147 FERC ¶ 61,046
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Cheryl A. LaFleur, Acting Chairman;
Philip D. Moeller, John R. Norris,
and Tony Clark.

Midcontinent Independent System Operator, Inc. Docket No. ER13-2233-001

ORDER ACCEPTING PROPOSED TARIFF REVISIONS AND GRANTING EXTENSION OF TIME

(April 17, 2014)

1. In this order, we accept the revisions of Midcontinent Independent System Operator, Inc. (MISO) to its Open Access Transmission, Energy and Operating Reserve Markets Tariff (Tariff) to comply with the Commission's October 22, 2013 order.[1] The October Order accepted in part and rejected in part MISO's proposed Tariff revisions to comply with the requirements of Order No. 764.[2] We also grant MISO's requested extension of time to comply with the requirement in Order No. 764 and the October Order to implement intra-hourly transmission scheduling at 15-minute intervals, subject to the submission of a status report by May 1, 2014, and a further compliance filing by June 30, 2014.

I. Background

A. Order No. 764

2. On June 22, 2012, the Commission issued Order No. 764, which requires each public utility transmission provider to: (1) offer intra-hourly transmission scheduling at 15-minute intervals; and (2) incorporate provisions into the *pro forma* Large Generator Interconnection Agreement (LGIA) requiring interconnection customers whose

---

[1] *Midcontinent Indep. Sys. Operator, Inc.*, 145 FERC ¶ 61,064 (2013) (October Order).

[2] *Integration of Variable Energy Resources*, Order No. 764, 77 FR 41482 (2012), FERC Stats. & Regs. ¶ 31,331, *order on reh'g*, Order No. 764-A, 141 FERC ¶ 61,232 (2012), *order on reh'g*, Order No. 764-B, 144 FERC ¶ 61,222 (2013).

generating facilities are variable energy resources (VER)[3] to provide meteorological and forced outage data to the public utility transmission provider for the purpose of power production forecasting. The Commission also provided guidance regarding the development and evaluation of proposals related to recovering the costs of regulation reserves associated with VER integration.[4]

3. The reforms adopted in Order No. 764 were designed to remove barriers to the integration of VERs and to ensure that the rates, terms, and conditions for Commission-jurisdictional services provided by public utility transmission providers are just and reasonable and not unduly discriminatory or preferential.[5] Upon noting the increasing number of VERs being brought online, the Commission found that reforms were needed to ensure that transmission customers are not exposed to excessive or unduly discriminatory charges, and that public utility transmission providers have the information needed to efficiently manage reserve-related costs.

4. On December 20, 2012, the Commission issued Order No. 764-A, largely affirming the reforms adopted in Order No. 764. Among other things, Order No. 764-A extended the deadline for compliance with Order No. 764 to November 12, 2013.[6] On September 19, 2013, the Commission issued Order No. 764-B, which granted in part and denied in part the requests for clarification and denied the requests for rehearing of the Commission's determinations in Order No. 764-A.[7]

B. MISO's Compliance Filings

5. On August 23, 2013 (August 23 Filing), MISO filed several amendments to its Tariff as part of its effort to comply with Order No. 764. In the October Order, the Commission accepted in part and rejected in part MISO's proposed Tariff revisions,[8] and

---

[3] Order No. 764 defines a Variable Energy Resource as a device for the production of electricity that is characterized by an energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator. Order No. 764, FERC Stats. & Regs. ¶ 31,331 at P 210.

[4] *Id.* P 4.

[5] *Id.* P 1.

[6] Order No. 764-A, 141 FERC ¶ 61,232 at P 8.

[7] Order No. 764-B, 144 FERC ¶ 61,222.

[8] October Order, 145 FERC ¶ 61,064 at P 18.

directed MISO to submit a compliance filing consistent with certain guidance provided, as discussed below.[9] MISO filed its compliance filing on December 27, 2013 (December 27 Filing).

II. Notice of Filing

6. Notice of MISO's filing was published in the *Federal Register*, 79 Fed. Reg. 652 (2014), with interventions and protests due on or before January 7, 2014. Exelon Corporation filed a timely motion to intervene.

III. Discussion

A. Procedural Matters

7. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2013), Exelon Corporation's unopposed, timely motion to intervene serves to make it a party to this proceeding.

