be selected based on economics alone in the Security Constrained Unit Commitment is disingenuous because MISO possesses sufficient data concerning unit commitments that would belie this assumption concerning unit commitments and associated make-whole payments.³⁰

30. Wisconsin Electric argues that MISO offers no method for reviewing or otherwise providing assurance that units designated as VLR units will not be so designated if they are in fact economic units. Wisconsin Electric contends that it would be more appropriate for MISO to re-run the Day Ahead Market solution after the fact, using all of the same inputs except for undesignating units that were identified prior to the initial run. It argues that MISO could then treat units on an economic basis when the Day Ahead Market clearing solution still includes a previously-designated VLR unit.³¹

31. MISO replies that Wisconsin Electric has not shown that certain commitments designated as VLR were in fact purely economic commitments. MISO also asserts that Wisconsin Electric’s data illustrate the need for MISO’s proposed VLR cost allocation and mitigation revisions to address commitments that are clearly required to address VLR issues. MISO states that although certain units did clear regularly in the Day-Ahead Market Security Constrained Economic Dispatch, the Operating Guides indicated the need for VLR commitments prior to running the Security Constrained Unit Commitment,

²⁹ Wisconsin Electric Post-Technical Conference Supplemental Reply Comments at 1-2.

³⁰ *Id.*

³¹ Wisconsin Electric Post-Technical Conference Reply Comments at 2-6.

necessitating unit commitments regardless of the Day-Ahead Market results. Further, the presence of RSG payments, according to MISO, calls into question Wisconsin Electric's claimed economic basis for these unit commitments. MISO argues that these resources receive RSG payments because they are marginal or continue to operate through off-peak hours in order to minimize production costs. Thus, resources that are regularly committed for economics would not be expected to receive make-whole payments. The existence of Day-Ahead RSG payments for these resources indicates that these resources might not have been committed through the Security Constrained Unit Commitment absent MISO's VLR-related Operating Guide.³²

32. MISO argues that factors other than simple economics led to the unit commitments and associated make whole payments referenced by Wisconsin Electric. According to MISO, these factors include (1) the VLR-related requirements in the Operating Guides, which result in certain units being online daily at midnight and consequently impacting the Security Constrained Unit Commitment; (2) offering units that are expected to be required for VLR in must-run commitment status for portions of the day, which results in commitments that, in turn, cause their continuing commitment by the Security Constrained Unit Commitment in adjacent hours to avoid start-up costs that would be entailed by the commitment of other resources; (3) Minimum Run Time and Minimum Down Time offer parameters that are observed by the Security Constrained Unit Commitment process; and (4) thermal proxy constraints established to address the VLR issues.³³

b. VLR Commitments on 100 kV Facilities

33. Protesting parties in Docket No. ER12-678-000 contest the 100 kV threshold for the determination of VLR commitments. Midwest TDUs argue that MISO inappropriately assumes that all commitments on facilities under 100 kV will be VLR commitments. They contend that if MISO has assumed functional control of a transmission facility, then that facility must be deemed to have regional value and significance. For this reason, Midwest TDUs contend that it is improper to assume that all voltage and thermal constraints on facilities of less than 100 kV are inherently local in nature, and that no thermal constraints on facilities of 100 kV and above are local in nature.³⁴ They argue that this distinction means that special mitigation and cost

³² MISO Response to Wisconsin Electric's Supplemental Confidential Post-Technical Conference Appendix and the Midwest TDUs' Reply at 4-6.

³³ *Id.* at 5.

³⁴ Midwest TDUs Docket No. ER12-678-000 Protest (Midwest TDUs ER12-678-000 Protest) at 5.

allocation rules will always apply for thermal constraints on lower-voltage facilities, and never with respect to such constraints on higher-voltage facilities.³⁵ Midwest TDUs ask the Commission to order MISO to delete the sentence of the VLR Commitment definition that draws this distinction. They claim that the result of such a change would be that where MISO can resolve a constraint through its normal unit commitment and dispatch processes, it will do so regardless of whether the constraint is on lower- or higher-voltage facilities, or whether the problem arises from thermal issues, voltage issues, or both.³⁶

34. Wisconsin Electric adds that facilities under 100 kV can and do have market loop flows for regional purposes and that thermal constraints on facilities with voltages under 100 kV should not be considered VLR issues because of those regional flows.³⁷

Wisconsin Electric also asserts that MISO concludes that low-voltage facilities lack the competition that is requisite for it to manage congestion by controlling regional flows via Security Constrained Unit Commitment and Security Constrained Economic Dispatch. Wisconsin Electric contends that MISO's conclusion falsely assumes that low-voltage facilities are not affected by market flows. Wisconsin Electric states that it is fair to subject these resources to the 10 percent rule,³⁸ but not to the VLR status.³⁹

35. In its Post-Technical Conference Comments, the IMM defends the applicability of the proposed conduct and impact thresholds to offers from resources on or below 100 kV facilities. It states that an analysis of the relief capability of suppliers that MISO could commit or dispatch to resolve congestion constraints binding in real-time in 2011 produced higher Herfindahl-Hirschman Index scores for resources connected to low-voltage facilities than for resources connected to higher voltage facilities (an average of 6,263 out of possible 10,000 for 69 kV facilities compared to 2,533 for 345 kV facilities), which indicates that resources connected to low-voltage facilities frequently have substantial market power. The IMM also asserts that its pivotal supplier analysis for low-

³⁵ Midwest TDUs Post-Technical Conference Comments at 3-4.

³⁶ *Id.* at 4.

³⁷ Wisconsin Electric ER12-678-000 Protest at 6.

³⁸ In its filing in Docket No. ER12-679-000, MISO proposes to add to section 64.1.2.g(i) of the Tariff an economic withholding conduct threshold for VLR commitments that is triggered when generation offers result in a ten percent increase in total production costs due to an increase in the market participant submitted generation offer from the applicable reference level generation offer for a generation resource.

³⁹ Wisconsin Electric Post-Technical Conference Reply Comments at 5.

voltage constraints shows that at least one supplier is pivotal in 55 percent of the intervals when voltage constraints are active and in 99 percent of intervals when these constraints are binding.⁴⁰

36. Midwest TDUs disagree with the IMM's support for the 100 kV VLR threshold based on Herfindahl-Hirschman Index scores, which demonstrate high market power concentrations for 69 kV facilities. Midwest TDUs contend that although the IMM's analysis shows that the average concentration levels are higher for low-voltage classes, there could be significant variation within classes. Midwest TDUs also state that the IMM did not provide summary statistics beyond the average and number of intervals for each voltage class data sample or information about the time of year and geography associated with the observed constraint samples.⁴¹ Midwest TDUs point out that the IMM's figures show high levels of concentration for all voltage classes, and they argue that more stringent mitigation measures should apply to generators needed for VLR commitments at all voltage levels.⁴² Midwest TDUs also contend that the IMM has provided no evidence to support the pivotal supplier analysis, from which it concludes that at least one supplier is pivotal in 55 percent of the intervals when low-voltage constraints are active and 99 percent of intervals when these constraints are binding.⁴³ They also observe that any supplier whose generation is subject to manual commitment pursuant to an Operating Guide is thereby made aware that it is a pivotal supplier and can exercise market power, and that VLR commitments pursuant to Operating Guides occur at both higher and lower voltage levels.⁴⁴ They conclude that the existence of an Operating Guide is a more reliable indicator of pivotal suppliers for purposes of applying VLR mitigation than the assumption that all generators subject to VLR commitments on facilities rated less than 100 kV are pivotal suppliers. Accordingly, Midwest TDUs add that the reference to 100 kV should be removed from the VLR definition so that MISO will use market processes whenever it can to resolve thermal or voltage issues.

37. In its answer, MISO continues to argue that the 100 kV threshold is just and reasonable because it is consistent with the Tariff's definition of the Bulk Electric System

⁴⁰ IMM Post-Technical Conference Comments at 2-3.

⁴¹ Midwest TDUs Post-Technical Conference Reply Comments at 2.

⁴² *Id.* at 2-3.

⁴³ *Id.* at 3.

⁴⁴ *Id.* at 4.

involving transmission facilities generally above that voltage level.⁴⁵ MISO states that it has very limited control over such facilities.

38. In subsequent pleadings, WPSC adds that the definition should be changed to exclude facilities below 100 kV because thermal constraints on facilities below 100 kV should be addressed by the market to send appropriate price signals.⁴⁶

c. Exemptions for IROLs

39. Westar argues in its protest in Docket No. ER12-678-000 that the definition of VLR Commitments should not exclude IROL violations because doing so could potentially exempt Local BAAs with significant amounts of load from an allocation of RSG costs and shift those costs to market participants with day-ahead deviations that did not actually cause the RSG costs. Westar argues that the exclusion of IROL violations would remove a price signal indicating the need for transmission upgrades to address load pocket constraints that are frequently constrained.⁴⁷

40. The Midwest TDUs argue that the IROL exception should be deleted from the definition of VLR Commitment because costs for managing voltage should be assigned to the loads in the areas where they occur, similar to the cost allocation for small load pockets. In addition, the Midwest TDUs request if the Commission accepts the IROL exemption, that the language be revised to clarify that the qualification as an IROL violation is sufficient, although not necessary, to take a resource commitment out of this category.⁴⁸

41. MISO, in its answer, argues that the exemption of commitments made to address IROL violations from the definition of VLR commitments is reasonable because an IROL is defined as pertaining to the Bulk Electric System and is, therefore, not local in nature. Thus, MISO states that the exemption for IROL violations sends proper price signals to improve the system with upgrades. MISO explains that an IROL will remain a market constraint and need not be studied further.⁴⁹ For this reason, MISO contends that the

⁴⁵ MISO Post-Technical Conference Reply Comments at 5-6.

⁴⁶ WPSC Post-Technical Conference Initial Comments at 3.

⁴⁷ Westar Docket No. ER12-678-000 Protest (Westar ER12-678-000 Protest) at 3-4.

⁴⁸ Midwest TDUs ER12-678-000 Protest at 6-7.

