168 FERC ¶ 61,173
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Neil Chatterjee, Chairman;
Richard Glick and Bernard L. McNamee.

EDF Renewable Energy, Inc. Docket Nos. EL18-26-000
v.
Midcontinent Independent System Operator, Inc.,
Southwest Power Pool, Inc., and PJM Interconnection,
L.L.C.

Reform of Affected System Coordination in the Generator Interconnection Process AD18-8-000

ORDER ON COMPLAINT AND TECHNICAL CONFERENCE

(Issued September 19, 2019)

1. On October 30, 2017, EDF Renewable Energy, Inc. (EDF)[1] filed a complaint (Complaint), pursuant to sections 206 and 306 of the Federal Power Act (FPA)[2] and Rule 206 of the Commission's Rules of Practice and Procedure,[3] against Midcontinent Independent System Operator, Inc. (MISO), Southwest Power Pool, Inc. (SPP), and PJM Interconnection, L.L.C. (PJM). EDF requests that the Commission order MISO, SPP, and PJM to file revisions to their respective open access transmission tariffs (tariff) and Joint Operating Agreements (JOA) in order to reform their interconnection coordination procedures with each other as Affected Systems.[4] On February 2, 2018, the Commission

[1] EDF has since changed its name to EDF Renewables, Inc.

[2] 16 U.S.C. §§ 824e, 825e (2018).

[3] 18 C.F.R. § 385.206 (2019).

[4] An Affected System is an electric system other than the transmission provider's transmission system that may be affected by the proposed interconnection. *See Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, 104 FERC ¶ 61,103, at P 29 n.32 (2003), *order on reh'g*, Order No. 2003-A, 106 FERC ¶ 61,220, *order on reh'g*, Order No. 2003-B, 109 FERC ¶ 61,287 (2004), *order on reh'g*, Order No. 2003-C, 111 FERC ¶ 61,401 (2005), *aff'd sub nom. Nat'l Ass'n*

issued an order directing Commission staff to convene a technical conference to explore issues raised in the Complaint related to the Affected Systems coordination procedures contained in the MISO, SPP, and PJM tariffs, the MISO-SPP JOA, and the MISO-PJM JOA, as well as the Affected Systems coordination issues raised in the Notice of Proposed Rulemaking (NOPR) issued in Docket No. RM17-8-000.[5] On April 3 and 4, 2018, Commission staff convened the technical conference in Docket Nos. EL18-26-000 and AD18-8-000.

2. For the reasons discussed below, we grant the Complaint in part, deny the Complaint in part, and direct MISO, SPP, and PJM to make compliance filings within 60 days of the date of this order, as described further herein. We also decline to initiate a generic proceeding at this time on the broader Affected Systems coordination issues raised in the NOPR and the technical conference and, therefore, terminate Docket No. AD18-8-000.

I. Background

A. Affected Systems Coordination

3. In Order No. 2003, the Commission required each public utility that owns, controls, or operates facilities used for transmitting electric energy in interstate commerce to amend its tariff to include interconnection procedures and an interconnection

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of Regulatory Util. Comm'rs v. FERC, 475 F.3d 1277 (D.C. Cir. 2007), *cert. denied*, 552 U.S. 1230 (2008).

[5] *EDF Renewable Energy, Inc. v. Midcontinent Indep. Sys. Operator, Inc., Sw. Power Pool, Inc., and PJM Interconnection, L.L.C.*, 162 FERC ¶ 61,085 (2018) (February 2018 Order). On December 15, 2016, in Docket No. RM17-8-000, the Commission issued a NOPR proposing to revise its regulations, the *pro forma* Large Generator Interconnection Procedures (LGIP), and the *pro forma* Large Generator Interconnection Agreement (LGIA) in order to ensure that the generator interconnection process is just and reasonable and not unduly discriminatory or preferential. The Commission sought comment on whether it should prescribe guidelines for and potentially standardize Affected System analyses and coordination or if it should impose study requirements and associated timelines on Affected Systems. The Commission also asked commenters to consider whether there are additional steps it could take to facilitate improved coordination between Affected Systems during the interconnection process. *See Reform of Generator Interconnection Procedures and Agreements*, 157 FERC ¶ 61,212, at PP 152, 158, 159 (2017).

agreement for electric generating facilities having a capacity of more than 20 megawatts.[6] Order No. 2003 required the transmission provider to coordinate interconnection studies and planning meetings with Affected Systems.[7] The Commission stated:

> When a Transmission Provider adds its own new generation to its system, this may have a reliability effect on other systems, requiring coordination among systems. Such coordination must extend to new generation of any Interconnection Customer because … a Transmission Provider must offer all generators service that is comparable to the service that it provides to its own generation or that of its [a]ffiliates.[8]

4. The Commission found that, although the owner or operator of an Affected System is not bound by the provisions of the LGIP or LGIA of the transmission provider to whose system an interconnection customer seeks to interconnect, the transmission provider must allow any Affected System to participate in the process when conducting the interconnection studies and incorporate the legitimate safety and reliability needs of the Affected System. However, the Commission also stated that the Affected System is not required to participate in that process.[9] In Order No. 2003-A, the Commission further required that the results of any study of the effect of the interconnection on any Affected System be included in the applicable interconnection study within the time frame specified by the host transmission provider's LGIP "if available," which allows the interconnection process to proceed even in the face of delays or non-response by the Affected System.[10]

5. Section 3.6 (Coordination with Affected Systems)[11] of the *pro forma* LGIP promulgated in Order No. 2003-A states:

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[6] Order No. 2003, 104 FERC ¶ 61,103 at P 1.

[7] *Id.* PP 36, 116, 122. The transmission provider is the entity with which an interconnection customer seeks to connect a generating facility. *Id.* n.3.

[8] *Id.* P 122.

[9] *Id.* P 121.

[10] Order No. 2003-A, 106 FERC ¶ 61,220 at P 115.

[11] The Commission renumbered this section from 3.5 to 3.6 in Order No. 845. *See Reform of Generator Interconnection Procedures & Agreements*, Order No. 845,

> Transmission Provider will coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems with Affected System Operators and, if possible, include those results (if available) in its applicable Interconnection Study within the time frame specified in this LGIP. Transmission Provider will include such Affected System Operators in all meetings held with Interconnection Customer as required by this LGIP. Interconnection Customer will cooperate with Transmission Provider in all matters related to the conduct of studies and the determination of modifications to Affected Systems. A Transmission Provider which may be an Affected System shall cooperate with Transmission Provider with whom interconnection has been requested in all matters related to the conduct of studies and the determination of modifications to Affected Systems.[12]

6. MISO, SPP, and PJM are Commission-approved regional transmission organizations (RTO) and, as such, are also transmission providers. Each RTO's tariff identifies the requirement for the host RTO to coordinate with neighboring RTOs that are Affected Systems. SPP's tariff provisions concerning Affected Systems are substantively similar to those in the *pro forma* LGIP.[13] SPP's business practice manuals (BPM) contain no discussion of coordination with Affected Systems.

7. MISO's and PJM's tariffs contain additional requirements regarding Affected Systems coordination that are not in the *pro forma* LGIP. MISO's Generator Interconnection Procedures (GIP) state:

> Interconnection Customer, Transmission Provider, Transmission Owner and Affected System Operator shall each coordinate and cooperate on studies required to determine the impact of the Interconnection Request on Affected Systems. Transmission Provider will include such Affected System Operators … in all meetings held with

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163 FERC ¶ 61,043, at Appendix B (2018) *order on reh'g*, Order No. 845-A, 166 FERC ¶ 61,137 (2019).

[12] Order No. 2003-A, 106 FERC ¶ 61,220 at Appendix B, Standard Large Generator Interconnection Procedures, § 3.6.

[13] SPP Open Access Transmission Tariff (SPP Tariff), Attachment V, GIP § 3.5 (Coordination with Affected Systems) (3.0.0).

> Interconnection Customer as required by the GIP. If the Affected System is not under the functional control of Transmission Provider, the Affected System Operator's procedures shall be applicable. Interconnection Customer will be separately responsible to adhere to the Affected System Operator's procedures and costs related to studies and modifications to the Affected System.
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> Interconnection Customer will cooperate with Transmission Provider in all matters related to the conduct of studies and the determination of modifications to Affected Systems.[14]

MISO's Business Practice Manual No. 15 (MISO BPM 15) provides additional information on MISO's Affected Systems coordination procedures. Specifically, MISO BPM 15 provides that the system impact study base case will include all queued projects on the Affected System and will be modeled per MISO and Affected System JOAs.[15] Specifically, MISO BPM 15 states that the studies will be coordinated in accordance with the JOAs, and the timing shall be based on the current MISO, SPP, and PJM study cycles and will be adjusted if there are changes to the study cycle timelines in the future.[16]

8. PJM's tariff states:

> The Transmission Provider will coordinate with Affected System Operators the conduct of any studies required to determine the impact of a New Service Request on any Affected System and, if possible, will include those results in its New Service Studies within the time frames specified in this Part VI. The Transmission Provider will invite such Affected System Operators to participate in all meetings held with the Interconnection Customer as required by Part VI. The Interconnection Customer will cooperate with the Transmission Provider in all matters related to the conduct of studies by Affected System Operators and the determination of modifications to Affected Systems needed to accommodate the Interconnection Request. Transmission Provider shall

[14] MISO Open Access Transmission, Energy, and Operating Reserve Markets Tariff (MISO Tariff), Attachment X, GIP § 7.6 (Coordination with Affected Systems) (41.0.0).

[15] MISO BPM 15, § 6.1.1.1.1.3.

[16] *Id.* §§ 6.3, 6.4.

> contact any potential Affected System and shall provide information regarding each relevant New Service Request as required for the Affected System Operator's studies of the effects of such request. A provider of transmission services on a system that may be an Affected System shall cooperate with the Transmission Provider in all matters related to the conduct of studies and the determination of modifications to Affected Systems related to New Service Requests under the Tariff.[17]

9. PJM's Business Practice Manual 14A (PJM Manual 14A) includes further information regarding the conduct of PJM's Affected System study coordination with MISO. Specifically, PJM Manual 14A requires PJM to monitor the MISO transmission system and provide draft results of the potential impacts to MISO, such that the potential impacts are included in PJM's respective system impact study, along with information from MISO and the MISO transmission owners regarding the validity of these impacts and possible mitigation.[18]

10. In addition, MISO and SPP have entered into a JOA, and MISO and PJM have entered into a JOA, both of which outline the coordination and exchange of data and information between the RTOs. The MISO-SPP JOA[19] and the MISO-PJM JOA[20] state that, "each [p]arty will coordinate with the other the conduct of any studies required in determining the impact of a request for generator or merchant transmission interconnection," and the JOAs further require the RTOs to "coordinate and mutually agree on … the nature of studies to be performed to test the impacts of the

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[17] PJM Open Access Transmission Tariff (PJM Tariff), § 202 (Coordination with Affected Systems) (0.0.0).

[18] PJM Manual 14A, § 1.17.1.

[19] MISO, FERC Electric Tariff, MISO Rate Schedules, Joint Operating Agreement MISO and SPP (31.0.0); SPP, FERC Electric Tariff, Rate Schedules and Seams Agreements, Rate Schedule No. 9 MISO-SPP Joint Operating Agreement (1.0.0) (MISO-SPP JOA). MISO and SPP each maintains its own version of the MISO-SPP JOA in its respective eTariff database at the Commission.

[20] MISO, FERC Electric Tariff, MISO Rate Schedules, Rate Schedule No. 5, MISO-PJM Joint Operating Agreement (31.0.0); PJM, FERC Electric Tariff, Interregional Agreements, MISO-JOA (1.0.0) (MISO-PJM JOA). MISO and PJM each maintains its own version of the MISO-PJM JOA in its respective eTariff database at the Commission.

interconnection on the potentially impacted [p]arty."[21] With respect to study deadlines, the MISO-PJM JOA requires that PJM forward to MISO, at a minimum of twice per year (April 15 and October 15), information necessary for MISO and the MISO transmission owners to study the impact of PJM interconnection requests on MISO's system. MISO and the MISO transmission owners then study the impact of the PJM interconnection request on the MISO transmission system and provide PJM with draft results by March and September each year. If PJM identifies that further studies are needed, MISO must endeavor to study these requests at the earliest time feasible, but not later than the bi-annual dates in April and October.[22] The MISO-SPP JOA does not include study deadlines or dates by which MISO and SPP are required to exchange Affected System information and provide study results.