B. Substantive Matters

1. Intra-Hour Scheduling

a. Order No. 764

8. In Order No. 764, the Commission amended the *pro forma* Open Access Transmission Tariff (OATT) to provide all transmission customers the option of using more frequent transmission scheduling within each operating hour, at 15-minute intervals.[10] The Commission found transmission customers' inability to adjust their transmission schedules within the hour to reflect changes in generation output can cause charges for Schedule 9 generator imbalance service to be unjust and unreasonable or unduly discriminatory. Thus, this reform was designed to allow transmission customers the flexibility to adjust their transmission schedules, in advance of real-time, to reflect the variability of output in generation, more accurate power production forecasts, and other changes in load profiles and system conditions.[11] It was also designed to allow public utility transmission providers, over time, to use fewer reserves to maintain overall system

---

[9] *Id.* P 25. On November 1, 2013, MISO submitted a motion for an extension of time, until December 27, 2013, to comply with the October Order. On November 7, 2013, the Commission granted MISO's motion.

[10] Order No. 764, FERC Stats. & Regs. ¶ 31,331 at P 91.

[11] *Id.* PP 92-93.

balance.[12] Finally, the Commission implemented this reform to ensure that charges for generator imbalance service under Schedule 9 of the *pro forma* OATT and for other ancillary services through which reserve-related costs are recovered are just and reasonable and are not unduly discriminatory.

9. In response to concerns regarding the cost of implementing intra-hour scheduling and possibly required changes in settlement procedures, the Commission stated, in Order No. 764, that to the extent a public utility transmission provider believes that aligning the imbalance settlement with the intra-hour scheduling interval or implementing sub-hourly dispatch will result in more efficient operations, provide appropriate price signals to customers, or address other potential issues, it may seek any authorizations necessary from the Commission to do so under section 205 of the FPA. Such a proposal could be submitted contemporaneously with the compliance filing in response to Order No. 764.[13] In addition, in response to requests for regional variation in scheduling protocols, the Commission acknowledged that future market enhancements in addition to existing 30-minute scheduling practices and other tools might yield equivalent or greater benefits to transmission customers and public utility transmission providers when reducing the scheduling interval from 30 to 15 minutes and thus could be consistent with or superior to Order No. 764's intra-hour scheduling requirements. Thus, the Commission affirmed the ability of a public utility transmission provider to submit alternative proposals that are consistent with or superior to the intra-hour scheduling requirements. Specifically, the Commission required that a public utility transmission provider demonstrate on compliance how its proposal provides equivalent or greater opportunities for transmission customers to mitigate Schedule 9 generator imbalance charges, and for the public utility transmission provider to lower its reserve-related costs, compared to market practices already in place within the region.[14]

b. August 23 Filing and October Order

10. In its August 23 Filing, MISO filed several amendments to its Tariff to comply with the requirements of Order No. 764 with respect to the implementation of intra-hourly transmission scheduling at 15-minute intervals. MISO proposed modifying its

---

[12] *Id.* P 95.

[13] *Id.* P 105.

[14] *Id.* PP 106-107.

Tariff such that Interchange Schedules[15] could be submitted up to 20 minutes prior to the start of the :00 and :15 schedules. However, MISO stated that it would retain existing Tariff provisions that disallow submission of schedules past the beginning of the hour, so that the :30 and :45 schedules must be made at least 30 minutes and 45 minutes prior to their start, respectively. MISO based its retention of this restriction on economic studies conducted in 2007 and 2008 by its Independent Market Monitor (IMM). According to MISO, those studies revealed that intra-hour scheduling without such a restriction contributed to price volatility and inefficient transactions that did not contribute to price convergence between the MISO and PJM Interconnection, L.L.C. (PJM) markets.[16]

11. In the October Order, the Commission found that MISO's proposal to maintain its existing scheduling limitations that disallow schedule submission after the start of the hour for :30 and :45 schedules does not comply with the scheduling requirements of Order No. 764.[17] The Commission noted that Order No. 764 allows transmission providers to seek to retain existing tariff provisions or to submit alternative proposals to comply with Order No. 764's intra-hour scheduling requirements,[18] but found that this language did not support MISO's proposal to require notification periods for the :30 and :45 schedules that are longer and different than required by the *pro forma* OATT.[19]

c. <u>December 27 Filing</u>

12. In the December 27 Filing, MISO requests an extension of time to fully implement the intra-hour scheduling protocols required by Order No. 764. In particular, MISO proposes to temporarily retain its existing restriction that disallows the submission of schedules past the start of the hour while MISO develops, files, and implements a process

---

[15] MISO's Tariff defines "Interchange Schedule" as "an Import Schedule, Export Schedule, or Through Schedule." *See* Order No. 764, FERC Stats. & Regs. ¶ 31,331 at P 113 ("the implementation of 15-minute scheduling will only apply to intertie transactions in organized wholesale energy markets.").