⁴⁹ MISO ER12-678-000 Answer at 5-6.

costs of commitments to address IROL violations are appropriately spread throughout the footprint rather than assigned to local load.⁵⁰

d. Operating Guide

42. Wisconsin Electric recommends that VLR commitments be limited to commitments documented in an Operating Guide.⁵¹ Midwest TDUs also argue that VLR commitment designation should be based on the Operating Guides rather than on whether the resource is connected to a transmission facility below 100 kV.⁵²

3. Commission Determination

43. The Commission conditionally accepts MISO's proposed definition of VLR Commitment subject to certain modifications described below. We find that the definition, as revised herein, offers MISO the flexibility it needs to remedy voltage and local reliability problems for which it makes commitments.

44. Protesting parties raise a general concern that the definition of VLR Commitment is ambiguous and gives MISO too much discretion in the selection of the VLR commitments. However, as a result of the technical conference, we are persuaded that, with the changes required below, MISO's definition for VLR Commitment is reasonable.

45. With regard to Wisconsin Electric's concerns, the record indicates that certain resource commitments are being made both economically and for voltage management. For the resources causing most of the RSG costs in the record of this proceeding, their economic commitment is typically also a voltage commitment since their output is the only available source of energy or reserves in their local market for most days. We agree with MISO that to the extent that the resource is committed both economically and for voltage purposes, the RSG cost allocation should reflect the fact that the unit is serving a VLR management function.⁵³ For these reasons, we do not agree with Wisconsin

⁵⁰ *Id.*

⁵¹ Wisconsin Electric ER12-678-000 Protest at 5.

⁵² Midwest TDUs Post-Technical Conference Initial Comments at 4.

⁵³ We recognize that for certain resources, it is possible to differentiate economic commitments in the Day-Ahead Market and VLR commitments in the real-time market. In this circumstance, we expect that the RSG cost allocation would be restricted to the real-time RSG charge.

Electric's recommendation to exempt commitments from the Security Constrained Unit Commitment from the VLR commitment designation.

46. Wisconsin Electric also expresses concern that resources that are regularly committed in the Day-Ahead Market through the Security Constrained Unit Commitment are, in essence, receiving a "permanent" VLR designation. We disagree with Wisconsin Electric's "permanent" characterization of VLR commitments. As MISO explains, Operating Guides – which apply to Wisconsin Electric's resources – indicate the need for VLR commitments, which MISO must make as part of its daily operating analysis prior to the Security Constrained Unit Commitment. Also, as described by MISO, in many instances the status of units that were online from the previous day due to commitments for VLR purposes influences the subsequent day's Security Constrained Unit Commitment.⁵⁴ Based on this record, VLR commitments are a function of an operating analysis that may or may not result in VLR commitments – and therefore these designations are not "permanent." We recognize that such commitments can occur often, and therefore it would be accurate to consider these VLR commitment designations to be routine for certain resources. In consideration of the record in this proceeding, we agree with MISO that VLR status is appropriate for commitments from resources that are routinely needed to address VLR issues regardless of whether the resources sometimes clear in the Day-Ahead Market through the Security Constrained Unit Commitment.

47. We recognize that VLR commitment status has significant mitigation and cost allocation consequences for market participants. In order for market participants to understand the basis of their resources' mitigation and their allocation of RSG costs, we require that MISO inform market participants of their resource commitments' VLR status for the next operating day via dispatcher designation to the plant operator. We direct MISO to revise the Tariff in a compliance filing to include language describing such procedures.

48. To the extent that market participants contend that the VLR status for commitments from their resources is not warranted because the conditions giving rise to the VLR status are not recurring, as MISO describes, they may bring such challenges before MISO, which will reevaluate their VLR designation. If market participants are unsatisfied with such MISO procedures, they may use the dispute resolution features in section 67 of the Module D mitigation measures of MISO's Tariff or file a complaint at the Commission based on section 206 of the Federal Power Act (FPA).

⁵⁴ MISO Response to Wisconsin Electric Supplemental Confidential Post-Technical Conference Appendix and the Midwest TDUs Reply at 5-6.

49. Turning to issues raised with respect to MISO's proposal to include resource commitments to manage congestion on facilities below voltage levels of 100 kV as VLR commitments, we direct MISO to modify its proposal to exclude thermal constraints on facilities less than 100 kV from the definition of VLR commitments. As discussed below, while MISO has demonstrated that it cannot efficiently model voltage constraints on facilities with voltages less than 100 kV, and that it needs to engage in the manual VLR commitments, MISO has not demonstrated that it cannot model thermal constraints. As Wisconsin Electric states, MISO's Look Ahead Commitment Tool can identify thermal constraints on low-voltage facilities⁵⁵ and MISO has not contested this point. Additionally, as protesting parties contend, the thermal constraints on low-voltage facilities may be impacted by regional market flows which, unlike voltage issues, are not local by nature. Moreover, the definition of Real-Time RSG Constraint Management Charge in the MISO Tariff⁵⁶ does not have a voltage limitation (i.e., constraints on facilities with voltages above 100 kV); therefore, without this required change, a thermal constraint would be both a VLR commitment allocated locally and part of the Real-Time Constraint Management Charge allocated regionally.

50. Our directive is also based on our finding that MISO has not demonstrated that it is just and reasonable to automatically classify all commitments to manage congestion on facilities below 100 kV as VLR commitments for mitigation purposes. MISO has described that many resources on low-voltage facilities possess market power, and the IMM has provided data showing high average Herfindahl-Hirschman scores for resources on low voltage facilities, which indicates market power. However, neither MISO nor the IMM have justified application of the more stringent VLR mitigation thresholds to all such resources, many of which are impacted by regional market flows, as well as local requirements. Also, the pivotal supplier analysis results described by the IMM for low-voltage facilities are insufficiently supported for the Commission to consider them conclusive. For these reasons, we require that MISO determine whether the VLR designation is appropriate for commitments for each resource individually on facilities at below 100 kV. We direct MISO to revise its Tariff in its compliance filing to reflect this directive, as further discussed below.

⁵⁵ Wisconsin Electric Post-Technical Conference Reply Comments at 5.

⁵⁶ Section 1.537a of the Tariff defines the Real-Time RSG Constraint Management Charge as "The sum of the Real-Time Revenue Sufficiency Guarantee Credits in an Hour allocated to Market Participants for Resources committed in any [Reliability Assessment Commitment] process or the Look Ahead Commitment (LAC) process for an Active Transmission Constraint and not otherwise attributable to Topology Adjustment and Transmission De-rates."

51. We accept MISO's proposal to exempt commitments to address IROL violations from being designated as VLR commitments. We agree with MISO that IROLs are established to prevent regional instability or cascading outages on the Bulk Electric System. This is supported by the definition of an IROL in MISO's Tariff and the NERC Glossary of Terms, which notes that an IROL violation could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the Bulk Electric System.⁵⁷ The impact of an IROL violation is not limited to a local area because exceeding the interconnection reliability operating limit on transmission facilities can lead to cascading outages and system instability across a much larger area.

52. For these reasons, we find that RSG costs associated with commitments addressing IROL violations are properly allocated market-wide under the existing Tariff, which sends the correct price signal regarding any transmission upgrades that may be necessary to relieve IROL constraints. Costs to address region-wide reliability should be allocated region-wide and the cost of commitments to address IROL violations are costs incurred to maintain region-wide reliability, rather than to address local VLR needs. In order to reflect this, the Commission requires MISO to modify the definition to change the term "system reliability" to "local reliability" to be consistent with our determination on the IROL exemption.

53. Finally, the Commission rejects Wisconsin Electric's request to modify the definition of a VLR commitment to require an Operating Guide prior to a resource commitment being designated as a VLR commitment. Wisconsin Electric states that if an Operating Guide has not yet been established, "MISO can work with the Transmission Operator to create an Operating Guide and can otherwise commit resources as required to maintain reliability."⁵⁸ This argument appears to require that the cost of commitments to maintain local reliability would be spread regionally until MISO and the transmission operator agreed on the Operating Guide. Moreover, by requiring an Operating Guide prior to a resource commitment being designated as a VLR commitment, until MISO and the transmission owner agreed on the Operating Guide, the resource commitment would not be subject to the new mitigation procedures. Thus, by requiring an Operating Guide

⁵⁷ Section 1.323 of the MISO Tariff defines an IROL as "[a] System Operating Limit which, if exceeded, could lead to instability, uncontrolled separation, or cascading outages that adversely impact the reliability of the Bulk Electric System." The NERC Glossary of Terms defines an IROL as "[a] System Operating Limit that, if violated, could lead to instability, uncontrolled separation, or Cascading Outages that adversely impact the reliability of the Bulk Electric System."

⁵⁸ Wisconsin Electric ER12-678-000 Protest at 5.

prior to the designation of a VLR commitment, the transmission operator may have the incentive to delay agreement on the Operating Guide so that the unmitigated cost of the resource commitment is spread regionally. This outcome would unreasonably allocate costs to the region. Nonetheless, the Commission agrees that documentation, like an Operating Guide, could facilitate predictability in the VLR commitment process. Therefore, the Commission requires MISO to modify the definition of VLR commitment to state that MISO will establish Operating Guides with appropriate parties for any recurring VLR commitment but an Operating Guide is not required prior to a resource commitment being designated as a VLR commitment.

54. In conclusion, we require MISO to file the following revised definition for VLR Commitment, which incorporates the Commission's directives discussed above, in the compliance filing to be submitted within 30 days of the date of this order:

A Transmission Provider issued Resource commitment in addition to, or in lieu of, commitments resulting from the Security Constrained Unit Commitment in the Day-Ahead Energy and Operating Reserve Market or any Reliability Assessment Commitment, in order to mitigate issues with Transmission System voltage or other local reliability concerns. These Resource commitment requirements are established prior to or during an Operating Day and are based on projected ~~system~~ **local** reliability requirements, operational considerations, and generation and transmission outages. **VLR commitments will be based on Operating Guides for recurring voltage and local reliability requirements, but an Operating Guide is not required prior to a resource commitment being designated as a voltage and local reliability commitment.** ~~Resource commitments to manage congestion on facilities below voltage levels of 100 kV will be designated in this category.~~ Resource commitments to relieve a potential or actual [IROL] violation will not be designated in this category.

B. Market Solution to VLR Issues

1. Protests and Subsequent Pleadings

55. WPSC expresses its support for market-based solutions rather than manual, out-of-market allocations. WPSC faults MISO for not explaining why market tools, such as Security Constrained Unit Commitment and Security Constrained Economic Dispatch,

cannot identify resource commitments to manage VLR transmission constraints.⁵⁹ Similarly, Midwest TDUs state that the definition of VLR commitments should only be used when market processes cannot find a solution and a manual commitment must be used, without regard to the voltage level. WPSC and Wisconsin Electric state that use of the Locational Marginal Price (LMP) to resolve VLR issues will provide a price signal that helps demand response resources decide whether to participate.