II. Complaint

11. EDF argues that the MISO, SPP, and PJM tariffs, the MISO-SPP JOA, and the MISO-PJM JOA are not sufficiently detailed regarding the coordination that occurs between a host RTO and an Affected System RTO when a generator interconnection request in the host RTO has impacts on an Affected System RTO.[23] EDF states that although the RTOs' tariffs make it clear that each has an obligation to consider Affected Systems in its generator interconnection studies when it is the host RTO and to undertake Affected System analysis as the neighboring RTO, there is no documented process for how the Affected Systems coordination occurs.[24] EDF argues that this lack of clarity impedes the ability of a proposed generation developer to assess the commercial viability of its project, which is contrary to the Commission's requirement that a transmission provider offer transparent open access interconnection service, as well as the Commission's purpose for establishing *pro forma* generator interconnection processes.[25]

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[21] *See* MISO-PJM JOA, § 9.3.3; MISO-SPP JOA, § 9.4.

[22] MISO-PJM JOA, § 9.3.3.

[23] Complaint at 2.

[24] *Id.* at 21-22.

[25] *Id.* at 2 (citing *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, 118 FERC ¶ 61,119, at PP 461, 471 *order on reh'g*, Order No. 890-A, 121 FERC ¶ 61,297 (2007), *order on reh'g*, Order No. 890-B, 123 FERC ¶ 61,299 (2008), *order on reh'g*, Order No. 890-C, 126 FERC ¶ 61,228, *order on clarification*, Order No. 890-D, 129 FERC ¶ 61,126 (2009)).

12. EDF requests that the Commission order MISO, SPP, and PJM to file tariff and JOA revisions that include: (1) the timing for Affected System RTO studies such that they are completed in sufficient time for the host RTO to meet the study delivery timing requirements in its tariff; (2) an affirmative obligation for the Affected System RTO to deliver Affected System studies in the time needed for the host RTO to meet the study delivery timing requirements in its tariff; (3) an affirmative requirement for SPP and PJM to include Affected System RTO information with their own study results; (4) an obligation for the host RTO, Affected System RTO, and applicable interconnection customers to be apprised of the base model that the Affected System RTO will use for its analysis and an opportunity to comment before Affected System analysis begins; (5) an obligation for the Affected System RTO to provide the Affected System model (on which its Affected System results are based) to the host RTO at the time the Affected System results are provided to the host RTO; (6) the Affected System study standard that will be applied (i.e., Energy Resource Interconnection Service (ERIS)/Network Resource Interconnection Service (NRIS)[26] modeling standards); and (7) how costs will be allocated between proposed generation projects located on different sides of the seam and how that standard is defined.[27]

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[26] The *pro forma* LGIA defines ERIS and NRIS as follows:

> [ERIS] shall mean an Interconnection Service that allows the Interconnection Customer to connect its Generating Facility to the Transmission Provider's Transmission System to be eligible to deliver the Generating Facility's electric output using the existing firm or nonfirm capacity of the Transmission Provider's Transmission System on an as available basis. [ERIS] in and of itself does not convey transmission service.
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> [NRIS] shall mean an Interconnection Service that allows the Interconnection Customer to integrate its Large Generating Facility with the Transmission Provider's Transmission System (1) in a manner comparable to that in which the Transmission Provider integrates its generating facilities to serve native load customers; or (2) in an RTO or ISO with market based congestion management, in the same manner as Network Resources. [NRIS] in and of itself does not convey transmission service.

[27] Complaint at 3.

III. Subsequent Events

13. On February 2, 2018, the Commission denied requests to dismiss the Complaint and found that EDF raised a number of issues related to the Affected Systems coordination between MISO, SPP, and PJM that warranted further examination. The Commission stated that the record developed at the time suggested that such issues, and the underlying need to ensure that transmission providers offer all generators interconnection service pursuant to just and reasonable terms and conditions, may warrant further clarity in the Affected Systems coordination between MISO, SPP, and PJM. The Commission found that a technical conference was an appropriate vehicle to develop a more complete record concerning these issues and the specific reforms proposed by EDF in the Complaint. Therefore, the Commission directed Commission staff to convene a technical conference to explore issues raised in the Complaint related to the Affected Systems coordination procedures contained in the MISO, SPP, and PJM tariffs, the MISO-PJM JOA, and the MISO-SPP JOA. The Commission also noted that staff at the technical conference would consider the Affected Systems coordination issues raised in the NOPR issued in Docket No. RM17-8-000. The Commission explained that holding a joint technical conference on Affected Systems issues identified both in the Complaint and in the NOPR would offer the Commission and interested parties the opportunity to consider specific reforms in MISO, SPP, and PJM at the same time as more generic reforms. Finally, the Commission established an October 30, 2017 refund effective date.[28]

14. On April 3 and 4, 2018, Commission staff convened the technical conference.

IV. Pleadings

15. The parties that filed motions to intervene, notices of intervention, and other responsive pleadings in the Complaint proceeding are listed in the February 2018 Order.[29] After that order was issued, Oklahoma Gas & Electric Company, Geronimo Energy, LLC, and Tenaska, Inc. (Tenaska) filed motions to intervene out-of-time on February 8, 2018, February 23, 2018, and February 27, 2018, respectively.

16. On April 19, 2018, the Commission issued a notice requesting post-technical conference comments, due within 30 days from the date of the notice, and reply comments, due within 45 days from the date of the notice. The notice listed a number of specific questions for comment under four categories: (1) general Affected Systems coordination processes; (2) modeling and study procedures used for Affected System information; (3) timing of Affected Systems coordination; and (4) allocation of Affected

[28] February 2018 Order, 162 FERC ¶ 61,085 at PP 68-70.

[29] *Id.* PP 26-31.

System costs. On June 1, 2018, the Commission extended the due date for reply comments to June 18, 2018. Post-technical conference comments were submitted by: American Transmission Company LLC (ATC); Wolverine Power Supply Cooperative, Inc. (Wolverine); Electric Edison Institute (EEI); Modesto Irrigation District (Modesto); SPP; Southern Company Services, Inc. (Southern); MidAmerican Energy Company (MidAmerican); Alliant Energy Corporate Services, Inc. (Alliant Energy); ISO New England Inc. (ISO-NE); California Independent System Operation Corporation (CAISO); Invenergy Wind Development North America LLC (Invenergy); MISO; Tenaska; and PJM.

17. Reply comments to the post-technical conference comments were filed by: Southern, MISO Transmission Owners;[30] NextEra Energy Resources, Inc. (NextEra); PJM; MISO; SPP; EDF; and EDF & E.ON Climate & Renewables North America, LLC (E.ON).

18. On July 5, 2018, Tenaska filed an answer to the comments. On August 7, 2019, EDF, E.ON, and Enel Green Power North America, Inc. submitted a request for prompt Commission action regarding Affected Systems coordination.

V. Discussion

A. Procedural Matters

19. Pursuant to Rule 214(d) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214(d) (2019), we grant the late-filed motions to intervene submitted by

[30] For purposes of this filing, MISO Transmission Owners consist of: Ameren Services Company; Arkansas Electric Cooperative Corporation; Big Rivers Electric Corporation; Central Minnesota Municipal Power Agency; City Water, Light & Power (Springfield, IL); Cleco Power LLC; Cooperative Energy; Dairyland Power Cooperative; Duke Energy Business Services, LLC for Duke Energy Indiana, LLC; East Texas Electric Cooperative; Entergy Arkansas, Inc.; Entergy Louisiana, LLC; Entergy Mississippi, Inc.; Entergy New Orleans, Inc.; Entergy Texas, Inc.; Great River Energy; Hoosier Energy Rural Electric Cooperative, Inc.; Indiana Municipal Power Agency; Indianapolis Power & Light Company; MidAmerican Energy Company; Minnesota Power and its subsidiary Superior Water, L&P; Missouri River Energy Services; Montana-Dakota Utilities Co.; Northern Indiana Public Service Company LLC; Northern States Power Company, a Minnesota corporation, and Northern States Power Company, a Wisconsin corporation, subsidiaries of Xcel Energy Inc.; Northwestern Wisconsin Electric Company; Prairie Power Inc.; Southern Illinois Power Cooperative; Southern Indiana Gas & Electric Company; Southern Minnesota Municipal Power Agency; and Wabash Valley Power Association, Inc.

Oklahoma Gas & Electric Company, Geronimo Energy, LLC, and Tenaska given their interest in the proceeding, the early stage of the proceeding, and the absence of undue prejudice or delay.[31]

VI. Substantive Matters

20. We find that EDF has shown that the lack of transparency in the Affected Systems coordination processes among MISO, SPP, and PJM has caused EDF, and other interconnection customers in MISO, SPP, and PJM harm due to uncertainty over how MISO, SPP, and PJM are evaluating the impact of interconnection requests on Affected Systems. In particular, EDF has demonstrated that this lack of transparency has affected its ability to make decisions regarding entering or remaining in the interconnection queue, because the timing of Affected System studies and the level of Affected System costs are uncertain. Cost uncertainty presents a significant obstacle to the development of new resources, as some interconnection customers are less able to absorb unexpected and potentially higher costs for interconnection facilities and network upgrades that may occur once Affected System study results are considered. This lack of transparency in the current Affected Systems coordination process between MISO, SPP, and PJM has the potential to hinder the timely development of new resources and thereby to stifle competition in the wholesale markets,[32] resulting in rates that are not just and reasonable or are unduly discriminatory or preferential.

21. As noted above, section 3.6 of the current *pro forma* LGIP requires that transmission providers coordinate the impact of an interconnection request on Affected Systems, but it does not prescribe how that coordination occurs. As discussed below, in response to the Complaint and the technical conference, MISO, SPP, and PJM described in more detail their Affected Systems coordination processes. However, in many cases, the detail MISO, SPP, and PJM provided about these coordination processes is not included in the RTOs' tariffs or JOAs, leading to uncertainty and confusion for interconnection customers. Accordingly, we find that the MISO, SPP, and PJM tariffs and JOAs are unjust and unreasonable because they lack transparency regarding the Affected Systems coordination processes among the RTOs. We therefore grant the

[31] The Commission previously found that the entities that had submitted notices of intervention and timely, unopposed motions to intervene are parties to this proceeding. *See* February 2018 Order, 162 FERC ¶ 61,085 at PP 64-65.

[32] *See* Order No. 845, 163 FERC ¶ 61,043 at P 37 (adopting the NOPR's preliminary findings that "the current interconnection process may hinder timely development of new generation" and, thereby, "stifle competition" in the wholesale markets).

Complaint in part and require MISO, SPP, and PJM to revise their tariffs and JOAs to memorialize their current Affected Systems coordination processes in these documents, including the provision of clear references to where Affected System study information can be found in their BPMs, as discussed further below.[33] The Commission will evaluate whether the revisions are just and reasonable in the proceedings addressing the compliance filings.

22. Finally, we note that Commission staff examined broader Affected Systems coordination issues raised in the technical conference in Docket No. AD18-8-000. However, there is insufficient evidence in the record developed in that proceeding to demonstrate that the Affected Systems coordination processes in regions beyond those identified in the Complaint are unjust and unreasonable or unduly discriminatory or preferential. Accordingly, we decline to initiate a generic proceeding on any broader Affected Systems coordination issues at this time, and we therefore terminate Docket No. AD18-8-000.

