175 FERC ¶ 61,231
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Richard Glick, Chairman;
Neil Chatterjee, James P. Danly,
Allison Clements, and Mark C. Christie.

PJM Interconnection, L.L.C. Docket No. EL21-78-000

ORDER TO SHOW CAUSE

(Issued June 17, 2021)

1. In this order, we find that PJM Interconnection, L.L.C.'s (PJM) Open Access Transmission Tariff and the Amended and Restated Operating Agreement (collectively, Tariff) appear to be unjust and unreasonable based on the ability of sellers to avoid being subject to parameter-limited offers when it is appropriate for those sellers to be subject to mitigation. Pursuant to section 206 of the Federal Power Act (FPA)[1] and Rule 209(a) of the Commission's Rules of Practice and Procedure,[2] we direct PJM within 90 days of the date of the order to either: (1) show cause as to why its Tariff remains just and reasonable or (2) explain what changes to its Tariff it believes would remedy the identified concerns, if the Commission were to determine that the Tariff has in fact become unjust and unreasonable or unduly discriminatory or preferential and, therefore, proceeds to establish a replacement rate.

I. Background

2. Offers in PJM's energy market consist of economic components, which include the price-megawatt pairs, start-up costs, and no-load costs; and operating parameters, which include notification time, startup time, and minimum run time. Sellers submit multiple offers for each resource in advance of the market clearing process: (1) market-based offers, which have no limitations on price or parameter flexibility other than the $1,000/MWh cap on offers that are not cost-based; (2) cost-based offers, which are limited to the resource's cost plus 10% and require that operating parameters are at least

[1] 16 U.S.C. § 824e.

[2] 18 C.F.R. § 385.209(a) (2020).

as flexible as the unit-specific set of operating parameters;[3] and (3) market-based parameter-limited offers that allow price flexibility (up to $1,000/MWh), but require operating parameters to be at least as flexible as the unit-specific set of operating parameters.[4]

3. PJM's Tariff requires sellers to "submit and be subject to pre-determined limits" on cost- and market-based offers under certain circumstances.[5] Where a seller fails the Three Pivotal Supplier (TPS) test[6] under non-emergency conditions, PJM considers the seller's cost-based parameter-limited offer and market-based offer in making commitment and dispatch decisions. Where a seller fails the TPS test under emergency conditions (including a Maximum Generation Emergency, Maximum Generation Emergency Alert, Hot Weather Alert, or Cold Weather Alert),[7] PJM will evaluate a seller's market-based parameter-limited offer in addition to its market-based offer and cost-based parameter-limited offer.[8] Where a seller passes the TPS test under emergency conditions, PJM considers the seller's market-based offers and market-based parameter-limited offers.

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[3] PJM, Intra-PJM Tariffs, Operating Agreement, Sched. 1, § 6.6(a) (8.0.0) (hereinafter cited as Operating Agreement). PJM maintains a unit-specific set of operating parameters for each resource that serve as a reference for market power mitigation. *See* Operating Agreement, Sched. 1 § 6.6 (c) (8.0.0). Parameter-limited schedules must specify parameter values equal to or less limiting, i.e., more flexible, than the defined parameter limits unless the generator is granted an exception. *Id.* § 6.6 (i) (8.0.0).

[4] Operating Agreement, Sched. 1 § 6.6 (8.0.0).

[5] *Id.*

[6] *See* Operating Agreement, Schedule 1, § 6.6(a) (8.0.0). The three pivotal supplier test is a structural test that measures the degree to which the supply from three suppliers (the two largest suppliers and the seller under consideration, all selected relative to a given constraint) is required in order to relieve a specific constraint in a given hour. *See* PJM Operating Agreement, Schedule 1, § 6.4.1 (11.1.2).

[7] *Id.* § 6.6 (b) (8.0.0).

[8] *Id.*

4. Under any of these three circumstances, PJM mitigates the seller's offer to the lowest-cost option, which may not necessarily be the parameter-limited offer.[9] In the day-ahead market, PJM determines the lower of the two offers by evaluating the overall production cost of each offer.[10] In the real-time market, PJM determines the lower offer by evaluating the dispatch cost of each offer.[11] Under all other circumstances, PJM makes commitment and dispatch decisions based on the seller's market-based offer.