56. Wisconsin Electric adds that the use of LMP to resolve VLR issues will result in the lowest cost solution for VLR issues and is superior to allocating costs to the Local BAA which could blunt the price signal.⁶⁰

57. WPSC contends that MISO should be required to consult with stakeholders and model VLR constraints through dynamic flowgate ratings, instead of static ratings, because dynamic ratings are consistent with the dynamic nature of the transmission system.⁶¹ However, the IMM states that voltage requirements are non-linear and cannot be accurately represented. The IMM continues that while voltage constraints can sometimes be represented in the real-time market by using a “proxy thermal constraint” that limits the energy flow over a transmission interface to reduce the voltage, it would

⁵⁹ WPSC Post-Technical Conference Comments at 3.

⁶⁰ While Wisconsin Electric states that behind-the-meter generation and demand response would generally respond to LMP necessitating a market approach to resolving VLR issues when possible, it recognizes that behind-the-meter generation would need to be modeled and allowed to recover their costs. However, Ameren states that not all behind-the-meter generation are registered. Additionally, such resources are typically used only in emergencies and cannot fully solve many of the largest constraints. WPSC Post-Technical Conference Comments at 8 and Ameren Post-Technical Conference Comments at 5-6.

⁶¹ Dynamic flowgate ratings are flowgate ratings that change in response to changes in another variable. Flowgate ratings are power ratings for the amount of power that can flow across a set of transmission lines. For example, MISO uses a real-time tool to analyze the relationship between power and voltage to set voltage-dependent flowgate ratings in terms of power. *See* WPSC Post-Technical Comments at 2-5. Wisconsin Electric adds that MISO’s Look Ahead Commitment Tool can identify thermal constraints on low-voltage facilities which is considered a VLR issue. WPSC Post-Technical Conference Comments at 5.

not satisfy the local voltage requirement.⁶² The IMM states that as a result a market approach to addressing VLR issues would be inefficient because MISO would not be fully utilizing its transmission capability.

58. Ameren asserts that it would be too costly and complex to build a voltage component into LMP and would not minimize production costs; however, it is open to revisiting this issue as part of MISO's Enhanced LMP efforts. During the technical conference, parties discussed the possibility of incorporating a voltage constraint into the MISO DC Model,⁶³ or using an AC optimal flow model (AC Model).⁶⁴ MISO, however, states that it would require a significant expense,⁶⁵ a lengthy stakeholder process and several years to conceive, design and implement⁶⁶ and believes it would not yield results much better than the current proposal. MISO states that it would be unreasonable to wait until a market solution could be achieved through better modeling because of the harm to the market and the continued cost shifts.⁶⁷

⁶² The IMM states that reactive power is required at specific locations requiring units to be online that can support the system. *See* IMM Post-Technical Conference Comments at 5.

⁶³ *See, e.g.*, WPSC Post-Technical Conference Comments at 4-5 and MISO Technical Conference Presentation at 10-12. DC stands for direct current, but in this context refers to a simplified version of the power flow equations, where voltages are assumed to be equal across the network.

⁶⁴ *See, e.g.*, MISO Technical Conference Presentation at 27. An AC (alternating current) Model includes voltage as a direct constraint, and can much more accurately express the branch thermal constraints. However, MISO dismisses the use of these AC Models because they have not been used in power markets due to limitations of software to handle the nonlinear functions contained in the AC Model.

⁶⁵ MISO also states that it would likely cost over \$1 million to develop a sophisticated solution and realistically could not be developed prior to the MISO Enhanced LMP effort. MISO Post-Technical Conference Reply Comments at 6-8.

⁶⁶ MISO notes that its enhanced LMP software upgrade, expected to go into service in 2014, will have been in development for seven years. MISO Post-Technical Conference Comments at 8.

⁶⁷ *Id.* at 17.

59. In other pleadings in this proceeding, MISO states that it already evaluated a market-based approach in a stakeholder process but that such an approach appeared neither feasible nor promising.⁶⁸ MISO states that dynamic ratings would only act as thermal proxies and would be unlikely to produce an effective solution and can increase production costs. MISO states that while other parties speculate on improvements, MISO's proposal only needs to be just and reasonable. MISO states that its proposal reasonably manages VLR requirements and allocates most of the costs locally, consistent with cost causation and the treatment of similar costs in other RTOs.⁶⁹

2. Commission Determination

60. We will not require the software upgrades and the modeling analysis requested by protestors for the reasons discussed below. The concern of protestors requesting a market solution arises in large part due to the difficulties of modeling local voltage problems on low-voltage facilities with a limited set of resources in the area of the voltage problem. Thermal proxies cannot be developed for local voltage issues in all cases⁷⁰ but when they can, the redispatch that is necessary to alleviate the voltage constraint can be very inefficient.⁷¹

61. In other words, using thermal proxies for managing local voltage issues can result in less effective and more costly constraint management, because binding the thermal constraint in the Security Constrained Economic Dispatch on purpose to increase the LMP to reflect the need for higher priced resources to resolve the voltage issue could increase production costs.⁷² Additionally, as the IMM explains,⁷³ using thermal proxies

⁶⁸ MISO ER12-678-000 Answer at 18.

⁶⁹ MISO Post-Technical Conference Reply Comments at 6-8. MISO references Section 43.2.3V of the PJM Operating Agreement.

⁷⁰ Both the Security Constrained Unit Commitment and Security Constrained Economic Dispatch use DC Models where voltages are assumed equal across the network and solutions that co-optimize power and Operating Reserves in the markets. Because the Security Constrained Unit Commitment and Security Constrained Economic Dispatch are DC Models that do not include voltage constraints, it is not technically feasible for them to co-optimize AC power flows at this time. MISO Post-Technical Conference Comments at 15.

⁷¹ IMM Post-Technical Conference Reply Comments at 5-6.

⁷² MISO Post-Technical Conference Reply Comments at 16.

to represent local voltage issues may even exacerbate the actual constraint, by increasing the real power output of the local resources and thus potentially reducing the reactive power output of the resource – such as, for example, committing and dispatching one resource at its maximum real power output rather than committing multiple resources and dispatching them at maximum reactive power output but below-maximum real power output. In this way, use of thermal proxies to constrain the dispatch for Energy may artificially limit the MW flow on a constraint when the real concern is local reactive power support.

62. With respect to the issue of whether MISO should change models, the Commission will not require MISO to establish a voltage constraint in its model or to begin using an AC Model for the purpose of VLR commitments in this proceeding, because of the time and money that would be required to put such an enhancement into place for the purpose of creating a market alternative to MISO's proposal of allocating the cost of VLR commitments.⁷⁴ Moreover, as noted by MISO, it would be unreasonable to delay the local allocation of these local costs until such an undertaking was complete, because MISO's proposal, as modified below, reasonably addresses the cost shifts caused by VLR commitments. Nonetheless, the Commission encourages MISO to consider the costs and benefits of incorporating a voltage constraint into its market models during its next software upgrade cycle.

63. Because the Commission is not requiring software upgrades in this proceeding, the Commission must resolve this issue based on MISO's current technology. On this basis, we find that MISO has demonstrated that its proposal of allocating the cost of manual commitments to impacted local loads is reasonable given the burden of incorporating thermal proxies into the model that may be more inefficient and could worsen voltage problems, based on current technology.

64. The Commission also finds that local allocation of manual commitments provides a sufficient price signal. Parties recommending the market solution suggest that a higher LMP will induce demand resources (e.g., behind-the-meter generation) to register as MISO market participants and participate in the market.⁷⁵ But MISO counters that the behind-the-meter generation would only be able to assist with voltage issues via the market if the generation chose to register as a market participant and was more economic

⁷³ IMM Post-Technical Conference Reply Comments at 5-6.

⁷⁴ MISO estimates the costs to be in excess of \$1 million. *See* MISO Post-Technical Conference Reply Comments at 8.

⁷⁵ Wisconsin Post-Technical Conference Comments at 13-14.

than the existing generation. MISO adds that its proposal will increase the allocation of RSG costs to local loads impacted by the VLR commitment and induce the Local BAA to address the issue through the most appropriate solution, which could be any of the following: transmission investment, load reduction or other supply arrangements, perhaps by contracting with behind-the-meter generation or generation investment.⁷⁶

65. MISO's proposal also has an added benefit of changing the way the commitment process is going to be handled which MISO believes will eliminate potential inefficiencies. Currently, MISO makes VLR commitments primarily following the posting of the day-ahead results during the Forward Reliability Assessment Commitment process. MISO states that VLR commitments are made in the Forward Reliability Assessment Commitment process to ensure that resources have proper notice, to reflect their capacity in subsequent Reliability Assessment Commitment runs to avoid over-committing for capacity and to avoid unnecessary start-up and/or shutdowns and other operational limits.⁷⁷ However, after implementation of the proposed Tariff revisions, MISO intends to make VLR commitments for known requirements ahead of performing the day-ahead commitment. MISO states this early commitment of these needed resources to address known problems will ensure inclusion of these known physical reliability requirements in the day-ahead algorithm and eliminate potential inefficiencies, such as over-commitment for capacity in real-time.⁷⁸

C. Cost Allocation Issues in Docket No. ER12-678-000

1. MISO Filing

66. MISO explains that after it has determined the total cost for VLR commitments, it determines the portion of those VLR commitment costs that pertain to regional benefits such as meeting market-wide capacity requirements through a periodic study.⁷⁹ The initial study of regional benefits by the IMM indicates that 8 percent of the total VLR commitment costs should be allocated regionally with the remaining 92 percent subject to the proposed local cost allocation. MISO "acknowledges that the IMM's approach is

⁷⁶ MISO Post-Technical Conference Comments at 18. The IMM makes similar points. See IMM Post-Technical Conference Reply Comments at 7.

⁷⁷ MISO Post-Technical Conference Comments at 4-5.

⁷⁸ *Id.* at 5.