1. Affected Systems Coordination Processes

a. Complaint

23. EDF argues that interconnection customers in MISO, SPP, and PJM do not understand what "coordination" between MISO, SPP, and PJM means because there is a lack of detail in the tariffs and JOAs. Specifically, among other things, EDF argues that there is no information about the timing for neighboring and host RTOs to complete an Affected System analysis. As support for this claim, EDF provides an example between MISO and SPP, in which it states that MISO provided the system impact study for Phase I of its February 2016 Definitive Planning Phase (DPP) West cluster nearly four

[33] We note that these Affected Systems coordination processes may significantly affect rates, terms, and conditions of service, and therefore, we are requiring the RTOs to include their Affected Systems coordination processes in their tariffs or JOAs, as discussed further below. *See, e.g., City of Cleveland v. FERC*, 773 F.2d 1368, 1376 (D.C. Cir. 1985) (finding that utilities must 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"); *Public Serv. Comm'n of N.Y. v. FERC*, 813 F.2d 448, 454 (D.C. Cir. 1987) (holding that the Commission properly excused utilities from filing policies or practices that dealt with only matters of "practical insignificance" to serving customers); *Midwest Indep. Transmission Sys. Operator, Inc.*, 98 FERC ¶ 61,137, at 61,401, *clarification granted*, 100 FERC ¶ 61,262 (2002) ("It appears that the proposed Operating Protocols could significantly affect certain rates and services and as such are required to be filed pursuant to Section 205.").

months late. EDF explains that MISO informed the Commission that one of the reasons for the delay was that MISO had difficulty with Affected Systems, including SPP.[34] EDF claims that interconnection customers within MISO have asked MISO to provide details on the issues MISO has encountered with Affected Systems that have impeded MISO's ability to provide the Phase I system impact study in the timeframe that MISO's tariff requires; EDF alleges that MISO did not respond to this informational request. As an example of Affected Systems coordination problems between MISO and PJM, EDF states that on October 17, 2017, MISO reported that the August 2016 Central studies were delayed as well. EDF explains that MISO announced "MISO Delay and Affected System Study Delay" as the cause and explained that, "DPP Phase 2 is delayed due to delay in modeling data exchange between MISO and PJM causing delays in completion of Affected System Study."[35] EDF also indicates that MISO stated that the February 2016 East studies were delayed because MISO was waiting on Affected System study results. EDF claims that these examples demonstrate that there is a systemic problem among MISO, SPP, and PJM.[36]

24. EDF argues that the MISO-SPP JOA and the MISO-PJM JOA require SPP and PJM, respectively, to "coordinate" with MISO; however, EDF alleges that the way MISO interprets its responsibility to coordinate is not just and reasonable. EDF asserts that interconnection customers have no idea: (1) what MISO encountered that caused the delays with SPP and PJM; (2) what each RTO's responsibility is in terms of providing Affected System results within the timeframe required in MISO's tariff; (3) whether MISO has resolved the problem with SPP so it will not impact the Phase II and Phase III system impact study of the February 2016 West cluster and all successive DPP West clusters thereafter; and (4) whether MISO has resolved the problem with PJM so it will not impact upcoming Central and East system impact studies and all successive DPP Central and East clusters thereafter.[37]

25. EDF contends that after the February 2016 West Phase I system impact study was issued, EDF notified MISO of its concern that there was no documentation that explained how MISO and SPP coordinated for Affected System needs. EDF claims that it asked MISO a series of detailed questions about the terms in MISO's BPM and the MISO-SPP

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[34] Complaint at 6 (citing MISO, Answer, Docket No. ER17-156-000, at 19 (filed Sept. 20, 2017)).

[35] *Id.* (citing Item 02b (Estimated DPP Study Schedules), Oct. 17, 2017 Interconnection Process Task Force).

[36] *Id.* at 4-6.

[37] *Id.* at 6-7.

JOA. However, EDF alleges that instead of answering the questions, MISO simply referred EDF to the same documents. EDF argues that this response from MISO demonstrates that MISO's, SPP's, and PJM's coordination documentation are deficient and that Affected System studies are performed on an ad hoc basis, which has not been vetted before the Commission.[38]

26. EDF argues that these coordination deficiencies are also demonstrated in the timing mismatch between the three phases of MISO's interconnection study process and the fact that the MISO-SPP JOA and the MISO-PJM JOA require Affected System study results to be provided to MISO twice annually. EDF notes that SPP must provide MISO with Affected System study results by December 15 and June 1 of each year, while PJM is required to provide Affected System results by March 31 and September 29 of each year. However, EDF notes, MISO's tariff requires four to five system impact studies to be delivered each year, per sub-region, with Affected System results. EDF argues that there needs to be a detailed schedule of when MISO will deliver project information to SPP and PJM and when SPP and PJM will respond with Affected System study results, both for each study cycle and for each phase within a study cycle.[39]

27. In order to address these coordination deficiencies, EDF requests that the Commission order MISO, SPP, and PJM to file tariff and JOA revisions that include: (1) the timing for Affected System RTO studies such that they are completed in sufficient time for the host RTO to meet the study delivery timing requirements in its tariff; and (2) an affirmative obligation for the Affected System RTO to deliver Affected System studies in the time needed for the host RTO to meet the study delivery timing requirements in its tariff.[40]

b. MISO, SPP, and PJM Answers

28. MISO responds that its Affected Systems coordination procedures are consistent with or superior to the *pro forma* requirements set forth in Order No. 2003.[41] MISO argues that delays in some DPP clusters do not indicate that MISO's Affected Systems coordination procedures are unjust and unreasonable. MISO acknowledges that, although some of its delays involve Affected System studies, the delays do not indicate that Affected Systems coordination is not working or that there are flaws in coordination

[38] *Id.* at 28-29.

[39] *Id.* at 30-31.

[40] *Id.* at 3.

[41] MISO Answer to Complaint at 14-16.

practices. MISO states that the delays are mainly caused by backlogs in each queue and missing modeling information that is required to complete the studies. MISO also notes that the DPP clusters that EDF references in its Complaint are subject to the queue reform transition plan accepted by the Commission.[42]

29. MISO asserts that, under its tariff, the Affected System study timeframes are "the minimum processing time needed to perform the required studies," which MISO argues is consistent with the reasonable efforts standard. MISO explains that the delay in the February 2016 DPP West cluster was due to multiple reasons, not solely Affected System study delays. Specifically, MISO explains that it was experiencing voltage collapse issues in the base case development due to the size (more than 5.8 gigawatts) of this study group. MISO states that until that issue was resolved, the February 2016 DPP West cycle could not commence. MISO further states that it coordinated with SPP and PJM, as necessary, regarding Affected System studies and that it was decided that SPP would wait until MISO identified an approach to proceed with the study, so that SPP could implement the same approach as MISO. MISO states that once a list of preliminary upgrades was provided to SPP, SPP performed its Affected System study and provided results to MISO. MISO asserts that it was completely transparent about the entire process. Contrary to EDF's claims, MISO asserts that it has consistently provided Affected System information to its interconnection customers.[43]

30. MISO explains that it takes various actions throughout the interconnection process to ensure that Affected Systems coordination is promptly and efficiently performed. In particular, MISO states that once it closes the application window for a specific DPP cycle and completes the review of all the application data, it communicates the list of projects in that cycle to SPP and PJM so that they can determine projects for which they would perform Affected System studies. At the same time, MISO asserts that it provides advance communication to SPP and PJM on the expected timeline for studies to be completed, in order for MISO to meet the study delivery timing requirements in its tariff.[44] MISO states that it also provides updates to all Affected System RTOs regarding the status of MISO queue projects on a monthly basis, as well as at the end of each decision point. MISO explains that SPP and PJM similarly communicate their lists of projects in each of their respective cycles to MISO (as the possible Affected System RTO) for MISO to determine projects for which Affected System studies are necessary. MISO states that SPP and PJM also communicate to MISO the expected timelines for the studies to be completed such that they (as the host RTO) can meet the study delivery

[42] *Id.* at 20-21 (citing *Midcontinent Indep. Sys. Operator, Inc.*, 158 FERC ¶ 61,003, *order on reh'g*, 161 FERC ¶ 61,137 (2017)).

[43] *Id.* at 21-22.

[44] *Id.* at 11.

timing requirements in their respective tariffs. MISO states that regular updates are provided by the host RTOs regarding the status of projects in the queue, and MISO states that it participates in separate monthly calls with SPP and PJM to better coordinate Affected System studies and associated study cycle timelines in each RTO. MISO states that the monthly calls also include topics such as recent communications from respective interconnection customers, process improvements and potential updates to coordination language in the BPM and/or the JOAs, ongoing queue reform efforts, if any, and other generator interconnection-related issues. MISO further states that the three RTOs' representatives hold regular face-to-face meetings to discuss pending issues.[45]

31. SPP answers that its process for addressing Affected System impacts is set forth in sufficient detail in the SPP tariff, the MISO-SPP JOA, and a Coordination Document adopted by MISO and SPP.[46] SPP argues that the Commission-approved provisions of the SPP tariff and the MISO-SPP JOA fully comply with the Affected Systems coordination requirements of Order No. 2003.[47] SPP further argues that the RTOs' tariffs and JOAs make it clear that each has an obligation to consider Affected Systems in its host studies.[48] SPP states that section 9.4 of the MISO-SPP JOA includes detailed requirements for the coordination of studies and upgrades, including: steps for determining whether an interconnection request on the transmission system receiving the request (the "direct connection system") will impact the other RTO's system; a requirement to notify the other RTO if any potential reliability concerns on the other RTO's system are identified; and procedures allowing the potentially impacted RTO to participate in coordinated studies.[49] SPP states that the MISO-SPP Coordination Document sets forth more details regarding the RTOs' Affected Systems coordination process, such as the extent to which each RTO's procedures apply during an Affected System study, information exchange and study requirements, and timelines. SPP further

[45] *Id.* at 11-12.

[46] *MISO-SPP GI Coordination Document*, Southwest Power Pool, Inc. (Mar. 8, 2016) (MISO-SPP Coordination Document), https://www.spp.org/Documents/36531/Final MISOSPP GI Coordination Document.docx.

[47] SPP Answer to Complaint at 13-14.

[48] *Id*. (citing SPP Tariff, Attachment V § 3.5; MISO-SPP JOA, § 9.4.).

[49] *Id.* at 14 (citing MISO-SPP JOA, § 9.4).

states that it engages with MISO in additional activities such as monthly coordination calls, twice-yearly face-to-face meetings, and emails and phone calls.[50]

32. In response to EDF's claims about MISO's February 2016 DPP West studies, SPP argues that EDF provides no evidence and makes no specific allegations that SPP was in fact responsible for any such alleged "delay" or that any such alleged delay on SPP's part, even if true, violates any statutory, regulatory, or tariff provision necessitating a finding that SPP's existing documents or practices are unjust or unreasonable.[51]

33. PJM responds that its Commission-approved tariff and the MISO-PJM JOA satisfy, and exceed, the requirements of Order No. 2003.[52] PJM argues that delays in Affected System study results do not render PJM's Affected Systems coordination process unjust and unreasonable. In response to EDF's example regarding MISO's February 2016 DPP West studies, PJM asserts that EDF admits to not knowing what caused the delay but that EDF nevertheless speculates that SPP, as the Affected System RTO, was at fault. PJM states that based on this example, EDF demands that the RTOs "*should have* a Tariff obligation to provide the Affected System model at the time the applicable study Affected System results is provided."[53] PJM responds that a tariff obligation is not necessary, as the PJM tariff provides that PJM shall make available all related work papers at the interconnection customer's request (subject to PJM confidentiality and Critical Energy Information Infrastructure requirements), which includes such models upon request.[54]

c. Comments to the Complaint

34. Renewable Energy Systems Americas, Inc. agrees with the EDF's conclusion that there is insufficient information about the Affected Systems coordination processes between the RTOs and supports a discussion of the issues raised in the Complaint.[55] Tradewind Energy, Inc. (Tradewind) argues that there are inconsistent Affected Systems coordination practices among the RTOs and requests that the Commission direct the

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[50] SPP Answer to Complaint at 12-15.

[51] *Id*. at 17.

[52] PJM Answer to Complaint at 16-19.

[53] *Id.* at 24 (citing Complaint at 16 (emphasis added by PJM)).

[54] *Id.* at 22-24 (citing PJM Tariff, § 205.4.3).

[55] Renewable Energy Systems Americas, Inc. Comments to Complaint at 1-2.

RTOs to adopt specific improvements in Affected Systems coordination.[56] Alliant Energy supports interconnection reforms that encourage better coordination between Affected Systems and requests that the Commission provide guidelines and/or best practices as to how better coordination could occur between regions.[57]

35. E.ON and NextEra state that they have also encountered problems with the Affected System process between MISO and PJM, such as study results being unavailable in a timely manner or containing errors, which has detrimentally impacted their ability to plan for the interconnection of their projects and caused wasted time and financial resources.[58] E.ON further argues that the tariffs and JOAs should specify dates by which each RTO provides current cluster information to the neighboring RTO so it can perform Affected System analysis.[59] NextEra argues that transmission providers should be required to align the timing of interconnection studies.[60]

36. MidAmerican argues that the tariffs and JOAs lack significant details about the Affected System study process, which creates uncertainty that affects the rates, terms, and conditions of interconnection service.[61] MidAmerican requests that the Commission require a stakeholder process in order to develop specific requirements to: (1) coordinate the timing of Affected System studies; (2) require consistent modeling; (3) provide clear documentation of study methods and queue position on Affected Systems; (4) require non-discriminatory treatment of projects on host and Affected Systems; and (5) require stakeholder input on the processes involving Affected Systems.[62]

37. MISO Transmission Owners state that, while they do not take a position on the merits of the Complaint, EDF has identified some valid concerns about Affected Systems coordination processes. However, MISO Transmission Owners argue that the solutions proposed in the Complaint are too general and fail to recognize that any appropriate

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[56] Tradewind Comments to Complaint at 2-8.

[57] Alliant Energy Comments to Complaint at 2-4.

[58] E.ON Comments to Complaint at 2-8; NextEra Comments to Complaint at 5-8.

[59] E.ON Comments to Complaint at 16-20.

[60] NextEra Comments to Complaint at 8-10.

[61] MidAmerican Comments to Complaint at 7-8.