[16] *See* October Order, 145 FERC ¶ 61,064 at PP 10-11. The Commission approved MISO's codification of this restriction in its Tariff in *Midwest Indep. Transmission Sys. Operator, Inc.*, 128 FERC ¶ 61,279 (2009).

[17] October Order, 145 FERC ¶ 61,064 at PP 18-19.

[18] *Id.* P 20 (citing Order No. 764, FERC Stats. & Regs. ¶ 31,331 at P 374).

[19] *Id.*

for the sub-hourly settlement of Interchange Schedules.[20] MISO states that it commits to implement a sub-hourly settlement process that complies fully with the scheduling requirements of Order No. 764. MISO states that it intends to engage with its stakeholders "immediately" to consider a range of potential sub-hourly settlement approaches, but believes "it will be most feasible, over the near-term, to move to 15-minute settlements for external transactions only, and that such settlements can be implemented in a relatively accelerated timeframe."[21] However, MISO states the implementation of such a process is complex and requires additional time.

13. In describing its process for implementing sub-hourly settlement of Interchange Schedules, MISO identifies seven steps, which include stakeholder engagement and the development, vetting, filing, and implementation of proposed market rules and associated software changes. MISO estimates that the first step – developing a sub-hourly settlement process with its stakeholders – will last four to six months, and MISO commits to providing the Commission with a progress report by May 1, 2014. MISO also commits to submitting a filing containing new sub-hourly settlement rules by June 30, 2014, barring unforeseen circumstances. MISO anticipates that it can fully implement the new sub-hourly settlement system within six to 12 months following this filing date (i.e., between December 30, 2014 and June 30, 2015). MISO explains that, given the expected complexity of the changes to its scheduling and settlement systems, it cannot commence implementing changes to these systems until after receipt of a Commission order accepting its final Tariff modifications.[22]

14. MISO states that it understands the Commission's concerns with existing limitations on intra-hour scheduling changes in its markets, but argues that removing these Commission-accepted Tariff provisions without providing for sub-hourly settlement at its interties would result in the resumption of the uneconomic behavior and operational issues that led to the current restriction.[23] Prior to 2009, MISO allowed market participants to submit intra-hour schedules no later than 30 minutes prior to each 15-

[20] MISO December 27 Filing, Transmittal Letter (Transmittal Letter) at 9. MISO currently settles intra-hour Interchange Schedules on an average hourly basis. This settlement procedure provides that each 15-minute interval contributes 25 percent to the total hourly price.

[21] *Id.* at 8.

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

[23] *Id.* at 4.

minute scheduling interval (e.g., schedules starting at :45 were due by :15).[24] MISO states that the current prohibition on intra-hour scheduling stems from observations made by its IMM during 2006 and 2007. According to the IMM, a large portion of the intra-hour schedules were occurring in the fourth quarter of the hour because market participants were adjusting their schedules in the fourth quarter of the hour after seeing the prices at the beginning of the hour.[25] MISO states that, with respect to exports from MISO scheduled in the fourth quarter of the hour, prices increased by an average of roughly 40 percent, exacerbated real-time price volatility, and impeded price convergence between the MISO and PJM markets.[26] MISO argues that complete compliance with the scheduling requirements of Order No. 764, without first adopting sub-hourly settlements at its interties, would only exacerbate the effects observed in 2006 and 2007, given that MISO's notification deadline has now been reduced to 20 minutes.[27]

15. Additionally, MISO contends that the interim retention of the prohibition on intra-hour scheduling changes for intertie transactions will not adversely affect VERs. MISO asserts that VERs within MISO generally do not use point-to-point transmission service to integrate their resources. Rather, MISO states, the vast majority of VERs are Dispatchable Intermittent Resources under the Tariff, which are scheduled and dispatched within the MISO market, where energy is delivered using network transmission service.[28] MISO explains that, for each five-minute dispatch interval, these resources provide a forecast maximum limit with their energy offer to indicate the maximum level at which they expect to be able to operate, and that these resources may change these limits up to ten minutes before each dispatch interval. MISO states that Dispatchable Intermittent Resources are assessed energy imbalance penalties (i.e., Excessive/Deficient Energy Deployment Charges) only if their average output misses its dispatch targets by more than an eight percent tolerance band for at least four consecutive dispatch intervals. For non-dispatchable VERs (i.e., Intermittent Resources), MISO explains that it generally exempts these resources from Excessive/Deficient Energy Deployment Charges.