⁷⁹ MISO states that the IMM recommended a study methodology to determine the proportion of costs to be allocated locally and market-wide.

superior to the alternatives discussed, as it is more consistent with cost causation and avoids gaming.”⁸⁰

67. After MISO has determined the portion of the total VLR commitment costs to allocate locally, MISO then calculates the portion allocated to local loads. MISO states that the default mechanism to recover RSG costs associated with VLR commitments will be assessments to load in the Local BAA where the resource is located, because it is often more efficient or necessary to procure reactive power where it is needed. However, when such commitments “produce significant levels of cost,” MISO will perform a study to determine the commercial significance of the impacts, the affected Local BAAs and the loads that have an impact on the constraint.⁸¹ Commercial significance will be determined by MISO, at its sole discretion,⁸² based on factors including the frequency of occurrence and monetary impact of such issues. MISO states that most voltage-related resource commitments are to support voltages in load pockets, which are local by nature. MISO will conduct studies to identify the boundaries of load pockets, and allocate RSG costs to the Local BAAs affecting the interface. MISO will continue to treat resource commitments for IROL interfaces as market constraints, and to allocate the associated RSG costs market-wide.

2. Protests and Subsequent Pleadings

68. Protesting parties question the data used by the IMM in its study of the percentage split between regional and local benefits of VLR commitments. In addition, they argue that MISO has too much discretion when performing a study to determine the portion of costs to be recovered regionally through the usual RSG cost allocation. The protesting parties state that the study on which MISO relied was performed prior to mitigation using pre-mitigation data that does not accurately reflect the situation under the new mitigation plan;⁸³ that the study will be updated in the future only at MISO’s discretion, when it should be updated periodically using a shorter duration than the two years used by the IMM; and that the percentage split between local and regional allocation should be

⁸⁰ See Testimony of Kevin Vannoy, Attachment D, MISO ER12-678-000 Transmittal at 12-13.

⁸¹ MISO ER12-678-000 Transmittal at 10.

⁸² However, an LBA may formally request that MISO evaluate the commercial significance of a given VLR issue. MISO ER12-678-000 Answer at 13.

⁸³ See IMM ER12-678-000 Affidavit at PP 14-22, describing the IMM’s study of RSG costs incurred for local commitments prior to the instant filings.

identified in the Tariff. Wisconsin Electric states that it does not disagree with the recommendation of the IMM to allocate 92 percent of VLR commitment costs to the affected Local BAAs, but it recommends that the initial study, which is a historical 21-month study, cover a shorter term and that it be refreshed quarterly to adjust the assignment ratio between the regional market and the local area.

69. Protesting parties also claim that MISO has too much discretion in the study process to determine whether a VLR commitment is commercially significant (and, therefore, eligible for a broader cost allocation). Protesting parties state that there is no standard to determine whether a VLR issue is commercially significant. They note that MISO will conduct a study at its discretion to designate a VLR issue as commercially significant, based on criteria including frequency, monetary impact or other criteria included in the Business Practices Manuals. MidAmerican asks the Commission to require Local BAA participation in the studies in the same way that transmission owners participate in transmission service requests. WPSC states that MISO hasn't supported its definition of "commercially significant" VLRs and is relying on as-yet-unestablished procedures. Mid-American and Wisconsin argue that the standards for when MISO must perform such a study are not sufficiently clearly defined, and leave MISO too much discretion. Midwest TDUs argue that MISO should be willing to take into consideration the contribution that non-local loads make to VLR commitments in determining when a VLR is commercially significant.

70. Protesting parties also question the mechanism by which MISO proposes to allocate the costs associated with VLR commitments to local loads. Some protesting parties request that MISO's proposal reflect a more precise allocation,⁸⁴ while other protesting parties suggest that a wider allocation to more load is appropriate.⁸⁵

71. Moreover, Wisconsin Electric suggests that generators in need of voltage support should pay a portion of the costs of VLR commitments instead of requiring load to pay

⁸⁴ For example, Hoosier and SIPC request that MISO study the feasibility of allocating to load served at the affected Commercial Pricing Nodes, rather than to all load in the entire Local BAA. Hoosier and SIPC ER12-678-000 Comments at 3. WPSC, by contrast, states in its protest that LBAs have now become meaningless boundaries since MISO has evolved into a single balancing area, so that greater allocation of costs to certain Local BAAs is inappropriate. WPSC ER12-678-000 Protest at 11-14.

⁸⁵ For example, Midwest TDUs state, "[i]f the rationale for assigning costs of managing voltage problems to the loads in the areas where they occur is sound with respect to smaller load pockets, there is no clear reason why this should not also apply to larger load pockets." Midwest TDUs ER12-678-000 Comments at 6.

the costs. Protesting parties also state that nuclear plants, whose output can benefit loads in Local BAA Areas other than where the plants are located, should be excluded from VLR commitments. In subsequent filings, Wisconsin Electric argues that VLR costs attributable to nuclear plants should be allocated to the nuclear plants or more broadly to load.⁸⁶

72. MISO states in its answer that predetermined special treatment for nuclear resources is unwarranted and that the proposed revisions adequately address cost allocation, including through studies of commercially significant impacts, without requiring a special blanket exemption relating to nuclear plants. Wisconsin Electric, in its answer to MISO's answer, argues that if it is determined that the costs for meeting the voltage requirements of a nuclear plant should not be assigned to the affected nuclear plant, it is more appropriate to apply these costs on a broader basis than to Local BAA load.⁸⁷

73. Midwest TDUs and MidAmerican argue that while VLR commitment costs are based on actual energy withdrawals, the charges should be based on the physical location of loads, as it is under Tariff Schedule 2, Reactive Supply and Voltage Control from Generation and Other Resources.⁸⁸ Wisconsin Electric argues that the process used for the identification of affected loads or load pockets is unclear. In addition, Wisconsin Electric contends that if a generator requires additional voltage support, then the generator should pay for it, because having loads subsidize some generators that require additional voltage support, while not subsidizing other generators, is not consistent with cost causation. Wisconsin Electric also alleges that assessing VLR commitment costs to

⁸⁶ Wisconsin Electric Post-Technical Conference Comments at 6.

⁸⁷ MISO ER12-678-000 Answer at 7-8.

⁸⁸ Basing charges on the physical location of loads would mean that pseudo-ties do not affect charges. Midwest TDUs add that pseudo-tied load should not be assessed the cost of VLR commitments. Midwest TDUs state that WPPI Energy currently has more than 400 MW of load pseudo-tied into the Wisconsin Electric Local BAA. While the loads are physically located in two other LBAs, Midwest TDUs state that under MISO's proposal they would be considered part of the Wisconsin Electric Local BAA and would be allocated based on about twice the allocation share of load that WPPI Energy physically has in the Wisconsin Electric Local BAA.

loads may have the unintended effect of increasing virtual trading, which will exacerbate the VLR problems.⁸⁹

74. Ameren and WPSC favor allocating costs to pricing zones instead of Local BAAs.⁹⁰ Wisconsin Electric notes that MISO allocates reactive power costs in Schedule 2 to pricing zones, but that approach would presume a transmission solution rather than a generation or demand response solution to solving the VLR issue.⁹¹ Wisconsin Electric also argues that VLR costs be allocated based on Commercial Pricing Nodes⁹² and that virtual transactions be included. Midwest TDUs claim that existing pseudo-ties in constrained areas would unreasonably have to pay VLR costs when such costs should be allocated only to load physically located in the area.

75. Wisconsin Electric argues that MISO's allocation of costs to the loads that cause VLR issues is unreasonable because loads don't cause VLR issues. Wisconsin Electric states that the loads to which costs are allocated may be remote from the VLR issue but would be allocated a portion of the costs because the load is pseudo-tied into the Local BAA.

76. MISO responds that allocating VLR commitment costs using a Commercial Pricing Node allocation would be too complex and inconsistent with Schedule 2. MISO states that virtual transactions should not be allocated costs associated with VLR commitments because the need for such commitments is based on, among other things, physical load and generation availability in real-time. MISO also states that it is

⁸⁹ Wisconsin Electric recommends assessing the charges on loads and non-load deviations so that virtual traders do not have an incentive to possibly increase VLR issues. Wisconsin Electric ER12-678-000 Protest at 9.

⁹⁰ WPSC notes that MISO appears to have changed its position in favor of allocation to transmission pricing zones, as indicated in its answer in which it states that it is not opposed to allocating VLR-related RSG costs to transmission pricing zones. *See* MISO ER12-678-000 Answer at 11.

⁹¹ WPSC states that, if a transmission upgrade is made to remedy a VLR issue, its cost will be allocated to the transmission pricing zone rather than the Local BAA. WPSC ER12-678-000 Protest at 2.

⁹² Section 1.74 of the Tariff defines a Commercial Pricing Node as An Elemental Pricing Node or an Aggregate Price Node in the Commercial Model used to schedule and settle Market Activities. Commercial Pricing Nodes include Resources, Hubs, Load Zones and/or Interfaces.

inappropriate to allocate the VLR costs to virtual transactions because the underlying reason for VLR commitments is to provide physical capability to support local transmission of energy. MISO states that the requirements for such commitments are based on system topology, physical load, and generation availability in real-time. MISO states that the host Local BAA area into which the load is pseudo-tied assumes the responsibility for providing that load with reactive power; therefore, it is reasonable for pseudo-tied load to pay for VLR costs.

77. MISO states that it does not anticipate any significant instances of pseudo-tied load modeling throughout the footprint that would exacerbate or result in cost shifts.⁹³ Additionally, MISO notes that regardless of pseudo-tie arrangements, Constraint Contribution Factors will identify those physical loads located in the vicinity of the transmission issue. MISO also states that it allows load to be pseudo-tied into a Local BAA other than the one where it is located in order to facilitate scheduling and settlements. MISO states that the host Local BAA into which the load is pseudo-tied assumes the responsibility for providing the load with reactive power. Thus, MISO states that it is just and reasonable to assign costs based on a market participant's choice to represent the load as a pseudo-tie.

3. Commission Determination

78. We conditionally accept MISO's proposed cost allocation of RSG costs related to VLR issues, subject to MISO filing a compliance filing to reflect the changes discussed below. While the Commission expects the level of RSG costs attributable to VLR issues to decrease with the mitigation proposal in Docket No. ER12-679-000, it is unlikely for the costs to be eliminated altogether, necessitating a cost allocation mechanism for these costs. We find that MISO has adequately demonstrated that its proposal to allocate RSG costs related to VLR issues to local loads is just and reasonable and consistent with Commission precedent. Based on the record before us, we agree with MISO that local load is the primary beneficiary of VLR commitments, and therefore its proposed cost allocation that allocates these costs predominantly to local load is reasonable.