[62] *Id.* at 8-12.

remedies will be different for each RTO and each pair of adjacent RTOs.[63] MISO Transmission Owners state that the Commission should allow MISO to work to address the issues for each of its Affected Systems through the stakeholder process.

d. EDF Answer

38. EDF asserts that delays in MISO's interconnection queue are ongoing as a result of problems with Affected System information. For example, EDF notes that, as of the time of its answer, MISO projected that it would not receive Affected System information from PJM needed for MISO's August 2016 Central study group until February 2018.[64]

39. EDF disputes the RTOs' claims that their Affected Systems practices are consistent with Order No. 2003.[65] EDF notes that, in Order No. 2003-A, the Commission clarified that delays by an Affected System in performing interconnection studies or providing information for such studies was not an acceptable reason to deviate from the timelines in Order No. 2003.[66]

e. Post-Technical Conference Comments

40. EDF argues that the lack of affirmative coordination and timely Affected System study delivery among all the RTOs has put it in the untenable position of having to put tens of millions of dollars at risk to proceed through the interconnection queue, but to do so without having Affected System results upon which it can rely. EDF contends that the lack of JOA, tariff, and BPM specifics has caused it real harm and that this is especially problematic with PJM and SPP, where Affected System studies are needed for MISO's three-phase study process.[67]

41. MISO, SPP, and PJM point to their existing tariff and JOA provisions to dispute EDF's contention that their tariffs lack specifics with regards to Affected Systems coordination. Specifically, the RTOs point to the existing provisions on Affected Systems coordination in their tariffs, JOAs, and BPMs, as noted above. MISO states that

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[63] MISO Transmission Owners Comments to Complaint at 2.

[64] EDF Answer to Answers to Complaint at 7-8.

[65] *Id.* at 10-11.

[66] *Id.* at 10 (citing Order No. 2003-A, 106 FERC ¶ 61,220 at P 121).

[67] EDF Post-Technical Conference Comments at 33.

it does not dispute that there is work to be done in updating Affected Systems coordination procedures to optimize timing alignment between the RTOs' processes.[68]

42. Wolverine and Tenaska request that improvements be made to the Affected Systems coordination processes among the RTOs.[69] Tenaska argues that there is significant variability among MISO, SPP, and PJM regarding the level of detail and guidance the RTOs provide regarding Affected Systems coordination. Tenaska contends that, in practice, this variability means that interconnection customers cannot accurately anticipate the data and information that will be used in Affected System studies, nor do they have information regarding the timeliness of the studies. Tenaska asserts that interconnection customers often do not know until well into the interconnection study process—sometimes, even after the study process is completed—how the costs of system upgrades will be allocated across customers in both host RTOs and Affected System RTOs.[70]

43. Tenaska notes that although these RTOs include high-level descriptions of Affected Systems coordination in their BPMs and JOAs, the Commission-approved tariffs for these RTOs generally contain little or no detail regarding these processes.[71] Tenaska contends that, rather than transparent and binding Affected Systems coordination procedures, these regions often rely on informal guidance and communication to govern the Affected System study process.

f. Commission Determination

44. We grant EDF's Complaint, in part, and find that the MISO-SPP JOA is unjust and unreasonable because it lacks transparency regarding the Affected Systems coordination processes between MISO and SPP. As summarized above, in response to the Complaint and the technical conference, MISO, SPP, and PJM describe in some detail their Affected Systems coordination processes. However, in many cases, the detail MISO, SPP, and PJM provided about these coordination processes are not included in the RTOs' tariffs or JOAs. EDF[72] and several commenters, including E.ON, NextEra, and

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[68] MISO Post-Technical Conference Comments at 4.

[69] Wolverine Post-Technical Conference Comments at 2-4; Tenaska Post-Technical Conference Comments at 10-13.

[70] Tenaska Post-Technical Conference Comments at 4-5.

[71] *Id.* at 5.

[72] *See supra* PP 23-25.

MidAmerican, argue that the location of these provisions is unclear and that this lack of clarity has led to uncertainty and confusion for interconnection customers.[73] They further argue that uncertainty and confusion in the interconnection process caused by a lack of transparency regarding the Affected Systems coordination processes has the potential to hinder the timely development of new resources. We agree. We find that uncertainty in the interconnection study process can be reduced by requiring MISO and SPP to provide more detail about their Affected Systems coordination processes in the MISO-SPP JOA, including providing specific references to Affected Systems coordination information found in their BPMs or other coordination documents, as discussed further below.

45. With regard to timelines for the sharing of Affected System information, we agree with EDF and Tenaska that there is significant variability among the RTOs regarding the level of detail of Affected Systems coordination in their JOAs. In general, the MISO-PJM JOA includes more detail than the MISO-SPP JOA. Specifically, the MISO-PJM JOA includes dates by which MISO and PJM are required to exchange Affected System information and provide study results.[74] For this reason, we are not directing any change to the MISO-PJM JOA with regard to the timelines for the sharing of Affected System information. However, the MISO-SPP JOA does not include this information; instead, the dates by which MISO and SPP are required to exchange Affected System information and study results are included in the MISO-SPP Coordination Document, which has not been filed with the Commission. The MISO-SPP Coordination Document provides that:

1) SPP is required to forward to MISO, at a minimum of twice per year (August 1 and March 1), information necessary for MISO and the MISO transmission owners to study the impact of the SPP interconnection requests on the MISO transmission system;

2) MISO and the MISO Transmission Owners are required to study the impact of the SPP interconnection on the MISO transmission system and provide draft results to SPP by November 15 for SPP interconnection requests provided to MISO on or before August 1 of the same year, and June 15 for SPP interconnection requests provided to MISO on or before March 1 of the same year;

3) MISO is required to forward to SPP, at a minimum of twice per year (March 1 and September 1), MISO interconnection requests and information necessary

[73] *See supra* PP 35-36. In addition, MISO Transmission Owners state that EDF has identified valid issues regarding MISO's Affected System procedures that should be addressed. *See supra* P 37.

[74] *See* MISO-PJM JOA, § 9.3.3; *supra* P 10.

for SPP and the SPP Transmission Owners to study the impact of the requests on the SPP transmission system; and

4) SPP and the SPP Transmission Owners are required to study the impact of the MISO interconnection requests and provide draft results on the SPP transmission system by December 15, for requests submitted to SPP on or before September 1 of the same year, and June 15, for requests submitted to SPP on or before March 1 of the same year.[75]

46. Timelines should provide interconnection customers with a reasonable level of certainty and transparency as to when MISO and SPP are required to exchange Affected System information and provide study results. We find that this information should be detailed in the MISO-SPP JOA, which details Affected Systems coordination between the RTOs. Thus, we direct MISO and SPP, in compliance filings due within 60 days of the date of this order, to revise the MISO-SPP JOA to include the dates by which MISO and SPP are required to exchange Affected System information and study results.

47. Although we find that EDF has met its burden to demonstrate that the MISO-SPP JOA is unjust and unreasonable because MISO and SPP's Affected Systems coordination processes are not transparent, we deny EDF's request to order the RTOs to file JOA revisions that include: (1) the timing for Affected System RTO studies such that they are completed in sufficient time for the host RTO to meet the study delivery timing requirements in its tariff; and (2) an affirmative obligation for the Affected System RTO to deliver Affected System studies in the time needed for the host RTO to meet the study delivery timing requirements in its tariff. We find that these two EDF proposals would effectively require the RTOs to align their interconnection study deadlines, which is not necessary to ensure transparent Affected Systems coordination processes. Moreover, we agree with the RTOs that their study processes and associated timelines are an integral part of each RTO's interconnection process, which is developed through each RTO's stakeholder process, and that each RTO should be allowed to develop an interconnection queue process that works best for its region.

2. Affected System Impact Coordination

a. Complaint

48. EDF asserts in the Complaint that there is no information in the MISO, SPP, and PJM tariffs or JOAs about how they determine Affected System impacts in order for

[75] MISO-SPP Coordination Document, § 6.4.1.

them to fulfill their requirement to coordinate with each other as Affected Systems.[76] Additionally, EDF argues that nothing exists that addresses what MISO does to fulfill its responsibility to "monitor the SPP [or PJM] transmission system and provide the draft results of potential impacts to SPP [or PJM]," as its BPM provides.[77] In their answers, MISO, SPP, and PJM did not specifically address this issue, nor were any specific comments filed by others on it. However, as noted below, it was a subject of the technical conference.

b. Post-Technical Conference Comments

49. EDF argues that there is no information it can point to in any tariff, JOA, or BPM that "describes how each RTO coordinates with the other RTO"[78] with regard to the RTOs' responsibility to monitor each other's system for potential impacts stemming from interconnection requests.

50. MISO states that the interconnection customer whose project is being studied by an Affected System RTO is "separately responsible to adhere to the Affected Systems Operator's procedures and costs related to studies and modifications to the Affected System."[79] Thus, if an interconnection customer is being studied by PJM for impacts on the PJM transmission system, that interconnection customer would be studied by PJM in accordance with PJM's rules and would be responsible for complying with PJM's tariff and business practices and liable for study and upgrade costs identified by PJM in accordance with its rules. MISO explains that under its GIP, interconnection customers are given several opportunities to interact with and receive data from Affected System RTOs, beginning with the initial scoping meeting, which occurs between the interconnection customer and the interconnecting MISO transmission owner before the interconnection customer enters the DPP.[80] MISO states that in its capacity as an Affected System, it engages in regular communications with its neighboring transmission providers, uses engineering judgment to determine which projects could impact the

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[76] Complaint at 2.

[77] *Id.* at 29. *See* MISO BPM 15, §§ 6.3.2, 6.4.2 ("During the course of MISO Interconnection studies, MISO shall monitor the [PJM/SPP] transmission system and provide the draft results of potential impacts to [PJM/SPP]").

[78] EDF Post-Technical Conference Comments at 8.

[79] MISO Post-Technical Conference Comments at 10 (citing GIP, § 3.5).

[80] *Id.* (citing GIP, § 3.3.4).

MISO transmission system, and timely reviews and provides analyses regarding the impacts of projects in neighboring queues.[81]

51. SPP states that once it determines that MISO may be impacted by an interconnection request on the SPP system, SPP is required to notify MISO and provide any relevant information regarding the interconnection request. Following the results of either a feasibility study or system impact study, SPP is required to notify MISO if the study results show a potential reliability concern on MISO's system. If, upon reviewing the study results, MISO determines that the interconnection request may materially impact its system, MISO is required to contact SPP and request participation in the applicable interconnection studies. MISO and SPP are then required to coordinate with each other and mutually agree upon the nature of the studies that MISO will conduct to determine the impacts on its system.[82]

52. SPP states that the MISO-SPP JOA provides that MISO may participate in the coordinated study at the system impact study or feasibility study stage. SPP notes that MISO may do so by either conducting the studies itself or by providing the necessary input for SPP to conduct the studies. SPP further notes that if the coordinated study shows constraints that require infrastructure additions, MISO is required to perform its own facilities study as part of SPP's facilities study. SPP states that if upon reviewing the coordinated study results, SPP determines that MISO network upgrades are required in accordance with MISO's procedures, guidelines, criteria, or standards, then SPP is required to identify the applicable network upgrades in the system impact study that is prepared for the interconnection customer. SPP notes that in the event that network upgrades are required on MISO's system, SPP and MISO are required to agree upon a schedule for interconnection service. SPP explains that the schedule includes milestones with respect to the network upgrade construction and the amount of service that can commence after each milestone.[83]

53. PJM states that when it is the host RTO, it performs a screen on all neighboring regions with an electrical tie to PJM for all interconnection requests submitted to PJM under its tariff, in order to determine the impact of those interconnection requests made in PJM on the neighboring region. PJM states that the screen is performed for each PJM interconnection request during the feasibility study phase, and the screen identifies any PJM interconnection request that meets the shift factor or distribution factor (DFAX) thresholds "as described in PJM Manual 14A, section 2.1.6 (in accordance with PJM

[81] *Id.* at 13.

[82] SPP Post-Technical Conference Comments at 14-15.