---

[24] MISO December 27 Filing, Attachment A, Affidavit of David B. Patton, Ph.D. (Patton Affidavit) at 5. Dr. Patton is an economist and president of Potomac Economics, which serves as the IMM for MISO.

[25] Patton Affidavit at 6-7.

[26] Transmittal Letter at 6; Patton Affidavit at 9.

[27] Transmittal Letter at 6-7.

[28] Transmittal Letter at 9; Patton Affidavit at 3-4.

16. For VERs located outside MISO, MISO claims that any adverse effects of the current restrictions on intra-hour scheduling are outweighed by the benefits of such rule.[29] Further, while conceding that the scheduling flexibility as envisioned by the Commission in Order No. 764 could potentially benefit participants that are importing into MISO utilizing point-to-point schedules, MISO's IMM notes these transaction comprise a *de minimis* portion of the total VERs that serve the MISO market.[30] To that end, MISO asserts that price volatility resulting from the scheduling behavior described by the IMM would affect VERs the most because they cannot respond to price spikes as well as other generators. Thus, MISO states, adopting MISO's proposal for Interchange Schedule submission would be consistent with the objectives of Order No. 764.[31]

d. Commission Determination

17. We will grant MISO's request for an extension of time to fully comply with the scheduling directives of the October Order. In Order No. 764, the Commission declined to require the implementation of sub-hourly settlement or other reforms that may yield additional benefits for public utility transmission providers and their customers, recognizing these reforms may have significant costs.[32] However, the Commission stated that "[t]o the extent a public utility provider believes aligning the imbalance settlement with the intra-hour scheduling interval or implementing sub-hourly dispatch will result in more efficient operations, provide appropriate price signals to customers, or address other potential issues, it may seek any authorizations necessary from the Commission to do so under section 205 of the FPA."[33] We agree with MISO's assertion that its transition to sub-hourly settlement will likely create a better market environment for transmission customers at the interties of MISO's market. Accordingly, we will accept MISO's interim prohibition on intra-hour schedules as this will prevent a return to the scheduling practices and associated market distortions described by the MISO IMM. MISO has explained why this prohibition will not pose harm to the majority of VER generators.

---

[29] Transmittal Letter at 13; Patton Affidavit at 14.

[30] Patton Affidavit at 4.

[31] *Id.* at 14.

[32] *See* Order No. 764, FERC Stats. & Regs. ¶ 31,331 at P 98.

[33] *Id.* P 105.

18. Consistent with MISO's proposal, we will require MISO to submit (1) a status report regarding the outcome of ongoing stakeholder negotiations by May 1, 2014; and (2) a compliance filing by June 30, 2014 amending the MISO Tariff to provide sub-hourly settlements that brings MISO into full compliance with Order No. 764.

2. Data Reporting to Support Power Production Forecasting

a. Order No. 764

19. In Order No. 764, the Commission amended the *pro forma* LGIA to require new interconnection customers whose generating facilities are VERs to provide meteorological and forced outage data to the public utility transmission provider with which the customer is interconnected.[34] Such data would only be required where it is necessary for that public utility transmission provider to develop and deploy power production forecasting. This reform was designed to facilitate public utility transmission providers' use of power production forecasts, which the Commission found can provide public utility transmission providers with advanced knowledge of system conditions needed to manage the variability of VER generation through the unit commitment and dispatch process, rather than through the deployment of more costly reserve service, such as regulation reserves. In requiring this change to the *pro forma* LGIA, the Commission specified that reporting requirements for meteorological and forced outage data would be set forth in Appendix C, Interconnection Details, of an LGIA, as they may change from time to time.[35] The Commission declined to modify existing LGIAs or to require changes to the *pro forma* OATT,[36] upon finding that such changes would, in effect, impose the data reporting requirements on existing interconnection customers, including small generator interconnection customers, retroactively.[37]

20. In Order No. 764, the Commission stated that the flexibility of providing meteorological and forced outage data requirements in business practices or market rules is not a superior alternative in implementing the reforms of Order No. 764.[38] Rather, the Commission addressed public utility transmission providers' need for flexibility by requiring the reporting requirement to be set forth in Appendix C of the LGIA.