79. Several protesting parties raise issues with the study performed by the IMM to determine the regional portion of the RSG costs related to VLR issues. However, these protests relate to the data used by the IMM (e.g., pre-mitigation data) and to the timing

⁹³ During the technical conference MISO addressed factors that might prompt a market participant to move load from one Local BAA to another through a pseudo-tie in the future to show that it would be difficult for a market participant to use pseudo-tie arrangements to avoid an allocated share of VLR commitment costs. MISO Technical Conference Presentation at 26.

of, and the data to be used in, of revisions to the study. No protester contested the methodology of the IMM's study. The Commission finds that the IMM's study is a reasonable method to account for any discernable regional benefit of these VLR commitments and the results of the IMM study are reasonable for the commencement of the cost allocation proposal. However, the Commission agrees with the protesting parties about the timing of, and data to be used in, future revisions to the study. The Commission orders MISO to update the study periodically (i.e., quarterly) using a rolling 12 months of data and explain the study process in more detail in its Tariff.⁹⁴

80. The Commission agrees with MISO that costs associated with commercially significant VLR commitments should be allocated on a more refined basis than the Local BAA, as defined by the study. However, MISO's Tariff states that the determination of when a VLR issue becomes commercially significant will be at MISO's discretion using criteria set forth in Business Practice Manuals. The criteria and process⁹⁵ will significantly affect rates, and under the Commission's "rule of reason" any rule or practice that significantly affects rates must be included in the Tariff.⁹⁶ Thus, the Commission directs MISO to revise the Tariff to incorporate the criteria and process for determining when a VLR issue is commercially significant into the Tariff. These provisions also need to specify a process for notifying market participants potentially impacted by MISO's determination of commercially significant VLR commitments.

⁹⁴ The IMM explains its study process in the submitted testimony and its answers at the technical conference; however, there is no corresponding discussion of the study methodology in the Tariff. With a discussion of the process in the Tariff, MISO need not include the resulting percentage split in the Tariff, but need only identify the location on MISO's OASIS where the resulting percentage split can be found.

⁹⁵ The criteria are (1) the number of days for which a VLR issue has a resource committed to relieve it exceeds 90 days in a year or 15 days in two out of four quarters of the year; or (2) the sum of day-ahead and real-time RSG payments to resources to commit for a VLR issue exceeds \$800,000 in a year or \$200,000 in two out of four quarters of the year. MISO Technical Conference Presentation at 31.

⁹⁶ *City of Cleveland v. FERC*, 773 F.2d 1368, 1376 (D.C. Cir. 1985) (requiring utilities to file "only those practices that affect rates and service significantly, that are reasonably susceptible of specification, and that are not so generally understood in any contractual arrangement as to render recitation superfluous"); *Cal. Indep. Sys. Operator Corp.*, 122 FERC ¶ 61,271 (2008) (assessing whether certain business practice manual provisions significantly affect rates, terms and conditions, and, therefore, must be included in a tariff).

81. Moreover, based on the entirety of the record, MISO has demonstrated that its studies are a reasonable basis for allocation of these local reliability costs. For these reasons we accept the MISO proposal, subject to the filing of revised tariff sheets that contain a sufficient description of the study process, including the methodology, inputs and periodicity.⁹⁷ Additionally, while the Tariff provisions provide for Local BAAs to request a study, we direct MISO to modify the Tariff to allow Local BAAs and other interested stakeholders to participate in the study process, as MISO agreed to do during the technical conference, and to clarify in the Tariff that the study assumptions and results will be posted.

82. While the protesting parties contest the granularity of the proposed allocation to local loads, the Commission finds that the level of granularity in MISO's allocation is reasonable. Hoosier and SIPC want more granularity by requiring MISO to report on the feasibility of allocating VLR-related RSG costs at affected Commercial Pricing Nodes, but as indicated by MISO above, allocating such costs on a Commercial Pricing Node level may be too complex.⁹⁸

83. Other protesting parties want less granularity and want to have VLR commitment costs allocated to pricing zones instead of Local BAAs. However, we note that Local BAAs have responsibility for managing voltage and local reliability, and therefore an allocation to Local BAAs comports with cost causation. While the allocation of VLR commitment costs to pricing zones may have some merit,⁹⁹ the Commission is not persuaded that the proposal before us in this proceeding, which allocates such costs to Local BAAs, is unreasonable. Nor is it our task here to evaluate a number of reasonable alternatives.¹⁰⁰ Additionally, when the VLR issue is commercially significant (e.g., the

⁹⁷ We note that the MISO ER12-678-000 Transmittal letter at 10 contains a description of the study process used after a VLR issue has been determined to be commercially significant, but that process is not addressed in MISO's Tariff revisions.

⁹⁸ Similarly, the Commission will not require MISO to allocate costs using a Planned Transmission Distribution Factor or Generation Shift Factor at Elemental Pricing Nodes as requested by Wisconsin Electric.

⁹⁹ The Commission notes that even MISO states that it is not opposed to allocating RSG costs related to VLR issues to transmission pricing zones. MISO ER12-678-000 Answer at 11.

¹⁰⁰ *Oxy USA, Inc. v. FERC*, 64 F.3d 679, 692 (D.C. Cir. 1995) (finding that under the FPA, as long as the Commission finds a methodology to be just and

(continued...)

voltage issue is recurring and resulting in a high dollar impact) and impacts multiple Local BAAs, MISO will allocate the costs to the impacted Local BAAs such that any difference between transmission pricing zones and impacted Local BAAs might not be meaningful.

84. Additionally, while protesting parties have proposed additional modifications to the cost allocation methodology, they have not shown that MISO's proposal is unjust and unreasonable without those proposed changes. Wisconsin Electric requests to have the proposal modified so that virtual transactions (i.e., non-load deviations) pay a portion of the RSG costs related to VLR issues as they currently pay RSG costs for deviations. However, as MISO notes, VLR commitments are not driven by deviations from the Day-Ahead Market, but rather the VLR commitments are based on system topology, physical load and generation availability in real-time. Thus, the Commission finds that the proposal need not be modified to assess non-load deviations a portion of these costs.

85. With respect to Wisconsin Electric's argument that generators should pay a portion of the cost of VLR issues, MISO has demonstrated that allocating these costs to load provides the load serving entity with an incentive to remedy the situation. To charge generators in the area that are committed to address VLR issues for the cost of such commitments would be a disincentive to those generators to help address the VLR issue. Moreover, assessing these generators for the cost of VLR commitments would likely cause them to increase their offer price to be a VLR commitment resulting in a higher RSG amount.

86. The Commission agrees with MISO that a predetermined special exemption for nuclear power plants is unwarranted. Local load is the beneficiary of voltage management, including for voltage management in local areas with nuclear power plants, and therefore a cost allocation to local load is reasonable. To the extent that costs should be spread more broadly, the proposal addresses that concern with the commercial significance studies.

87. With respect to protesting parties' argument that pseudo-tied loads should not be allocated RSG costs for VLR commitments in the host load Local BAA, the Commission finds that protesting parties have not demonstrated the proposal is unjust and unreasonable. As a threshold matter, MISO's proposal is reasonable since the Local BAA of the host load is responsible for voltage management in the pseudo-tied Local

reasonable, that methodology "need not be the only reasonable methodology, or even the most accurate one.").

BAA,¹⁰¹ and therefore MISO's proposal comports with cost causation. Such a requirement applies to all pseudo-tied load, including remote pseudo-ties, such as those discussed by Wisconsin Electric and Midwest TDUs.

88. In its answer, MISO agreed to make several small editorial changes identified by MidAmerican in its protest. We direct MISO to make the changes as discussed in its answer.¹⁰²

89. Finally, the Commission finds the proposal to be consistent with Commission precedent. In *PJM I*,¹⁰³ a proceeding that addressed the compensation of generators required for reliability and the allocation of the compensation costs, the Commission stated, "[f]urther, consistent with our views regarding the negative implications of broadly spread uplift charges, the payment obligations resulting from the auction/[Request for Proposal] process should be allocated to the local area benefiting from the reliability improvement." Additionally, in *PJM II*,¹⁰⁴ the Commission accepted a proposal to allocate locally the cost of synchronous condensers to address a local voltage problem on the Delmarva Peninsula.¹⁰⁵

D. Mitigation Issues in Docket No. ER12-679-000

1. MISO's Filing

90. In section 64.1.3.a of the Tariff, MISO proposes to add conditions to one of its existing thresholds for identifying uneconomic production by a generation resource needed for a VLR commitment. Currently, the MISO Tariff defines uneconomic production as energy that is scheduled at a location where the LMP is less than 50 percent of the applicable reference level and that causes a binding transmission constraint or a binding reserve zone constraint. MISO proposes to insert additional conditions to this threshold, so that uneconomic production by any resource may warrant mitigation only if:

¹⁰¹ MISO Post-Technical Conference Reply Comments at 13.

¹⁰² MISO ER12-678-000 Answer at 20.

¹⁰³ *PJM Interconnection, LLC*, 107 FERC ¶ 61,112, at P 22 (2004) (*PJM I*).

¹⁰⁴ *PJM Interconnection, LLC*, 108 FERC ¶ 61,196 (2004) (*PJM II*).

¹⁰⁵ See also California Independent System Operator, Inc. Tariff, sections 39.4 and 11.5.6, for provisions involving exceptional dispatch and the local allocation of such costs.

- a. The incremental Energy Offer Price for the Resource is less than 50 percent of the applicable Reference Level; or
- b. The Hourly Economic Minimum Limit of an Offer for a Generation Resource is more than 25 percent higher than the applicable Reference Level; or
- c. Any of the conduct thresholds specified in Section 64.1.2.a.v and Section 64.1.2.a.vi are exceeded.

Existing sections 64.1.2.a.v and 64.1.2.a.vi of the Tariff provide conduct thresholds to identify economic withholding in Broad Constrained Areas:

- v. Time-based Offer parameters: An increase of three (3) hours, or an increase of six (6) hours in total for multiple time-based Offer parameters. Time-based Offer parameters include, but are not limited to, Start-Up Times, Minimum Run Times and Minimum Down Times.
- vi. Offer parameters expressed in units other than time or dollars: A 100 percent (100%) increase for parameters that are minimum values, or a 50 percent (50%) decrease for parameters that are maximum values (including but not limited to Ramp Rates and Maximum Shut Down Limits).