5. When a resource's offer is subject to parameter limits, that offer must contain parameters that are at least as flexible as the applicable unit-specific parameter values so that resources are not withholding from the market due to potentially inflexible operating parameters. Unit-specific parameters are associated with the underlying resource's physical capability and are determined by PJM.[12] However, the Tariff also allows sellers to deviate from their resource's unit-specific parameters in certain circumstances by submitting exceptions to PJM for review and approval. Specifically, the Tariff provides for temporary exceptions of less than 30 days, period exceptions lasting between 31 days and one year, and persistent exceptions lasting beyond one year. All exception requests are reviewed by PJM and Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor for PJM (Market Monitor) to ensure the exception is due to an actual operational and physical constraint on the resource and is not simply an economic decision.[13]

6. These Tariff requirements are designed to address the concern that generation resources could exert market power through the submission of inflexible operating parameters intended solely to increase the generation resources' uplift payments.[14] Requiring the submission of parameter-limited schedules with operating parameters at least as flexible as the resource's unit-specific parameter values limits the ability

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[9] *Id.* § 6.4.1 (a) (11.1.2); 6.6 (a) (8.0.0). In a cost-based offer, the price parameters must adhere to PJM's Fuel Cost Policy guidelines while the operating parameters must be parameter-limited.

[10] *Id.* § 6.4.1 (a) (11.1.2).

[11] *Id.* Dispatch cost for the applicable hour = ((Incremental Energy Offer @ Economic Minimum for the hour [$/MWh] * Economic Minimum for the hour [MW]) + No-load Cost for the hour [$/H]). *Id.* § 6.4.1(g) (11.1.2).

[12] PJM April 1, 2021 Filing, Docket No. ER21-1591-000 at 2-3 (PJM Filing).

[13] Operating Agreement, Sched. 1, §§ 6.6 (c) and (i) (8.0.0).

[14] *PJM Interconnection, L.L.C.*, 171 FERC ¶ 61,010, at P 3 (2020) (2020 Order); *PJM Interconnection, L.L.C.*, 125 FERC ¶ 61,244, at P 5 (2008).

of generation resources that fail the TPS test to exercise market power through the submission of inflexible operating parameters. The requirement also guards against the exercise of market power under emergency conditions.[15]

7. Recently, the Market Monitor raised concerns regarding parameter limits in a group of applications for market-based rate (MBR) authority in PJM and a PJM filing related to Tariff provisions allowing sellers to change their unit-specific parameter limits in real time (Real Time Values), as discussed below.

A. State of the Market Report

8. In the 2020 State of the Market Report, the Market Monitor explains that the current implementation of market power mitigation is not consistent with the purpose of having parameter-limited offers, which is to prevent the use of inflexible parameters to exercise market power.[16] According to the Market Monitor's analysis, resources that failed the TPS test in the day-ahead market were mitigated to market-based offers that were less flexible than their cost-based offers in 30.3% of hours in 2020 during non-emergency conditions and less flexible than their parameter-limited market-based offers in 34.5% of hours in 2020 during emergency conditions.[17] The Market Monitor recommends that PJM always enforce parameter-limited values by committing resources only on parameter-limited schedules when the TPS test is failed or during high load conditions such as cold and hot weather alerts or more severe emergencies.[18] The Market Monitor further states that the current Tariff does not require that the price-component of a market-based offer and market-based parameter-limited offer match.[19] This means a seller, during emergency conditions, can include a higher price markup on the market-based parameter-limited offer. The Market Monitor alleges that, because the Tariff requires PJM to commit and dispatch resources based on their lowest cost schedule, sellers can strategically offer higher markups on their market-based parameter-limited offer to ensure that PJM chooses the market-based offer, without parameter limits, and thus avoid mitigation. The Market Monitor recommends that the Tariff be changed to

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[15] 2020 Order, 171 FERC ¶ 61,010 at P 7.