[83] *Id.* at 15-16.

tariff, sections 202 and 218 and the MISO-PJM JOA, section 9.3.3)."[84] PJM explains that these screen results are sent to the Affected System RTO for its review. In addition, PJM states that once the PJM interconnection projects have executed a system impact study agreement and moved to the system impact study phase, it sends the list of its projects (that have a signed system impact study agreement) together with relevant data at a minimum of twice a year to MISO to identify whether there are any impacts to the MISO system and whether any Affected System upgrades are needed on the MISO system. PJM explains that it provides a deadline by which MISO's study results are needed in order to incorporate the Affected System study results into PJM's system impact study report, including any required Affected System network upgrades and cost estimates for those upgrades.[85]

54. PJM states that upon receipt of MISO's Affected System study results, it delivers a system impact study report, including any required Affected System upgrades and cost estimates identified by MISO, together with a PJM facilities study agreement for execution, to the PJM customer. If Affected System upgrades are required, PJM states that it advises its customer that it must also execute a facilities study agreement with MISO. If the PJM customer decides to move to the next study phase, PJM explains that it assists the customer in contacting MISO to initiate a facilities study in the Affected System region.[86]

55. PJM explains that when it is the Affected System RTO, with MISO as the host RTO, MISO forwards to PJM a list of all projects entering a new DPP study cycle. PJM states that it performs its full set of tests, including load flow, short circuit, and stability analysis, as applicable, using the timeline requested by the host RTO. PJM explains that if, after performing its analysis, it identifies any PJM system impacts, PJM then notifies MISO, and MISO includes the PJM Affected System results (e.g., required Affected System upgrades and cost estimates, including any cost allocations among multiple interconnection projects, if applicable) in its study reports. PJM notes that if a MISO interconnection customer is responsible for an Affected System upgrade on the PJM system, and the MISO customer decides to move to the next study phase, PJM requests that the MISO customer execute a PJM facilities study agreement under PJM's tariff and,

[84] PJM Post-Technical Conference Comments at 5. We believe that the correct citation should be section 4.2.4 of Manual 14A.

[85] *Id.* at 5-6.

[86] *Id.* at 6.

ultimately, a PJM Upgrade Construction Service Agreement for the Affected System upgrades on the PJM system as required under the MISO-PJM JOA.[87]

c. Commission Determination

56. The MISO-SPP JOA requires that MISO and SPP "coordinate and mutually agree on with respect to the nature of studies to be performed to test the impacts of the interconnection on the potentially impacted [RTO]."[88] However, the MISO-SPP JOA does not describe how MISO and SPP will study impacts on the Affected System RTO; the description is instead included in the MISO-SPP Coordination Document. Specifically, the MISO-SPP Coordination Document provides that:

1) MISO and SPP shall conduct interconnection studies, as necessary, to determine the impacts of interconnection requests on each other's transmission system, which will be treated as an Affected System;

2) the transmission reinforcement and the study criteria used in the coordinated interconnection studies will honor and incorporate provisions as outlined in the SPP and MISO BPMs, study procedures, and their respective tariffs; and

3) when MISO and SPP perform any coordinated interconnection study, the SPP and SPP transmission owner study and reinforcement criteria will apply to SPP transmission facilities, and the MISO and MISO transmission owner study and reinforcement criteria will apply to MISO transmission facilities.[89]

57. The description of how MISO and SPP study impacts on the Affected System RTO should provide a reasonable level of certainty and transparency as to what each RTO will do when studying Affected System impacts; it should also clarify that SPP study criteria applies to SPP facilities and MISO study criteria applies to MISO facilities. We find that this information should be detailed in the MISO-SPP JOA in order to provide additional clarity and transparency to interconnection customers. Thus, we direct MISO and SPP to revise the MISO-SPP JOA, in compliance filings due within 60 days of the date of this order, to include the description of how MISO and SPP study impacts on the Affected System RTO and clarify that the SPP study criteria apply to SPP facilities

[87] *Id.* at 6-7.

[88] MISO-SPP JOA § 9.4 (b) (Analysis of Interconnection Requests).

[89] MISO-SPP Coordination Document, § 6.4.

and the MISO study criteria applies to MISO facilities.[90] We note that the MISO-PJM JOA already includes sufficient detail on how each RTO studies Affected System impacts, and therefore, no changes are needed to the MISO-PJM JOA on this point at this time.

58. Additionally, the MISO-PJM JOA and the MISO-SPP Coordination Document require that, during the course of each of its interconnection studies, MISO and PJM, and MISO and SPP, respectively, as host RTOs, "monitor" each other's systems and provide draft results of the potential impacts to the Affected System RTO.[91] However, the MISO-PJM JOA and the MISO-SPP Coordination Document do not describe how the RTOs monitor each other's systems. MISO states in its post-technical conference comments that it "uses engineering judgment to determine which [A]ffected [S]ystems projects could impact the MISO Transmission System."[92] SPP does not describe its process in its comments. We agree with EDF that MISO and SPP inadequately explained their processes for monitoring each other's systems for Affected System impacts, and that MISO inadequately explained how it monitors PJM for Affected System impacts. Thus, we direct MISO and SPP, in compliance filings due within 60 days of the date of this order, to revise their JOA to include how MISO and SPP monitor each other's systems during the course of each of their interconnection studies. We also direct MISO and PJM, in compliance filings due within 60 days of the date of this order, to revise their JOA to include how MISO and PJM monitors each other's systems during the course of their interconnection studies.

59. PJM explains in its post-technical conference comments that it monitors Affected System impacts by performing a screen on all neighboring regions for all interconnection requests submitted to PJM and submits the screen results to the Affected System RTO. PJM states that the screen identifies any PJM interconnection request that meets PJM's shift factor or DFAX thresholds.[93] We find that PJM has adequately explained its process for monitoring neighboring systems for Affected System impacts and describes an objective and verifiable process using PJM's existing shift factor or DFAX thresholds. We find that this information should be detailed in the MISO-PJM JOA in order to provide additional clarity and transparency to interconnection customers. Therefore, we

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[90] We note that the application of ERIS or NRIS modeling standards is discussed separately below, although these modeling standards are an element of the overall study criteria.

[91] *See* MISO-PJM JOA, § 9.3.3(d), (g); MISO-SPP Coordination Document §§ 6.4.1 & 6.4.2.

[92] MISO Post-Technical Conference Comments at 13.

[93] *See* PJM Post-Technical Conference Comments at 5-6.

direct MISO and PJM, in a compliance filing due within 60 days of the date of this order, to revise their JOA to include PJM's process for monitoring neighboring systems for Affected System impacts.

3. Review of Affected System Studies

a. Complaint

60. EDF asserts that the RTOs do not provide an adequate opportunity for the host RTO and interconnection customer to review an Affected System study and discuss the study results with the host RTO or Affected System RTO, nor does the interconnection customer have an adequate opportunity to assess whether Affected System study results are valid, before the interconnection process either requires a financial milestone payment or execution of an interconnection agreement. Pointing to the MISO February 2016 West cluster as an example, EDF claims that once MISO provided it with the Phase I system impact study results, which included Affected System network upgrade costs, EDF asked MISO to provide the underlying model used to evaluate Affected System impacts on the SPP system so it could scrutinize the data. EDF emphasizes that MISO's GIP requires an interconnection customer to decide, within 15 business days after the provision of Phase I system impact study results, whether it will withdraw from the queue or proceed to Phase II, put a financial milestone at risk of forfeiture, and provide another financial milestone equal to ten percent of the upgrades identified in the Phase I system impact study results.[94] EDF claims that MISO did not provide it with the underlying model and with

[94] We note that, on July 20, 2018, in Docket No. ER18-2049, MISO proposed revisions to its GIP to remove certain studies from Phase I of its three-stage DPP, which included the elimination of the DPP Phase I Affected System study, in order to streamline and expedite DPP Phase I. MISO also proposed revisions to milestone refund provisions, which, among other things, afforded an interconnection customer the ability to withdraw penalty-free if Affected System upgrades identified in DPP Phase II cost more than $10,000 per MW. EDF Renewables, Inc. submitted comments in support of MISO's proposal and asserted that any information lost due to the streamlining of DPP Phase I would not impact the interconnection customer's ability to make an informed decision on whether to advance to DPP Phase II. EDF Renewables, Inc., Comments, Docket No. ER18-2049 at 2 (filed Aug. 20, 2018). The Commission accepted MISO's proposal in an order issued on September 28, 2018. *See Midcontinent Indep. Sys. Operator, Inc.*, 164 FERC ¶ 61,234 (2018). Notwithstanding EDF Renewables, Inc.'s support for the revised milestone refund provisions and the removal of the DPP Phase I Affected System study from MISO's DPP, we recognize EDF's general assertion that an interconnection customer should have adequate time to review and respond to Affected System study results before making consequential decisions in the interconnection study process.

SPP Affected System data until six days before the ten percent milestone was due, which provided EDF little time to assess whether SPP's Affected System results were valid. EDF argues that this is unjust and unreasonable.[95] Additionally, EDF requests that the Commission require MISO, SPP, and PJM to file tariff and JOA revisions that include an affirmative requirement for the host RTO to include Affected System RTO information with their own study results.[96] In their answers, MISO, SPP, and PJM did not specifically address this issue, nor were any specific comments filed by others on it. However, as noted below, this issue was a subject of the technical conference.

b. Post-Technical Conference Comments

61. EDF reiterates its arguments in the Complaint and contends that time must be allotted to potentially identify and consider alternatives to the dispatch assumptions or adjustments to the interconnection request that could mitigate the cost of a network upgrade on an Affected System RTO. EDF believes that the concept of an opportunity for preliminary review should be explored and may not impact the timeline. However, if that concept is not viable, then EDF argues that an extra 15 days needs to be provided at each stage, in addition to the 15 day turn-around MISO currently affords. EDF states that it is mindful that this will add to MISO's already lengthy three-phase study process; however, EDF contends that if PJM and SPP perform Affected System studies on a timely basis, this will eliminate a significant source of the delays MISO has encountered.[97]

62. MISO states that its tariff provides multiple opportunities for MISO and the interconnection customer to review an Affected System study and discuss the results with MISO or the Affected System RTO before the GIP requires a financial milestone payment.[98] MISO explains that its interconnection process includes two decision points, one at which the interconnection customer receives the preliminary system impact study and the preliminary Affected System analysis, including estimated upgrades and costs, and one at which the interconnection customer receives the revised system impact study and the revised Affected System analysis. MISO states that the customer has 15 business days at each decision point to decide whether to proceed further and make the applicable milestone payment or to exit the process. MISO contends that because the decision point does not start until MISO tenders the applicable study or revised study (including the

[95] Complaint at 15.

[96] *Id.* at 3.

[97] EDF Post-Technical Conference Comments at 13-14, 20-21.

[98] MISO Post-Technical Conference Comments at 31-32.

latest available Affected System analysis), a delay in providing Affected System analysis would not reduce the amount of time available to the interconnection customer to review and discuss the analysis with the Affected System RTO. In addition, MISO states that it coordinates with Affected System RTOs and makes a reasonable effort to post Affected System study results at least one week prior to the start of the decision points.[99]

63. PJM states that, upon receipt of the Affected System's results, PJM includes those results in its system impact study report forwarded to its interconnection customer.[100] PJM states that the interconnection customer has 30 days to review and discuss all of its system impact study results, including Affected System results, with the host RTO before the interconnection customer is required to submit any payment or execute a facilities study agreement. PJM notes that the interconnection customer has 60 days to review and discuss all of its facilities study results, including Affected System results, with the host RTO before the interconnection customer is required to submit the requisite security deposit and executed interconnection service agreement.

64. MISO and PJM argue that they should not be held to a more stringent standard than other RTOs and transmission providers. They argue that adding time to the interconnection process for consideration of Affected System results should be left to each RTO's stakeholder process.[101] Although MISO is not opposed to adding additional time for further review if adopted by its stakeholders, it argues that desire for additional review time must be balanced against the countervailing consideration of the increase to the overall timeframe for processing interconnection requests that extended review periods would entail. MISO also argues that additional review time is unlikely to result in tangible improvements to the decision-making process.[102]

65. SPP acknowledges that, although the interconnection customer and Affected System RTO are provided with a review period after the system impact study to discuss

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[99] As noted above, MISO recently proposed revisions to its GIP to remove certain studies from Phase I of its three-stage DPP, which included the elimination of the DPP Phase I Affected System study. MISO also made various revisions to milestone refund provisions to account for the lack of Affected System study results at the decision point between DPP Phase I and DPP Phase II. The Commission accepted MISO's proposal in *Midcontinent Indep. Sys. Operator, Inc.*, 164 FERC ¶ 61,234; *supra* note 94.

[100] PJM Post-Technical Conference Comments at 21-22.

[101] MISO Post-Technical Conference Comments at 38; PJM Post-Technical Conference Comments at 23.