91. The IMM testifies that the proposed revisions to its thresholds for identifying uneconomic production are necessary because the existing Tariff “does not specify thresholds for the physical offer parameters.” Accordingly, “MISO has added conduct thresholds for [Hourly Economic Minimum Limits] and other physical parameters that are necessary for the proposed mitigation to be effective for local commitments.”¹⁰⁶ According to the IMM, the proposed 25-percent threshold for Hourly Economic Minimum Limits in section 64.1.3.a.i(b) will prevent over-mitigation by allowing a resource’s economic minimum limits to vary due to changes in operating limits, and will also address uneconomic production that results when MISO must commit resources that submit inflated minimum generation offers and energy offers that exceed the LMP.¹⁰⁷

¹⁰⁶ Affidavit of Dr. David Patton, Attachment to MISO ER12-679-000 Transmittal (IMM ER12-679-000 Affidavit) at P 9.

¹⁰⁷ *Id.* P 24.

92. In section 64.1.2.g of the Tariff, MISO proposes new thresholds for identifying economic withholding by a generation resource needed for a VLR commitment, so that the resource will fail the conduct test if:

- i. The Generation Offers result in a ten percent (10%) increase in total production costs due to an increase in the Market Participant submitted Generation Offer from the applicable Reference Level Generation Offer for a Generation Resource; or
- ii. The Resource's conduct exceeds any of the uneconomic production thresholds proposed in either Section 64.1.3.a.i(b) or Section 64.1.3.a.i(c).

As discussed above, proposed sections 64.1.3.a.i(b) and 64.1.3.a.i(c) provide that a resource's offer may be subject to mitigation if the resource's Hourly Economic Minimum Limit exceeds the applicable reference level by more than 25 percent or if any of the existing mitigation thresholds in sections 64.1.2.a.v or 64.1.2.a.vi of the Tariff are exceeded.

93. The IMM states in his testimony that the 10-percent threshold for identifying economic withholding is necessary because "extreme local market power exists" when the resources owned by a single supplier are required for a local reliability commitment. The IMM also argues that adding physical parameter thresholds will provide safeguards against generators inflating their physical parameter offers in order to increase their RSG payments. For example, he states that the proposed change in section 64.1.3.i(b) specifies that a 25 percent increase above the reference Economic Minimum Generation level will be the conduct threshold used to identify potential uneconomic production associated with that parameter.¹⁰⁸

94. In section 64.2.1 of the Tariff, MISO proposes to modify the market impact threshold provisions for resources needed for VLR commitments. In particular, it proposes to change section 64.2.1.d, which contains the existing \$50/MWh threshold for identifying conduct that substantially affects market clearing prices or RSG credits, to exclude RSG credits paid to generators needed for VLR commitments. MISO proposes to add a new subsection 64.2.1.f, which states that the threshold to determine a substantial effect on day-ahead or real-time RSG credits paid to generators committed for VLR issues shall be \$0/MWh.

95. The IMM argues that "given the extreme market power associated with local commitments and the chronic nature of the reliability issues, it is appropriate to mitigate

¹⁰⁸ IMM ER12-679-000 Affidavit at 36-39.

any increase in RSG costs associated with the conduct identified in section 64.1.2 without testing the conduct for impact.”¹⁰⁹ He maintains that because suppliers satisfying VLR requirements generally face little or no competition, an impact test is unnecessary and would reduce the effectiveness of the proposed mitigation measures. He asserts that the risk of under-mitigation is much more severe with regard to VLR commitments than it is in Broad Constrained Areas or Narrow Constrained Areas, and therefore warrants tighter thresholds. Further, the IMM states that the risk of over-mitigation is lower for local commitment RSG payments than it is for the energy market because the former is performed *ex post* and, therefore, has no impact on LMPs in the energy markets.¹¹⁰

2. Protests and Subsequent Pleadings

96. Some parties support MISO’s filing. Wisconsin Electric supports MISO’s efforts to refine its mitigation policies and trigger tighter mitigation thresholds for VLR commitments.¹¹¹ DC Energy requests that the Commission approve MISO’s proposed definition of VLR Commitment and the proposed mitigation measures as soon as reasonably possible.¹¹² Xcel requests that the Commission approve MISO’s proposed mitigation measures, asserting that they would benefit market participants by reducing RSG credits.¹¹³ Hoosier supports MISO’s proposed mitigation provisions and urges the Commission to accept them, contending that these provisions will prevent entities with market power in constrained areas from imposing significant uplift costs on market participants throughout MISO.¹¹⁴

¹⁰⁹ *Id.* P 26. The IMM argues that NYISO and ISO-NE proposed, and the Commission approved, mitigation measures that employ a conduct test but no impact test to mitigate market power associated with local commitments. *Id.* P 28 (citing *New York Independent Sys. Operator, Inc.*, 131 FERC ¶ 61,169 (2010); *ISO New England Inc. and New England Power Pool*, 129 FERC ¶ 61,008 (2009)).

¹¹⁰ IMM ER12-679-000 Affidavit at 27-30.

¹¹¹ Noting its concerns regarding the VLR commitment definition, Wisconsin Electric incorporates by reference its protest in Docket No. ER12-678-000.

¹¹² DC Energy ER12-679-000 Comments at 3.

¹¹³ Xcel Docket No. ER12-679-000 Comments at 4.

¹¹⁴ Hoosier ER12-679-000 Comments at 2.

97. Westar also argues in its protest in Docket No. ER12-679-000 that the exemption for IROL violations would prevent the IMM from addressing market power abuses in situations where resources are offered at increased prices to relieve an IROL violation, undermining the purpose of MISO's mitigation filing.¹¹⁵

98. MidAmerican supports MISO's mitigation proposal, but suggests several edits and clarifications. Among these, it argues that MISO should modify the numbering of its tariff sections to clarify that the proposed mitigation applies to both Narrow Constrained Areas and Broad Constrained Areas.¹¹⁶

99. MidAmerican, in its answer in Docket No. ER12-679-000, states that while MISO intends to mitigate resources committed to address VLR issues throughout the entire MSIO footprint, as the Commission has previously acknowledged, mitigation in MISO is currently limited to Narrow Constrained Areas and Broad Constrained Areas.¹¹⁷ According to MidAmerican, provisions in sections 63.2.b, 63.4, 65.2.2b, 65.2.2.e, and 65.2.2f.i of Module D of the Tariff explicitly limit mitigation to occurring in Narrow Constrained Areas or Broad Constrained Areas.¹¹⁸ MidAmerican states that it does not oppose the application of mitigation for VLR commitments throughout the MISO footprint, and recommends the modification of provisions in Module D to enable such broader application.

100. MidAmerican also suggests revising section 64.1.2.g.i to replace "total production costs" with "Production Costs and Operating Reserve Cost" because both terms are defined in the Tariff.¹¹⁹

101. JPMorgan and Midwest TDUs are concerned about whether the proposed mitigation would be appropriately applied to market participants exercising market power. JPMorgan argues that neither MISO nor the IMM have provided support for the assertion that VLR resource owners possess market power. JPMorgan further argues that proposed revisions lack a mechanism to ensure that offers are only mitigated during the

¹¹⁵ Westar ER12-679-000 Protest (Westar ER12-679-000 Protest) at 3-4.

¹¹⁶ MidAmerican Docket No. ER12-679-000 Protest (at 2-5).

¹¹⁷ MidAmerican Answer at 3-5, citing *MISO*, 108 FERC ¶ 61,163 (2004) at P 246 and *MISO*, 109 FERC ¶ 61,157 (2004) at P 224.

¹¹⁸ *Id.* at 6-8.

¹¹⁹ *Id.* at 9.

existence of market power. It asks the Commission to direct MISO to amend its filing to incorporate a “dynamic market structure test” that can be implemented in its day-ahead market, its reliability assessment commitment, and its real-time market to ensure that MISO applies the proposed mitigation measures only when the market is structurally uncompetitive.¹²⁰

102. Midwest TDUs contend that rather than focusing on whether out-of-merit unit commitment is needed to address “local” reliability issues, MISO should employ mitigation based on a pivotal supplier test similar to one employed by NYISO.¹²¹

103. JPMorgan and Midwest TDUs are concerned that some mitigation thresholds are based on whether an offer parameter has increased relative to previous offers. JPMorgan argues that the mechanisms used to calculate increases in certain offer parameters are unclear because the Tariff does not specify how such an increase is measured (e.g., against yesterday’s offer parameters or a historical average).¹²²

104. Midwest TDUs argue that the proposed section 64.1.2.g, which provides a mitigation threshold for generation offers resulting in a 10 percent increase in total production costs from the applicable reference level, should be clarified as to whether the increase is relative to prior offers or the reference price.¹²³

105. JPMorgan contends that it is unclear whether MISO’s mitigation authority remains in force for the duration of each resource’s minimum operating cycle or if it ends when the VLR concerns are satisfied, regardless of whether such concerns are addressed prior to the end of a resource’s minimum commitment period. JPMorgan also asserts that the proposed economic withholding Tariff language gives the IMM undue discretion to apply mitigation and asks the Commission to require that MISO reword Section 64.1.2(g) to remove such discretion.¹²⁴

¹²⁰ JPMorgan ER12-679-000 Comments at 4-7.

¹²¹ Midwest TDUs Docket No. ER12-679-000 Comments (Midwest TDUs ER12-679-000 Comments) at 5-7.

¹²² JPMorgan ER12-679-000 Comments at 8.

¹²³ Midwest TDUs ER12-679-000 Comments at 7-8.

¹²⁴ JPMorgan ER12-679-000 Comments at 7-9 (citing MISO December 23, 2011 Filing, FERC Electric Tariff, section 64.1.2.g (0.5.0) (emphasis added)).