---

[34] Order No. 764, FERC Stats. & Regs. ¶ 31,331 at P 3.

[35] *Id.* P 193.

[36] *Id.* P 195.

[37] *Id.* P 196.

[38] *Id.* P 194.

Appreciating that public utility transmission providers in some regions have already implemented meteorological or forced outage data requirements in their business practices and market rules, the Commission allowed public utility transmission providers to demonstrate on compliance how continued use of such practices is consistent with or superior to the requirements of Order No. 764.[39]

b. August 23 Filing and October Order

21. In addition to the revisions related to intra-hour schedule submission, MISO's August 23 Filing proposed modifications to Attachment X (Generator Interconnection Procedures) of its Tariff and its *pro forma* LGIA. MISO proposed to include the definition of a VER in section 1 of Attachment X and Article 1 of the MISO *pro forma* LGIA. MISO also proposed to add Article 8.4 "Provision of Data from a [VER]" to the LGIA, as adopted by the Commission in Order No. 764, but with some non-conforming language.[40]

22. In the October Order, the Commission found that MISO had not shown that its non-conforming change to Article 8.4 of the *pro forma* LGIA, which placed meteorological and forced outage data requirements in both MISO's Business Practices Manuals and Appendix C of its LGIA without clarifying whether such requirements would be divided between or duplicated in both locations, was consistent with or superior to the requirements of Order No. 764.[41] The Commission noted that such a revision to Article 8.4 would allow MISO to unilaterally modify VERs forecast data requirements via changes in its Business Practice Manuals. However, the Commission did conditionally accept MISO's proposal to modify certain portions of Article 8.4 in order to make some data elements (which otherwise would have been always required) only required if requested by the transmission provider. The Commission's acceptance was subject to MISO clarifying that it will negotiate with the interconnection customer about which of the data elements MISO requires prior to executing the interconnection agreement, so that MISO is not unilaterally imposing requirements not memorialized in the *pro forma* LGIA.

---

[39] *Id.*

[40] October Order, 145 FERC ¶ 61,064 at P 12. *See* Order No. 764, FERC Stats. & Regs. ¶ 31,331 at P 210.

[41] October Order, 145 FERC ¶ 61,064 at P 24.

c. December 27 Filing

23. In the December 27 Filing, MISO submitted several changes to its Tariff to comply with the October Order. Among those changes, MISO proposes to delete the references to its Business Practices Manuals in the last sentence of Article 8.4 of its *pro forma* LGIA so that requirements for meteorological and forced outage data will only be placed in Appendix C of the LGIA. Also, MISO added language to that sentence to provide for negotiation between MISO and an interconnecting customer in determining what data requirements should be required.[42] Thus, MISO proposes to revise Article 8.4 of its *pro forma* LGIA to read, in part: "Data requirements for meteorological and forced outage data will be negotiated by the Transmission Provider and the Interconnection Customer, and will be set forth in Appendix C, Interconnection Details, of this LGIA."[43]

d. Commission Determination

24. We find that MISO's revisions to Article 8.4 of its LGIA comply with the directives of the October Order and will accept them as just and reasonable. As directed in the October Order, MISO has revised Article 8.4 of the LGIA to stipulate that data requirements for meteorological and forced outage data "will be negotiated by the Transmission Provider and the Interconnection Customer." Additionally, we find that MISO's proposed deletion of references to Business Practices Manuals adequately eliminates any confusion over the location of meteorological and forced outage data required by Order No. 764.

<u>The Commission orders</u>:

(A) MISO's proposed revisions to Article 8.4 of its *pro forma* LGIA in compliance with the October Order are hereby accepted for filing.

(B) MISO is hereby granted an extension of time until June 30, 2015, to fully comply with the directives in the October Order and Order No. 764 regarding 15-minute

[42] Transmittal Letter at 12.

[43] MISO Tariff, Attachment X, Appendix 6, Article 8.4.

scheduling, subject to the submission of a status report by May 1, 2014 and a compliance filing by June 30, 2014, as discussed in the body of this order.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.