[16] Monitoring Analytics, *State of the Market Report for PJM,* at 138 (2020), https://monitoringanalytics.com/reports/PJM_State_of_the_Market/2020.shtml.

[17] *Id*. at 139.

[18] *Id*. at 115.

[19] *Id*. at 139.

require sellers to offer the same price-quantity pairs in the market-based offer and market-based parameter-limited offer.

9. The Market Monitor also filed several protests regarding parameter-limited schedules on applications for MBR authority.[20] The Market Monitor argues that some sellers that fail the TPS test are able to operate, set prices, and collect uplift payments with operating parameters that are less flexible than their unit-specific parameter limits.[21] The Commission has rejected the protests in the MBR proceedings as not making the required showing under Order No. 861.

B. <u>Real Time Values</u>

10. On April 1, 2021, PJM filed proposed revisions to the Tariff to incorporate rules that would allow sellers to change their unit-specific parameter limits in real time (Real Time Values). PJM stated that the filing would help ensure PJM operators have accurate information related to real time operational constraints of individual resources to ensure the reliable and efficient operation of the electric system. PJM attested that a real time exception process was necessary because if PJM operators do not learn that a resource's actual operational condition differs from its approved parameter limits until after the resource is dispatched, it could potentially cause delays in dispatch and require PJM operators to locate and dispatch a more expensive alternative resource to maintain the necessary power balance in real time. PJM explained that this could result in higher Locational Marginal Prices or even prevent PJM from maintaining the necessary power balance.[22]

11. The Market Monitor protested the Real Time Values Filing, arguing that it undermines market power protections in the PJM energy market.[23] The Market Monitor proposed that, as an alternative to PJM's Real Time Values proposal, PJM instead modify the existing temporary exception process in the Tariff to allow real-time submissions.[24]

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[20] *E.g.*, *Chalk Point Power, LLC*, 175 FERC ¶ 61,230 (2021); *Harts Mill Solar, LLC*, 173 FERC ¶ 61,216, at PP 15-20 (2021); *Paulsboro Refin. Co. LLC*, 174 FERC ¶ 61,128, at PP 12-17 (2021).

[21] *See, e.g.* Market Monitor Protest, Docket No. ER21-573-000 at 5.

[22] PJM Real Time Values Filing, Transmittal, Docket No. ER21-1591-000 at 5.

[23] Market Monitor Protest to PJM Real Time Values Filing, Docket No. ER21-1591-000 at 9.

[24] *Id*. at 9.

12. The Market Monitor explained that sellers frequently use Real-Time Values to extend the notification time of combustion turbines that are not staffed and have no remote start capability. For example, the Market Monitor stated that, in 2020, combustion turbines used Real Time Values to extend their notification times for unstaffed resources in 29% of on-peak hours and 57% of off-peak hours. The Market Monitor asserted that making the economic choice to not staff a resource, such that it is not ready to start, and then extending the time to start through Real Time Values to avoid potential commitment is physical withholding.[25] The Market Monitor stated that extended notification times could force PJM to remove these quick start resources from available supply and to commit other resources.[26]

13. Further, the Market Monitor argued that beginning May 1, 2022, PJM will use the downward sloping Operating Reserve Demand Curves (ORDC) to procure synchronized reserves, primary reserves, and secondary reserves.[27] The Market Monitor stated that under the new ORDCs, offline resources that have the capability of starting in 30 minutes or less but use Real Time Values to increase their notification or start times will have a direct impact on prices in every interval that they are offered. For example, according to the Market Monitor, if 10 combustion turbines of 50 MW each (total 500 MW) use Real Time Values to artificially increase their startup time to a value longer than 30 minutes, secondary reserve prices will increase because the supply of secondary reserves is reduced by 500 MW, and the market will clear at a higher price on the secondary reserve demand curve, even when the minimum reserve requirement is met.[28]

14. In its answer in that docket, PJM argued that, given the aforementioned reliability concerns, it would not be just and reasonable to prohibit submission of Real Time Values because they may be used to withhold.[29] PJM explained that its proposal ensured that resources justify parameter-limited schedules during hot and cold weather alerts and generation emergencies, which complied with the resource's obligation under PJM's capacity performance requirements. PJM stated that the Tariff does not require sellers to

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[25] *Id*. at 9-10.