106. JPMorgan argues that the proposed mitigation of time-based offer parameters, in addition to being insufficiently precise, does not reflect run-time limitations related to natural gas-fired generators' contractual or pipeline tariff requirements to take natural gas on a ratable basis. It argues that lack of flexibility could force owners of such generators to operate at a loss during some hours for which it must purchase fuel or declare the resource unavailable for lack of fuel. JPMorgan requests that the Commission require MISO and the IMM to include the terms and conditions of fuel supply arrangements in the reference levels for minimum run times for generation resources.¹²⁵

107. Midwest TDUs state that the Commission should closely examine whether the standards for determining a resource's reference levels are appropriate in the context of the exercise of market power to exploit a recurring constraint. They state that under section 64.1.4 of the Tariff, such reference levels are first determined by examining offers in competitive periods over the past 90 days, but that VLR commitments almost by definition occur in uncompetitive periods. Further, the next reference level standard, employed when sufficient information is not available for the first, is based on the mean of the LMP or applicable market-clearing price at the units' location during the lowest-priced 25 percent of hours that the unit was dispatched over the previous 90 days. Midwest TDUs argue that this standard is inappropriate for VLR commitments because it focuses on LMPs, while the purpose of RSG payments is to recognize that a generator's actual cost may exceed the LMP. Midwest TDUs state that a generator's reference level should be based on an estimation of its actual marginal costs, whether developed in consultation with the market participant or by the IMM.¹²⁶

108. In its answer, MISO defends its proposed exclusion of commitments made in response to IROL violations from the definition of VLR commitments. It contends that such an exclusion is appropriate because IROL violations relate to the Bulk Electric System and the Tariff's market monitoring and mitigation provisions sufficiently address market power concerns in the broader markets. MISO asserts that the VLR mitigation proposal seeks to address offers pertaining to constraints that do not reach the level of IROL violations. MISO agrees with most of MidAmerican's proposed edits to the mitigation proposal. It emphasizes that while the proposed mitigation can apply in Narrow Constrained Areas and Broad Constrained Areas in proper circumstances, VLR mitigation is separate and distinct from the existing Tariff's mitigation measures directly pertaining to Narrow Constrained Areas and Broad Constrained Areas.¹²⁷

¹²⁵ *Id.* at 9-11.

¹²⁶ Midwest TDUs ER12-679-000 Comments at 8-9.

¹²⁷ MISO ER12-679-000 Answer at 9-10.

109. MISO disagrees with Midwest TDUs' contention that VLR mitigation should be based on a pivotal supplier test, as well as JPMorgan's assertion that MISO's VLR proposal is inadequate and unsupported due to lack of a quantitative screen to assess market power. MISO argues that VLR mitigation is appropriately based on the local nature of the reliability issues necessitating such commitments. Further, it contends that its definition establishes clear standards that market and reliability administration processes must apply when determining when the more restrictive mitigation thresholds apply. In addition, MISO argues that the provisions clearly identify those resource commitments for which local market power exists, consistent with the Commission's previous findings in NYISO.¹²⁸

110. With respect to Midwest TDUs' reference level concerns, as well as Midwest TDUs' and JPMorgan's assertions that it is unclear how increases in offer parameters will be measured, MISO clarifies that increases of total production costs are determined by comparison between generation offers submitted by market participants and the applicable generation offer reference levels. It also contends that its proposal's approach is consistent with other reference level provisions in Module D of the Tariff. In addition, MISO asserts that reference levels do not need modification to accommodate VLR measures because such situations seldom involve binding constraints and associated impacts on the LMP. It also notes existing provisions allowing for adjustment of the reference levels of individual resources.¹²⁹ Additionally, the IMM states that it would be appropriate to exclude offers from resources that are frequently committed for VLR as potentially non-competitive. According to the IMM, this would generally cause reference levels to be based on production cost information.¹³⁰

111. In response to JPMorgan's concerns about the duration of mitigation authority, MISO clarifies that the VLR mitigation measures are applicable for the duration of the VLR commitment period, regardless of when the VLR concerns are satisfied. Regarding JPMorgan's concerns about excessive discretion for the IMM, MISO states that the language that JPMorgan discusses is consistent with other language used throughout Module D of the Tariff. MISO also contends that JPMorgan's natural gas requirement concerns are beyond the scope of this proceeding. In addition, it argues that reference levels have been applied to resource commitments in other contexts and should be

¹²⁸ *Id.* at 7-8 (citing *New York Indep. Sys. Operator, Inc.*, 133 FERC ¶ 61,030 at P 52).

¹²⁹ *Id.* at 4-5, 9.

¹³⁰ IMM Technical Conference Presentation at 5.

applied here. Further, MISO contends that fuel supply terms and conditions can be adequately addressed under section 64.1.4a.ii of the Tariff.¹³¹

112. MISO also asserts that the proposed threshold in section 64.1.3.a.i(a) of an incremental energy offer price for a resource that is less than 50 percent of the applicable Reference Level is consistent with the conduct that is identified in section 64.1.3(a). It points out that there is uneconomic production when resources run even when LMPs are less than 50 percent of the applicable Reference Level.¹³²

113. MISO also explains that the existing thresholds for identifying economic withholding in sections 64.1.2.a.v and 64.1.2.a.vi should be used to identify uneconomic production because the thresholds in those sections apply to offer parameters that can be used to cause a unit to produce uneconomically. Specifically, lengthening the minimum-run time of a unit can compel MISO to keep a unit on even if it is no longer economic, and pay the supplier a make-whole payment as a result. MISO adds that other time-based and physical parameters can be used in a similar manner.¹³³

114. In its Post-Technical Conference Comments, the IMM explains why MISO proposes to replace the “or” previously concluding section 64.1.3.a.i with “and.” According to the IMM, this revision limits the circumstances in which resources are subject to mitigation. The IMM explains that such a reduction of circumstances triggering mitigation is necessary because there are many reasons why the criteria in section 64.1.3.a.i could occur that are unrelated to the conduct by the participant. The IMM provides the example of a resource that, in response to a fall in LMP, may elect to run at its Economic Minimum even when the LMP is less than 50 percent of the applicable reference level. For mitigation to be appropriate, according to the IMM, such a resource should be engaging in conduct to cause the uneconomic production, conduct identified in sections 64.1.3.a.i(a), 64.1.3.a.i(b), or 64.1.3.a.i(c).¹³⁴

115. In its Technical Conference Presentation, the IMM explains that existing mitigation for resources in Narrow Constrained Areas and Broad Constrained Areas would continue as currently specified. The IMM also states that units committed for

¹³¹ MISO ER12-679-000 Answer at 5-7.

¹³² MISO May 10, 2012 response to the Commission’s April 20, 2012 Supplemental Notice at 7.

¹³³ *Id.*

¹³⁴ MISO Post-Technical Conference Comments at 4-5.

VLR would be mitigated pursuant to the proposed VLR mitigation and could not be further mitigated under Broad Constrained Area or Narrow Constrained Area mitigation.¹³⁵

3. Commission Determination

116. We conditionally accept MISO's proposed revisions to sections 64.1.3.a, 64.1.2, and 64.2.1 of the Tariff. We note that no intervenors opposed any of MISO's proposed new mitigation thresholds. We find that MISO's proposed new section 64.1.2.g of the Tariff, which contains thresholds for identifying economic withholding by a generation resource for a VLR commitment, is just and reasonable. We find that the proposed conduct thresholds, including the proposed threshold of a ten percent increase in total production costs due to an increase in the generation offer from the reference level, are appropriate given the ability of resources committed for VLR to exercise market power, as described by MISO and the IMM. We find that more stringent economic withholding thresholds will prevent market participants with such resources from abusing their market power by submitting bid levels or bidding parameters substantially different from those in their reference levels. We note that MISO's proposal of additional mitigation thresholds appears to have been successful in limiting uncompetitive offers.¹³⁶

117. Additionally, we find that MISO's proposed revisions to Section 64.1.3.a.i to add additional uneconomic production mitigation thresholds are just and reasonable. Although these provisions apply to all mitigated resource commitments and not specifically to VLR commitments, MISO has sufficiently explained that these provisions are necessary to better target uneconomic production mitigation thresholds. As MISO describes, in certain circumstances resources could violate the threshold in section 64.1.3.a.i for reasons other than the abuse of market power. As such, we conclude that it is appropriate that they must also violate at least one of the thresholds in sections 64.1.3.a.i(a), 64.1.3.a.i(b), or 64.1.3.a.i(c) in addition to violating the section 64.1.3.a.i threshold to warrant mitigation.

118. We also find that MISO's proposed revisions to Section 64.2.1 of the Tariff, which eliminate the impact test for VLR commitments, are just and reasonable. We agree with MISO that such revisions are appropriate given the degree of potential exercise of market power possessed by certain VLR resources. We note that if market participants disagree with the mitigation of their resource, they may use the dispute resolution features in

¹³⁵ IMM Technical Conference Presentation at 4.

¹³⁶ *Id.* at 3.

section 67 of the Module D mitigation measures of MISO's Tariff or file a complaint at the Commission based on section 206 of the Federal Power Act.

119. We disagree with JPMorgan's argument that neither MISO nor the IMM have sufficiently demonstrated that the resources identified in MISO's filing possess market power. The IMM has analyzed the market behavior of units providing VLR commitments for several years and discussed them with market participants.¹³⁷ We find this analysis, which concluded that the significant increase in RSG payments was the result of the exercise of market power, to be a sufficient basis for determining that revised conduct and impact thresholds are necessary. The record of this proceeding provides further support for the IMM's findings. For example, MISO provides analysis that VLR issues in the Marquette, Michigan and Escanaba, Michigan area required VLR commitments in 310 and 274 days respectively in the period between April 2011 and March 2012.¹³⁸ We agree with the IMM that because market participants owning such resources know that their resources are frequently needed for VLR purposes irrespective of whether they are economic, they possess substantial market power.

120. We will not require MISO to apply mitigation based on a pivotal supplier test and/or dynamic market structure test, as Midwest TDUs and JPMorgan request. As MISO explains, its VLR Commitment definition identifies those resource commitments that are not procured via MISO's competitive markets and for which local market power exists.¹³⁹ Further, as the Commission has explained with regard to similar mitigation measures in NYISO, "market power exists during periods when generators are needed for reliability, are committed out of the market, and are able to recover bids that exceed their marginal costs," and in those situations, "there is no dispute that it possesses market power, and thus mitigation may be required."¹⁴⁰ Midwest TDUs' concerns regarding the exercise of market power associated with reliability issues that are not *local* in nature are beyond the scope of this proceeding regarding VLR commitments. Moreover, Midwest TDUs have not demonstrated that MISO's existing Broad Constrained Area and Narrow Constrained Area mitigation is insufficient to address any such market power.

¹³⁷ See IMM ER12-679-000 Affidavit at P 11-16, citing analysis in the *2010 State of the Market Report*.