[102] MISO Post-Technical Conference Comments at 38-39.

the results, this practice is not documented in its tariff.[103] SPP notes that it incorporates the Affected System study results into the system impact study report when the Affected System study results are available. SPP further notes that the interconnection customer may then inquire about the Affected System study results during the system impact study period, which is 30 days. SPP states that, following the review period, the interconnection customer must provide security of $3,000/MW in order to proceed to the feasibility study phase. SPP also states that, if the Affected System study results are incomplete at the time the parties execute the generator interconnection agreement (GIA), SPP includes a milestone provision requiring that the studies be completed and agreements be in place that mitigate Affected System impacts prior to the interconnection customer obtaining full interconnection service.[104]

66. Tradewind agrees with EDF and argues that interconnection customers should be granted the opportunity to meet with both the transmission provider and Affected System RTO(s) to review Affected System study results and submit written comments prior to the host transmission provider starting the clock on significant milestones.[105] Tradewind believes that these steps will lead to the orderly review and revisions of study results, an increase in the accuracy of study results, and the reduction of the likelihood of late-stage cost changes and resulting queue churn. Tradewind also requests that the Commission require the RTOs to allow for review and comment of draft study results to consider changes to the interconnection request in order to reduce the cost of mitigating identified constraints.[106] SPP opposes this suggestion, arguing that circulating draft study reports for review and comment will require additional time to entertain and reconcile comments before finalizing the study results.[107] SPP contends that these additional requirements will come at the expense of alleviating current queue processing delays.

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[103] SPP Post-Technical Conference Comments at 34-35.

[104] On April 16, 2019, in Docket No. ER19-1579, SPP proposed revisions to its GIP to move to a sequential, three-stage study process, with each phase followed by a designated decision point that provides an interconnection customer the option to move to the next study phase or withdraw its request. SPP also updated the milestone payments that interconnection customers are required to provide to move forward at each of the decision points. The Commission accepted SPP's proposal in an order issued on June 28, 2019. *See Sw. Power Pool, Inc.*, 167 FERC ¶ 61,275 (2019).

[105] Tradewind Post-Technical Conference Comments at 17-18.

[106] *Id.* at 18; 24-25.

[107] SPP Reply Post-Technical Conference Comments at 9-10.

c. Commission Determination

67. With respect to the issue of timing to review Affected System study results, we find that EDF has not shown that MISO's and SPP's approaches in their tariffs are unjust and unreasonable. MISO's tariff provides the interconnection customer 15 business days to decide whether to proceed further and make the applicable milestone payment or to exit the process after receiving Affected System study results in DPP Phase II.[108] We note that SPP recently filed, and the Commission accepted, tariff revisions providing for 15 business days during which the interconnection customer can review the results of SPP's Phase I and Phase II studies.[109] The tariff provides that SPP will extend this review period an additional 10 business days if SPP updates the allocated costs in the Phase I or Phase II study results, including any cost of upgrades required to mitigate impacts to Affected Systems.[110] Further, as the Commission noted in accepting SPP's tariff revisions, the tariff allows customers to withdraw without penalty if upgrade costs, including from Affected Systems, increase by a certain amount during any phase of the interconnection process.[111] The tariff revisions also exclude the cost of network upgrades required to mitigate impacts to Affected Systems from the calculation of applicable milestone payments, which potentially reduces the amount of financial outlays interconnection customers must make before finalizing a GIA.[112] Thus, MISO and SPP provide sufficient time for interconnection customers to evaluate Affected System study results. Accordingly, we will not direct any changes to MISO's and SPP's tariffs and/or JOAs on this point at this time.

68. PJM explains in its post-technical conference comments that the interconnection customer has 30 days to review and discuss all of its system impact study results, including Affected System results, with PJM before the interconnection customer must submit any payment or execute a facilities study agreement. PJM's practice of providing

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[108] *See* MISO GIP, § 7.3.2.4.

[109] *See Sw. Power Pool*, *Inc.*, 167 FERC ¶ 61,275 at PP 14, 15; *supra* note 104. *See also* SPP Tariff, Attachment V, GIP § 8.5.1 (Decision Point One); § 8.5.2 (Decision Point Two).

[110] *Sw. Power Pool*, *Inc.*, 167 FERC ¶ 61,275 at n.26. *See* SPP Tariff, Attachment V, GIP § 8.5.1 (Decision Point One); § 8.5.2 (Decision Point Two); § 8.11.c (Interconnection Facilities Study Procedures).

[111] *Sw. Power Pool*, *Inc.*, 167 FERC ¶ 61,275 at P 42.

[112] *Id.*; SPP Tariff, Attachment V, GIP §§ 8.14(d); 8.14(e) (Financial Security Refund Eligibility).

interconnection customers 30 days to review Affected System study results should provide interconnection customers with a reasonable amount of time to evaluate Affected System study results before being required to determine whether to move forward in the interconnection queue. While PJM discussed this review period in its post-technical conference comments, this review period is not memorialized in its tariff. We find that, like MISO and SPP, this information should be detailed in the PJM tariff in order to provide additional clarity and transparency to interconnection customers. Thus, we direct PJM, in a compliance filing due within 60 days of the date of this order, to revise its tariff to detail the time it provides to interconnection customers to review Affected System study results.

69. Last, we deny EDF's request to order the RTOs to file JOA revisions that include an affirmative requirement for SPP and PJM to include Affected System RTO information with their own study results. Similar to our finding above,[113] we find that EDF's proposal would effectively require the RTOs to align their interconnection study deadlines, which is not necessary to ensure transparent Affected Systems coordination processes.

4. ERIS and NRIS Modeling Standards

a. Complaint

70. EDF alleges that there is no information in the RTOs' tariffs or JOAs regarding the modeling standard each RTO uses to determine Affected System impacts, that the RTOs apply different ERIS or NRIS modeling standards, and that none of the standards have been shown to be just and reasonable and not unduly discriminatory or preferential because they have not been filed with the Commission.[114] EDF contends that there is a lack of transparency in the tariffs and JOAs surrounding both the decision of the RTO to study a project as ERIS or NRIS as well as the details used in the study. As an example, EDF notes that one generator on the PJM side of a specific interface on the PJM-MISO seam was slated to be studied by MISO under ERIS conditions to determine Affected System network upgrade cost responsibility, while another generator on the MISO side of that same interface on the MISO-PJM seam was slated to be studied by PJM under NRIS conditions, even though both generators were requesting the same level of service in their host RTO.

71. EDF explains that, when the RTOs evaluate proposed generation locating on their own systems, they study a proposed project under a stricter standard if the project is

[113] *See supra* P 47.

[114] Complaint at 21.

seeking NRIS rather than ERIS.[115] For instance, EDF states that SPP evaluates projects that have requested NRIS under a three percent transmission element impact (i.e., network upgrades will be needed if the project impacts any transmission element more than three percent), while projects requesting ERIS are evaluated under a 19.5 percent transmission element impact.[116] EDF asserts that these details are not explicitly stated in SPP's tariff or in the MISO-SPP JOA. EDF contends that SPP, as an Affected System, unreasonably applied its stricter NRIS modeling standard to all proposed generating projects in the MISO February 2016 West study group that requested NRIS service in MISO, resulting in the need for an Affected System upgrade in SPP estimated at approximately $300 million (termed the Cooper South constraint).[117] EDF asserts that SPP's NRIS modeling treatment is unjust and unreasonable because none of the projects in the MISO February 2016 West group were meant to deliver power with a sink in SPP and thus would not cause impacts equivalent to NRIS delivery on SPP's system.[118] EDF argues that SPP grid users benefit from the artificially high network upgrade costs SPP identifies as Affected System impacts. EDF asserts that any power flows from the MISO projects in the MISO February 2016 West study group to SPP will be inadvertent and that the appropriate standard to apply for Affected System impacts is always the less strict ERIS modeling standard, regardless of whether the generator requests ERIS or NRIS in the host RTO.[119]

72. EDF states that MISO appropriately applies the ERIS modeling standard for its Affected System analysis of proposed generation located within and sinking in another RTO, regardless of whether the generator requests ERIS or NRIS in the host RTO. EDF notes that it is unclear what standard PJM uses.[120] Thus, EDF argues that proposed generation projects located on different sides of an RTO seam are subjected to different Affected System standards to determine network upgrade costs. EDF contends that this different treatment has a direct impact on whether generation developers seek to dedicate capital in one RTO or the other – for instance, a developer may choose to develop in SPP

[115] *See supra* note 26.

[116] Complaint at 16.

[117] EDF states that, once a significant percentage of the group changed their interconnection requests in MISO to ERIS, the Cooper South constraint upgrade was no longer required.

[118] Complaint at 17-18.

[119] *Id.*

[120] *Id.* at 19.

to benefit from lower Affected System costs due to MISO's use of the less strict ERIS modeling standard.[121]

73. EDF argues that each of MISO, SPP, and PJM have not shown that the standard each applies for Affected System analysis is just and reasonable and not unduly discriminatory and preferential because the standards have not been filed with the Commission. EDF also states that to the extent their tariffs and JOAs provide that, for Affected System analysis, the RTO will apply the same standard that is applied to generation that proposes to locate on its system, that standard is not just and reasonable.[122] EDF requests that the Commission order the RTOs to file tariff and JOA revisions that include: (1) an obligation for the host RTO, Affected System RTO, and applicable interconnection customers to be apprised of the base model that the Affected System RTO will use for its analysis and an opportunity to comment before Affected System analysis begins; (2) an obligation for the Affected System RTO to provide the Affected System model (on which its Affected System results are based) to the host RTO at the time the Affected System results are provided to the host RTO; and (3) the Affected System study modeling standard that will be applied (i.e., ERIS or NRIS).[123]

b. MISO, SPP, and PJM Answers

74. MISO disagrees with EDF's contention that the modeling standard must be uniform among the RTOs, as: (1) each RTO has its own unique market structure and resource mix; and (2) section 2.5 of the MISO GIP is clear that interconnection customers must comply with the Affected System RTO's procedures when an Affected System study is performed.[124]

75. SPP rebuts EDF's claim that SPP's use of its NRIS modeling standard to evaluate impacts on the SPP system from the interconnection requests in the MISO February 2016 West study group was unjust and unreasonable.[125] SPP explains that, in performing studies to evaluate the impact on the SPP system resulting from an interconnection on a neighboring system, SPP uses the thresholds associated with the same level of service

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[121] *Id.* at 20.

[122] *Id.* at 21.

[123] *Id.* at 3.

[124] MISO Answer to Complaint at 28-29.

[125] SPP Answer to Complaint at 24.

that is requested on the neighboring system.[126] SPP contends that this approach is appropriate because NRIS and ERIS have different impacts due to different levels of deliverability and curtailment priorities. SPP argues that, if it were to study all neighboring system requests (whether for NRIS or ERIS) using the ERIS threshold, SPP's members would be exposed to negative impacts and SPP would not appropriately assign the interconnection customer the cost of that higher level of service.[127]

76. PJM states that it studies requests on MISO's system using the same standard it applies to interconnection requests on its own system, consistent with the level of service requested by the interconnection customer.[128] For example, if a generator requests NRIS in MISO, PJM studies that request as NRIS as an Affected System; likewise, if the generator requests ERIS in MISO, PJM studies it as ERIS as an Affected System. PJM argues that to do otherwise would potentially disadvantage PJM's interconnection customers in terms of adverse impacts to the PJM system, as well as current PJM generators in terms of system congestion or market-to-market payments and inappropriate assignment of costs.

c. Comments to the Complaint

77. E.ON argues that there is a need to define the study scope of Affected System analysis, including whether an ERIS or NRIS standard should be used and an explanation of how network upgrade impacts are allocated between interconnection customers on both sides of an RTO seam.[129] NextEra argues that transmission providers should be required to standardize or publicize their modeling data.[130] MidAmerican requests that the Commission require a stakeholder process to develop specific requirements for consistent modeling and provide clear documentation of study methods on Affected Systems.[131]

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[126] *Id.* at 20-21; Purdy Aff. ¶ 12.

[127] *Id.* at 21.

[128] PJM Answer to Complaint at 25.

[129] E.ON Comments to Complaint at 11-16.

[130] NextEra Comments to Complaint at 8-10.

[131] MidAmerican Comments to Complaint at 7-8.

d. EDF Answer

78. EDF claims that the RTOs have never provided any empirical basis to support their ERIS/NRIS practice, nor has the Commission reviewed the justness and reasonableness of the impact standard that each RTO applies.[132] EDF argues that, for Affected System study purposes, generation locating in, and sinking power solely within, the host RTO are "external" to the Affected System RTO. Given this, EDF contends that, as there will not be power flows that sink on the Affected System RTO, there will not be impacts equivalent to NRIS delivery on the Affected System RTO. EDF asserts that an NRIS study standard to determine Affected System impacts is not just and reasonable.[133] EDF contends that whether an interconnection customer requests NRIS in the host RTO is irrelevant for Affected System study purposes.

e. Post-Technical Conference Comments

79. EDF & E.ON argue that the Commission should follow MISO's lead and memorialize that transmission providers must use the ERIS modeling standard for Affected System analysis regardless of whether the generator requests NRIS or ERIS in the host RTO, unless the interconnection request in the host RTO seeks to actually deliver energy to the Affected System RTO.[134]

80. Both SPP and PJM explain that their Affected System analyses evaluate the impacts to their respective systems using the thresholds associated with the same level of service that is requested on the host RTO.[135] SPP states that NRIS and ERIS have different impacts on the transmission system due to different levels of deliverability and curtailment priority. SPP asserts that it is not appropriate for SPP to use the less stringent ERIS modeling standard in conducting its Affected System studies for an interconnection customer's request for NRIS in the host RTO.[136] SPP notes that due to the higher level of system integration afforded to NRIS, a MISO interconnection customer requesting NRIS may have a different impact on the SPP system than if that interconnection customer requested ERIS in MISO. SPP asserts that in order to ensure reliability, provision of the

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[132] EDF Answer to Answers to Complaint at 22-24.

[133] *Id.* at 23-24.

[134] EDF & E.ON Reply to Post-Technical Conference Comments at 23.

[135] PJM Post-Technical Conference Comments at 12; SPP Post-Technical Conference Comments at 22.

[136] SPP Post-Technical Conference Comments at 24-25.

level of service requested, and the proper allocation of costs for necessary upgrades, SPP will use the same thresholds and distribution factor cut-offs to evaluate all NRIS interconnection requests, regardless of whether SPP is the host RTO or the Affected System RTO.[137] SPP further argues that applying a lower threshold than the level of service requested could jeopardize the generator's ability to fully access the MISO market due to congestion on the SPP system that spills over into the market-to-market process and cross-system flowgate curtailment.[138]

81. PJM disagrees with studying an interconnection request using ERIS criteria when the interconnection customer is requesting NRIS in the host RTO. PJM argues that there is the risk that: (1) potential impacts caused by a generator in the host RTO will be ignored by the Affected System RTO; (2) the generator in the host RTO would not be responsible to fix the adverse impact to the Affected System RTO; and (3) a PJM generator may not be able to fully deliver its output consistent with the level of service granted under the PJM tariff because the generator on the host RTO would be causing impacts to PJM's system that are unaccounted for.[139] PJM explains that its specific study information is found in the MISO-PJM JOA and PJM Manuals 14A and 14B.[140]

82. MISO, Invenergy, Tradewind, and EDF & E.ON do not believe it is appropriate for an Affected System RTO to apply NRIS criteria to a request for NRIS on a neighboring host RTO because those interconnection customers are not seeking deliverability on the Affected System RTO.[141] MISO states that in accordance with the ERIS and NRIS tariff definitions in its GIP, the ERIS study is the base analysis that it applies as an Affected System RTO, both to units requesting ERIS and to units requesting NRIS in a neighboring host RTO.[142] MISO states that its ERIS and NRIS modeling is

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[137] *Id.* at 23-24.

[138] *Id.* at 24-25.

[139] PJM Post-Technical Conference Comments at 14.

[140] *Id.* at 12-13.

[141] MISO Post-Technical Conference Comments at 22-23; Invenergy Post-Technical Conference Comments at 8; Tradewind Post-Technical Conference Comments at 7-9; EDF & E.ON Reply to Post-Technical Conference Comments at 23. We note that MISO initially argued that the modeling standard does not need to be uniform across the RTOs. *See* MISO Answer to Complaint at 28-29.

[142] MISO Post-Technical Conference Comments at 19 (citing MISO GIP §§ 3.2.1.1 & 3.2.2.1).

conducted in accordance with these tariff requirements, under methodologies that are further detailed in MISO BPM 15.[143]

83. Invenergy argues that NRIS is a "premium service" which provides for a deliverability assessment (and related upgrades) to allow the interconnection customer to qualify to serve as a capacity resource in the host RTO. Invenergy states that the generator is not obtaining the benefits of NRIS service on the Affected System RTO, as the Affected System RTO is not going to plan its system to deliver the generator's output to loads on the Affected System RTO. Invenergy argues that the Affected System RTO simply needs to evaluate whether the interconnection of the project will have reliability impacts on the Affected System RTO.[144] Invenergy also argues that SPP and PJM's actions have discouraged interconnection customers from seeking NRIS designation in MISO where they can, thus impacting the number of resources that can claim capacity credit in MISO.[145]

84. Tradewind believes it is inappropriate for an Affected System RTO to apply its own NRIS criteria to a request for NRIS service on a neighboring host RTO. Instead, Tradewind asserts that Affected System RTOs should be ordered to study neighboring interconnection requests per the Affected System RTO's ERIS criteria. However, Tradewind states that, if the Commission determines that the Affected System RTO should perform studies using its own NRIS criteria, then either the Affected System RTO must grant NRIS on its own system or the Commission must mandate the criteria and study process to be used for NRIS.[146]

85. In PJM's reply comments, it argues that studying NRIS contingencies has nothing to do with a MISO interconnection customer delivering on the PJM system.[147] Rather, PJM states that its use of NRIS contingencies for an Affected System study is meant to ensure the just and reasonable treatment of all interconnection customers by identifying any potential Affected System impacts to the PJM system, thereby ensuring that PJM generators located and sinking in PJM are able to deliver their output consistent with their

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[143] *Id.*

[144] Invenergy Post-Technical Conference Comments at 6.

[145] *Id.* at 8.

[146] Tradewind Post-Technical Conference Comments at 7-9.

[147] PJM Reply to Post-Technical Conference Comments at 2 (citing E.ON Post-Technical Conference Comments at 5).

level of service under the PJM tariff.[148] SPP argues in its reply comments that while a MISO NRIS customer is not seeking deliverability in SPP, the customer is seeking a higher level of service on the MISO system that will be more likely to impact SPP's facilities than if it did not have that level of service, as it is more likely to be dispatched to serve MISO network load.[149] In its reply comments, MISO does not think it makes sense to evaluate the impacts of an interconnection customer requesting NRIS in MISO as if that customer was requesting NRIS in PJM or SPP.[150] Ultimately, MISO believes that the actual impacts of a generator requesting NRIS on Affected System RTOs could be evaluated through a single NRIS evaluation performed by the host transmission provider, provided the host transmission provider and Affected System RTO have coordinated and agreed upon the assumptions and criteria to be used for such an evaluation.[151]

f. Commission Determination

86. We find that there is not sufficient evidence that demonstrates that current modeling practices in MISO, SPP, and PJM are unjust and unreasonable. The fact that there are variances between MISO, SPP, and PJM on modeling are not sufficient to make such a finding. Rather, the differences in the market structures across MISO, SPP, and PJM may justify each RTO using its own approach, such as an NRIS or ERIS modeling standard, to evaluate the impacts to it as an Affected System regardless of the level of service that an interconnection customer is requesting in the host RTO. Thus, we find that MISO, SPP, and PJM should be permitted to evaluate Affected System impacts in accordance with their existing processes as described in the record of this proceeding, assuming they apply such criteria and procedures consistently and on a not unduly discriminatory basis among all interconnection requests. Accordingly, we deny the Complaint in part, and do not require MISO, SPP, and PJM to unify their modeling standards for Affected System analysis.

87. However, we grant the Complaint, in part, with regard to modeling standards and find that the lack of transparency surrounding whether MISO, SPP, and PJM use ERIS or NRIS modeling standards when conducting Affected System studies is unjust and unreasonable. As discussed above and mentioned by commenters, differences in the modeling standard used to identify impacts on Affected Systems could alter network

[148] *Id.* at 2-3.

[149] SPP Reply to Post-Technical Conference Comments at 20.

[150] MISO Reply to Post-Technical Conference Comments at 8.

[151] *Id.* at 9.

upgrade costs dramatically, potentially create scenarios where participants cannot access markets due to congestion, or force interconnection customers to finance costly network upgrades on neighboring RTOs' systems without receiving commensurate benefits.[152] Thus, we find that the Affected System RTO's choice to study interconnection customers under the ERIS versus the NRIS modeling standard has the potential to significantly affect interconnection costs, and should be part of each RTO's JOA filed with the Commission. We direct MISO, SPP, and PJM to submit, within 60 days of the date of this order, compliance filings to revise their JOAs to describe the modeling standard (i.e., ERIS or NRIS) they use to study, as the Affected System RTO, interconnection customers that request ERIS in the host RTO and interconnection customers that request NRIS in the host RTO.

88. We further find that there is a lack of transparency surrounding the implementation of ERIS and NRIS modeling during the study process. For example, SPP uses a three percent transmission element impact standard for NRIS projects, but this number is not included in SPP's tariff or the MISO-SPP JOA. MISO and PJM likewise do not include such modeling details in their tariffs or the MISO-PJM JOA. Accordingly, we direct MISO, SPP, and PJM to submit, within 60 days of the date of this order, compliance filings to revise their JOAs to state the location in their BPMs or other coordination documents where interconnection customers can find the modeling details[153] that the RTOs use when studying a project as ERIS or NRIS for Affected System studies. We also direct MISO, SPP, and PJM to submit, within 60 days of the date of this order, compliance filings to revise their tariffs to state the location in their BPMs or other coordination documents where interconnection customers can find the modeling details that the RTOs use when studying a project as ERIS or NRIS for interconnection requests on their own systems.

89. Finally, we deny EDF's request to require JOA or tariff revisions for: (1) an obligation for the host RTO, Affected System RTO, and applicable interconnection customers to be apprised of the base model that the Affected System RTO will use for its analysis and an opportunity to comment before Affected System analysis begins; and (2) an obligation for the Affected System RTO to provide the Affected System model (on which its Affected System results are based) to the host RTO at the time the Affected System results are provided to the host RTO.

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[152] *See, e.g.*, Invenergy Post-Technical Conference Comments at 6-9; Tradewind Post-Technical Conference Comments at 9-10.

[153] These details could include impact thresholds or distribution factors.

90. We find that EDF's requests are sufficiently addressed by the requirement in Order No. 845[154] that transmission providers maintain network models, including all underlying assumptions, on either their Open Access Same-time Information System sites or password protected websites. As the Commission found in Order No. 845, this requirement will increase transparency for interconnection customers, allowing them to make more informed interconnection decisions, while also holding transmission providers accountable as to which network models and assumptions they use to assess interconnection requests.[155] Further, the Commission required that these network models and underlying assumptions should reasonably represent those used during the most recent interconnection study and be representative of current system conditions.[156] Interested interconnection customers can review this information to find how similarly situated generators were previously analyzed in Affected System studies.

5. Allocation of Affected System Costs

a. Complaint

91. EDF argues that there is no clear process by which the RTOs allocate network upgrade costs for interconnection projects located near the RTO seams. EDF requests that the Commission order MISO, SPP, and PJM to file tariff and JOA revisions that include how costs will be allocated between proposed generation projects located on different sides of the seam (such as a "higher-queued" standard).[157] Here, EDF again relies on the Cooper South constraint as an example. EDF states that, as part of the MISO February 2016 West study process, EDF reviewed an SPP study for new generation to be located on the SPP system near the SPP-MISO seam, referred to as SPP DISIS 2016-1 study, which identified network upgrades that were geographically near and impacted the Cooper South constraint in SPP.[158] EDF explains that SPP's study was completed in January 2016, along with a restudy in February 2016, well before the MISO February 2016 West studies commenced. Therefore, EDF claims that generation in the MISO February 2016 West study group did not expect any of the facilities identified in the SPP DISIS 2016-1 study to show up as facilities required to address Affected System impacts on SPP's system; however, they did. EDF states that generation in the MISO

[154] *See* Order No. 845, 163 FERC ¶ 61,043 at P 236.

[155] *Id.* P 237.

[156] *Id.* P 236.

[157] Complaint at 3.

[158] *Id.* at 10.

February 2016 West study group were assessed an estimated $311 million in Affected System costs for a new high-voltage transmission line to upgrade the Cooper South constraint in SPP. EDF argues that the RTOs inappropriately shifted costs for upgrades identified in the SPP DISIS 2016-1 study from generation locating within SPP to generation locating within MISO.[159]

92. EDF states that it asked MISO about the SPP costs at an in-person meeting and was advised that MISO and SPP apply a "higher-queued" standard for Affected System analyses.[160] Specifically, EDF states that MISO explained that projects that are lower-queued (i.e., later in time) and located in MISO will not be assigned network upgrade costs for impacts on the SPP system that already are attributed to higher-queued (i.e., earlier in time) projects located in SPP, and vice versa. EDF states that MISO further explained that it and SPP apply a "when the cluster window closes" approach to implement this higher queued standard. EDF states that MISO also explained that it applies a higher-queued standard with PJM, in which MISO and PJM review when each individual interconnection request enters the queue to apply the higher-queued standard.[161] EDF notes, however, that MISO's presentation at an Interconnection Process Task Force meeting indicates that all three RTOs apply a "when the cluster window closes" approach.[162] EDF argues that the standards that each RTO applies are not clear and that there is no discussion of this "higher-queued" standard in the RTOs' tariffs, BPMs, or JOAs; thus, EDF asserts, the RTOs have not demonstrated that the use of such a standard is just and reasonable.[163] EDF also points out that, even under MISO's explanation of the higher-queued standard, it is not clear that the generation projects in MISO's February 2016 West study group are higher-queued compared to the projects

[159] *Id.* at 11. EDF states that this cost shift is equally troubling for interconnection customers within SPP, who may have dropped out of the SPP queue due to the high cost of network upgrades to the Cooper South constraint without knowing that they might be relieved of this cost.