¹³⁸ MISO May 10, 2012 Pre-Conference Submission Tab A.

¹³⁹ MISO ER12-679-000f Answer at 8.

¹⁴⁰ *New York Indep. Sys. Operator, Inc.*, 133 FERC ¶ 61,030 at P 52.

121. With respect to JPMorgan's overmitigation concern, we find that restricting VLR mitigation to commitments from resources that MISO has flagged as committed for VLR purposes is sufficient to prevent overmitigation. Additionally, in the event that market participants disagree with the IMM's determinations, section 67 of the Tariff contains dispute resolution procedures for mitigated offers.

122. We disagree with JPMorgan that section 64.1.2(g) should be reworded to remove the discretion that economic withholding "may warrant" mitigation because of the discretion such language confers on MISO. This language reflects that the thresholds in section 64.1.2(g) are minimum thresholds for mitigation and that an impact test must also be violated for mitigation to occur. Additionally, the "may warrant" phrase that JPMorgan protests is consistent with previously approved language in sections 63.3.a, 63.3.d, and 64.1.3 of the Tariff. We also conclude that such discretion is appropriate to prevent overmitigation. Section 64.3.a requires that the IMM contact market participants who have violated mitigation thresholds to determine if there is a legitimate basis for their offer characteristics prior to applying mitigation. According to section 64.3.b, if the resulting explanation satisfies the IMM that the questioned conduct is consistent with competitive behavior, no further action will be taken.

123. In response to JPMorgan's concerns regarding the duration of VLR mitigation, MISO clarified that VLR mitigation measures are applicable for the duration of the VLR commitment period, regardless of when the VLR concerns are satisfied. Due to minimum run times, the commitment periods for VLR resources may exceed the VLR event. We agree with MISO that VLR commitments should be subject to mitigation for the duration of their commitment periods. To clarify this point, we direct MISO, in its compliance filing, to revise section 64.1.2.g to state "Economic withholding of Generation Resources needed for Voltage and Local Reliability may warrant mitigation for the duration of their commitment periods...."

124. JPMorgan's arguments regarding whether MISO's existing determination of reference levels under section 64.1.4 of the Tariff appropriately accounts for certain fuel supply arrangements are beyond the scope of this proceeding. MISO does not propose modifications to its existing determination of reference levels pursuant to section 64.1.4 of the Tariff, and JPMorgan's concerns are unrelated to MISO's VLR mitigation proposal. Additionally, as MISO points out, section 64.1.4a.ii of the Tariff, contains provisions to address JPMorgan's concerns. Specifically, the reference level can be determined in consultation with the market participant to reflect a unit's marginal costs, including legitimate risks and opportunity costs or justifiable technical characteristics for physical offer parameters.

125. We disagree with Midwest TDUs' concern that MISO's reference level determination standards may not be appropriate in the context of market power to exploit a recurring constraint. The IMM explains that in instances where resources are

frequently committed for VLR, it would be appropriate to exclude offers from reference level determinations, and that reference levels should be based on production cost information. Based on the IMM's explanations, we consider the IMM's determination of reference levels based on production costs during uncompetitive periods to be reasonable and we find that sections 64.1.4a(ii) and 64.1.4b of the Tariff sufficiently describe how the reference level can be determined where insufficient data exists to calculate the reference level based on previously accepted offers.

126. We note that our conditional acceptance of the proposed mitigation measures does not apply to all resources committed on transmission facilities of less than 100 kV. As discussed in the VLR Commitment Definition section above, the mitigation measures will only apply to VLR commitments on these lower voltage transmission lines.

127. We agree with MISO that the proposed mitigation measures for VLR commitments should not apply to IROL commitments. These commitments are intended to resolve market-wide constraints and therefore the Broad Constrained Area and Narrow Constrained Area conduct and impact thresholds for energy commitments are applicable for IROL commitments.

128. With respect to MidAmerican's concerns regarding the applicability of MISO's proposed VLR mitigation provisions outside of Narrow Constrained Areas and Broad Constrained Areas, we find that MISO intended for VLR mitigation to extend to the entire MISO footprint. As described in the IMM's Technical Conference Presentation¹⁴¹ we find that VLR mitigation should be distinct from Narrow Constrained Area and Broad Constrained Area mitigation. We find that the application of VLR mitigation throughout the MISO footprint is just and reasonable, since the need for commitments to address VLR issues could occur outside of or within Narrow Constrained Areas and Broad Constrained Areas. We agree with MidAmerican that existing provisions in Module D of the Tariff may limit mitigation to Narrow Constrained Areas and Broad Constrained Areas. Accordingly, we direct MISO to, in its compliance filing, either explain why existing Module D provisions do not limit mitigation to Narrow Constrained Areas and Broad Constrained Areas or propose revisions to such provisions to the extent necessary to enable VLR mitigation throughout the MISO footprint.

129. We find the proposed clean-up revisions of MidAmerican, which MISO agrees to make, to be reasonable. We also agree with MidAmerican that replacing "total production costs" in section 64.1.2.g.i with "Production Cost and Operating Reserve Cost" clarifies the section by using defined terms. We require that these revisions be submitted in the compliance filing.

¹⁴¹ IMM Technical Conference Presentation at 4.

E. Report on Possible Over-Compensation of Resources

130. During the course of this proceeding, it has come to the Commission's attention that the MISO Tariff's current Day-Ahead and Real-Time RSG credit calculations do not net revenues realized by resources during must-run hours against revenue shortfalls in Security Constrained Unit Commitment Instructed Hours within each day. According to section 39.3.2B of the Tariff:

If the Production Cost and Operating Reserve Cost of a Generation Resource, Demand Response Resource – Type I or Demand Response Resource – Type II exceeds the revenue received in the Day-Ahead Energy and Operating Reserve Market over Security Constrained Unit Commitment Instructed Hours of Operation in the Day for the Resource, then the market participant's revenue from the Day-Ahead Energy and Operating Reserve Market shall be augmented by an additional payment, called the Day-Ahead Revenue Sufficiency Guarantee Credit, in the amount of the shortfall for that Resource.

131. Section 40.2.19 of the Tariff similarly defines the Real-Time RSG Guarantee Credit as being based on only Security Constrained Unit Commitment hours of operation. We are concerned that to the extent that the Day-Ahead and Real-Time RSG credit calculations do not account for revenues obtained during must-run hours, which are not committed through the Security Constrained Unit Commitment process, RSG credits could be larger and more frequent than are necessary to make resources whole.

132. We direct MISO and the IMM to file an informational report within 30 days of the date of this order which includes a discussion of: (1) whether the lack of inclusion of must-run period revenue in Day-Ahead and Real-Time RSG credit calculations inappropriately provides more compensation than is necessary to make resources whole; (2) the frequency and magnitude of such possible over-compensation; (3) an explanation of any other revenues, besides must-run revenues, that are excluded from Day-Ahead and Real-Time RSG credit calculation and; (3) a discussion of any secondary consequences that might accrue from potential revisions to the Tariff that would require the inclusion of must-run period revenue or other revenues in RSG credit calculations; and resulting

changes to the short- and long-term price signals and incentives for resources committed for VLR to follow economic dispatch.¹⁴²

The Commission orders:

(A) MISO's proposed Tariff revisions in Docket Nos. ER12-678-000 and ER12-679-000 are hereby accepted to be effective September 1, 2012, subject to a compliance filing, as discussed in the body of this order.

(B) MISO is hereby directed to submit a compliance filing, within 30 days of the date of this order, as discussed in the body of this order.

(C) MISO is hereby directed to submit an informational report 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.

¹⁴² The filing will be for informational purposes only. The Commission will not notice the filing, nor accept comment on it, and filing will not require Commission action.

Appendix A

Motions to Intervene and Notices of Intervention (Docket No. ER12-678-000)

Alliant Energy Corporate Services Inc. (Alliant)
American Electric Power Service Corporation (AEP)
American Municipal Power Inc. (AMP)
American Transmission Company, LLC (ATC)
American Wind Energy Association (AWEA)
Calpine Corporation (Calpine)
Constellation Energy Commodities Group, Inc. and Constellation NewEnergy Inc.
(jointly, Constellation)
Consumers Energy Company (Consumers)
Dairyland Power Cooperative (Dairyland)
Detroit Edison Company (Detroit Edison)
Duke Energy Corporation, on behalf of Duke Energy Kentucky, Inc., Duke Energy Ohio,
Inc., Duke Energy Indiana, Inc., and Duke Energy Business Services, LLC
(collectively, Duke)
Dynergy Power Marketing, LLC (Dynergy)
E.ON Climate & Renewables North America, LLC (E.ON)
Exelon Corporation (Exelon)
Iberdrola Renewables, Inc. (Iberdrola)
Invenergy Wind Development North American LLC and Invenergy Thermal
Development LLC (collectively, Invenergy)
NextEra Energy Resources LLC (NextEra)
Tatanka Wind Power LLC (Tatanka)

Motions to Intervene and Comments or Protests in Docket No. ER12-678-000

Ameren Services Company (Ameren)
DC Energy Midwest LLC (DC Energy)
Hoosier Energy Rural Electric Cooperative, Inc. (Hoosier)
Madison Gas and Electric Company, Missouri Electric Utility Commission, Missouri
Joint Municipal Electric Utility Commission, Missouri River Energy Services, and
WPPI Energy (jointly, Midwest TDUs)
MidAmerican Energy Company (MidAmerican)
Southern Illinois Power Cooperative (SIPC)
Westar Energy Inc. (Westar)
Wisconsin Electric Power Company (Wisconsin Electric)
Wisconsin Public Service Corporation and Upper Peninsula Power Company (WPSC)
Xcel Energy Services Inc. (Xcel)

Motions to Intervene and Notices of Intervention (Docket No. ER12-679-000)

AEP
Alliant
Ameren
AMP
Calpine
Constellation
Consumers
Dairyland
Detroit Edison
Duke
Dynegy
E.ON
Exelon
Hoosier
Invenergy
NextEraOtter Tail Power Company
Tatanka

Motions to Intervene and Comments or Protests in Docket No. ER12-679-000

AWEA
DC Energy
Iberdrola
JPMorgan Ventures Energy Corporation and BE KJ LLC (JPMorgan)
MidAmerican
Midwest TDUs
Westar
Wisconsin Electric
Xcel