[160] *Id.*

[161] *Id.* at 12.

[162] *Id.* (citing Item 03A (Meeting Materials), Sept. 26, 2017 Interconnection Process Task Force).

[163] *Id.* at 13.

identified in the SPP DISIS 2016-1 study; EDF claims that MISO and SPP disagreed with EDF about this fact in an October 10, 2017 meeting.[164]

93. EDF states that this cost information is necessary because interconnection customers must agree within a certain number of days to move on to the next phase of the queue or withdraw from the queue. For example, EDF notes that MISO requires an interconnection customer to decide, within 15 business days after the system impact study for each phase is provided, whether it will withdraw from the queue or proceed into the next phase and risk forfeiture of its previous financial milestone payment. In the Cooper South example, EDF asserts that MISO did not provide it with SPP Affected System data until six days before the financial milestone for the next phase was due, which EDF contends is not enough time for the interconnection customer to scrutinize the data and determine whether to proceed through the interconnection queue.

b. MISO, SPP, and PJM Answers

94. MISO and PJM refute the contention that they apply a hidden "higher-queued" standard that should be included in their tariffs or the MISO-PJM JOA.[165] MISO asserts that the relative positions of projects in the host RTO's and Affected System RTO's queues may affect their cost responsibility for upgrades, and the cost responsibility for upgrades on the Affected System RTO may depend on the queue priority that the Affected System RTO assigns under its tariff to the host RTO's generation. PJM states that PJM Manual 14A and the MISO-PJM JOA provide that each RTO shall maintain its own generator interconnection queue and that PJM applies the same queue standards that it applies in its regional process, which is that queue positions of each interconnection request are assigned on a first-come, first-served basis.

95. SPP disputes EDF's allegation that MISO and SPP inappropriately included $311 million in SPP Affected System costs to MISO customers as part of the MISO February 2016 West system impact study for network upgrades near the Cooper South constraint. SPP asserts that it did not identify the need for these network upgrades in the SPP DISIS 2016-001 study completed before the MISO February 2016 West studies commenced, as EDF argues.[166] SPP explains that the upgrades included in the SPP DISIS 2016-001 study were, at a minimum, 150 miles away from the Cooper South constraint and had only a limited electrical impact on the constraint; therefore, SPP contends, they were unrelated to any costs of upgrades required to address that constraint. Moreover, SPP

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[164] *Id.* at 14-15.

[165] PJM Answer to Complaint at 23; MISO Answer to Complaint at 26-27.

[166] SPP Answer to Complaint at 25.

argues that the $311 million for a new high-voltage transmission line was not only necessary to address the Cooper South constraint but also mitigated two additional thermal overloads and several additional steady state voltage constraints caused by the generation being interconnected in MISO. Further, SPP contends that the new high-voltage transmission line was necessary to ensure reliability with the interconnection of five gigawatts of additional generation being proposed in the MISO February 2016 West study group.[167] In any event, SPP states that the MISO February 2016 West group is higher-queued, and higher-queued requests are responsible for mitigating impacts.

96. SPP states that EDF is correct that SPP uses a "higher-queued" standard for assigning Affected System costs, whereby network upgrade costs are assigned to higher-queued projects (earlier in time) rather than to lower-queued projects (later in time).[168] SPP states that cost allocations are based on cluster queue priority because both MISO and SPP study interconnection requests on a cluster basis, in which requests submitted during a defined period of time are studied together. SPP states that, in the example referenced by the Complaint, the MISO February 2016 West cluster window closed in February 2016, and the open window for SPP's DISIS 2016-001 cluster ended March 31, 2016; therefore, SPP explains, the MISO February 2016 West cluster is higher-queued.[169]

c. Comments to the Complaint

97. MidAmerican requests that the Commission require a stakeholder process in order to provide clear documentation of queue position on Affected Systems.[170] E.ON argues that there is a need to define the study scope of Affected System analysis, including an explanation of how network upgrade impacts are allocated between interconnection customers on both sides of an RTO seam.[171]

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[167] *Id.* at 25-26; Purdy Aff. at ¶¶ 17, 19.

[168] SPP Answer to Complaint at 22.

[169] *Id.* at 23.

[170] MidAmerican Comments to Complaint at 7-8.

[171] E.ON Comments to Complaint at 11-16.

d. EDF Answer

98. EDF notes that MISO, SPP, and PJM did not adequately respond to its concerns about cost allocation coordination.[172] EDF contends that the RTOs provided no details about how a "higher-queued" standard is determined and applied, nor did they adequately respond to EDF's argument that the RTOs' practices are inconsistent and can lead to allocating costs differently to projects on the seam.

e. Post-Technical Conference Comments

99. EDF argues that there is little transmission provider documentation about how queue priority is determined or that explains specifically how each of MISO, SPP, and PJM determine how costs are assigned to either the host RTO or Affected System RTO cluster.[173] EDF argues that assuming it is appropriate to apply a higher-queued standard, then the requirement must be listed in the RTOs' tariffs and JOAs.

100. MISO states that queue priority for interconnection requests in MISO and its neighboring systems is determined based on the respective deadline set by the transmission providers to enter the DPP or system impact study phase within its interconnection process. For PJM interconnection projects, MISO states that it uses PJM's deadline for entering its system impact study phase. For SPP interconnection projects, MISO states that it uses SPP's closing date of the definitive interconnection system impact study queue cluster open season. MISO also states that its Shared Network Upgrade provision allows interconnection customers required to pay the cost of triggering upgrades to receive reimbursement from other projects benefitting from such upgrade, and MISO states that it supports applying this concept across seams. MISO acknowledges that these relative queue priority rules and cost allocation rules could be more clearly documented to provide interconnection customers with greater up-front transparency into how the process works. MISO does not oppose including these rules in its JOAs with PJM and SPP and/or in appropriate BPMs.[174]

101. SPP states that it assigned the Cooper South upgrade costs to MISO interconnection customers per the Commission's longstanding policy of assigning interconnection-related costs to customers whose interconnection request caused the need

[172] EDF Answer to Answers to Complaint at 26-28.

[173] EDF Post-Technical Conference Comments at 28-29.

[174] MISO Post-Technical Conference Comments at 46.

for the upgrade.[175] SPP states that because its and MISO's open seasons end at different times, SPP and MISO assign the higher queue priority to the RTO's cluster with the open season that ends first.[176] SPP argues that requiring only MISO, SPP, and PJM to deviate from the Commission's long-standing first-in-time policy for interconnection upgrade cost responsibility would be unduly discriminatory. SPP notes that queue priority for SPP interconnection clusters is set forth in the SPP tariff, and using the same queue priority practices in the Affected System process avoids discrimination.[177] MidAmerican cautions, though, that if MISO interconnection customers were to pay the entire cost of the Cooper South upgrade, then interconnection customers in SPP would face lower interconnection and upgrade costs as a result, creating a "free rider" issue.[178]

102. PJM states that it determines queue priority based on when PJM is notified by the host RTO of the interconnection requests. PJM states that cost responsibility is determined by the queue priority established together with PJM's cost allocation rules, whereby the "first to cause" is identified and assigned cost responsibility for the required network upgrade. PJM notes that subsequent queue projects that satisfy PJM's cost allocation and timing thresholds will receive a share of the cost of the network upgrade on the PJM system.[179] PJM states that requiring it to "avoid" assigning network upgrade costs to the project first to cause or "trigger" the need for a network upgrade would result in a different cost allocation methodology than what PJM uses for its interconnection customers under its tariff.[180]

103. Invenergy argues that the Cooper South upgrade should be included in the RTOs' transmission expansion plans and that the entire cost of the upgrade should be borne by SPP or MISO transmission customers, rather than interconnection customers, per the

[175] SPP Post-Technical Conference Comments at 44.

[176] *Id.* at 47 (citing SPP Tariff, Attachment V § 4.1.1).

[177] *Id.* at 48.

[178] MidAmerican Post-Technical Conference Comments at 27.

[179] PJM Post-Technical Conference Comments at 32.

[180] *Id.* at 32-33.

Order No. 1000[181] cost allocation policy that beneficiaries pay for transmission expansion.[182]

104. MISO, SPP, and PJM all oppose establishing a unified approach to determining queue priority in Affected System analysis. By contrast, Tradewind states that the Commission should order RTOs (and utility transmission providers coordinating with RTOs) to establish a common practice for determining cross-seam queue priority. Tradewind also suggests developing a shared cost allocation construct for network upgrades identified in both host transmission provider studies and Affected System studies.[183]

105. Other commenters contend that any revisions to the RTOs' transmission planning processes would require revisiting the Commission's but-for cost causation principles and conducting a broader discussion with more stakeholders than is possible in the instant proceeding.[184]

f. Commission Determination

106. As described in the record of this proceeding, MISO's, SPP's, and PJM's queue priority processes allocate costs for Affected System upgrades based on a higher-queued principle, the result of which is that costs are allocated to those interconnection customers that entered the RTOs' study processes earlier in time (i.e., higher-queued) as opposed to those that entered later in time (i.e., lower-queued). MISO determines queue priority for interconnection requests in MISO and its neighboring systems based on the respective deadlines set by the transmission providers to enter the DPP or system impact study phase within their interconnection study processes. For PJM interconnection projects, MISO states that it uses PJM's deadline for entering its system impact study phase to determine queue priority. For SPP interconnection projects, MISO states that it uses

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[181] *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Order No. 1000, 136 FERC ¶ 61,051 (2011), *order on reh'g*, Order No. 1000-A, 139 FERC ¶ 61,132, *order on reh'g and clarification*, Order No. 1000-B, 141 FERC ¶ 61,044 (2012), *aff'd sub nom. S.C. Pub. Serv. Auth.* v. *FERC*, 762 F.3d 41 (D.C. Cir. 2014).

[182] Invenergy Post-Technical Conference Comments at 14-15.

[183] Tradewind Post-Technical Conference Comments at 31-32.

[184] EDF & E.ON Reply to Post-Technical Conference Comments at 34; MISO Post-Technical Conference Comments at 40; MISO Transmission Owners Reply to Post-Technical Conference Comments at 5-6.

SPP's closing date of the definitive system impact study queue cluster open season to determine queue priority. SPP states that it and MISO assign queue priority based on the open season end date of the RTOs' study clusters. PJM determines queue priority based on when PJM is notified by the host RTO of the interconnection requests, i.e., queue priority is determined on a first-come, first-served basis. MISO, SPP, and PJM have described processes that allow interconnection customers to clearly determine whether they have higher or lower queue priority than an interconnection customer in a neighboring queue consistent with the administration of their respective queues. This allows an interconnection customer to determine, for example, whether it or an interconnection customer on a neighboring system is higher-queued and therefore responsible for the costs of a network upgrade.

107. However, while MISO, SPP, and PJM detailed in this proceeding how they determine relative queue priority with the queues of the other RTOs, EDF and other commenters have demonstrated that interconnection customers are not aware of the RTOs' processes for determining queue priority.[185] Because the queue priority processes are not described in their tariffs or JOAs, we find that there is a lack of transparency in MISO, SPP, and PJM that makes it difficult for interconnection customers to understand how Affected System network upgrade costs are being allocated to them. Accordingly, we grant the Complaint, in part, and direct MISO, SPP, and PJM to submit, in compliance filings due within 60 days of the date of this order, revisions to their JOAs to detail the method each RTO currently uses to determine relative queue priority in an Affected System analysis and to explain how (such as a "higher-queued" standard) each RTO will allocate the costs of network upgrades that are required on an Affected System RTO. Requiring the RTOs to detail this information in their JOAs will provide additional transparency to interconnection customers on their potential responsibility for Affected System network upgrade costs, thereby reducing uncertainty that may hinder interconnection development.

[185] MISO acknowledged that this information is not clearly documented in the MISO tariff or JOAs. MISO Post-Technical Conference Comments at 46.

The Commission orders:

(A) EDF's Complaint is hereby granted in part and denied in part, as discussed in the body of this order.

(B) MISO, SPP, and PJM are hereby directed to submit compliance filings, within 60 days of the date of this order, as discussed in the body of this order.

(C) Docket No. AD18-8-000 is hereby terminated, as discussed in the body of this order.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.