[26] *Id.* at 7. The Market Monitor explained that the look-ahead window in the real-time market is only two hours. *Id*. n.17.

[27] The new secondary reserve product is defined as the available energy output achievable within 30 minutes. *See* Operating Agreement Sched. 1, § 1.10.1A(m) (36.0.0).

[28] Market Monitor Protest to PJM Real Time Values Filing, Docket No. ER21-1591-000 at 14-16.

[29] PJM Real Time Values Filing, PJM Answer, Docket No. ER21-1591-000 at 3-4.

staff their resources at all times and that extending the notification time by a reasonable amount to allow operators time to get to a resource does not mean that resource is engaged in economic withholding.[30]

15. The Commission rejected PJM's proposed revisions, finding they did not contain sufficient protections against sellers using Real Time Values to avoid market power mitigation by inappropriately increasing their notification time on parameter-limited schedules. Specifically, the Commission found that, when an emergency condition is not in effect, the proposal would have allowed sellers that fail the TPS test to avoid providing justification for changing their parameter limits. The Commission noted that the limited documentation requirements for Real Time Values stand in stark contrast to the existing exemption process, which requires sellers to provide documentation for all requests demonstrating that an actual physical or operational condition exists.[31]

II. Discussion

16. We find that the PJM Tariff appears to be unjust and unreasonable based on the ability of sellers to avoid being subject to parameter-limited offers when it is appropriate for those sellers to be subject to mitigation. We make this preliminary finding in light of the Market Monitor's 2020 PJM State of the Market Report, Real Time Values Filing, and the Market Monitor's MBR protests, which suggest that PJM's Tariff is not adequately mitigating against the potential exercise of market power in two ways. First, we are concerned that the Tariff provisions that dictate how PJM determines which offer is least cost are not just and reasonable. Because the Tariff requires PJM to commit and dispatch resources based on a lowest cost offer (rather than, for example, selecting the resource offer with the lowest total cost among the parameter-limited offers), sellers may be able to structure their market-based parameter-limited offer strategically to ensure that PJM chooses the market-based offer, which is not subject to parameter limits. This undermines the purpose of parameter-limited offers, which is to ensure sellers are not able to exercise market power through the use of inflexible operating parameters.

17. Second, we are concerned that the PJM Tariff appears to be unjust and unreasonable because it fails to contain provisions governing what happens if a seller is unable to meet its unit-specific parameters in real time.[32] Although the Tariff outlines specific processes for exceptions requested in advance of the real-time market, the Tariff

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[30] PJM Answer, Docket No. ER21-1591-000 at 5.

[31] *PJM Interconnection, L.L.C.*, 175 FERC ¶ 61,171, at P 37 (2021).

[32] Requests for temporary exceptions of 30 days or less must be filed at least one business day prior to the commencement of the exception. Operating Agreement, Sched 1, sec. 6.6(i)(i) (8.0.0).

is not clear as to how to treat sellers who are unable to meet their resource's unit-specific parameters in real time. Further, as described above, PJM indicated that a real-time exception process was necessary to avoid reliability problems. While PJM needs accurate, timely information on resources' operating capabilities,[33] without a clear process for assessing changes to parameter-limited schedules in real time, PJM's Tariff may not adequately mitigate the potential for sellers to submit Real Time Values to exercise market power. Therefore, PJM's Tariff appears to be unjust and unreasonable because it omits discussion of a real-time process that should be outlined in the Tariff.

18. Based on the foregoing, pursuant to section 206 of the FPA[34] and Rule 209(a) of the Commission's Rules of Practice and Procedure,[35] we direct PJM within 90 days of the date of the order to either: (1) show cause as to why its Tariff remains just and reasonable; or (2) explain what changes to its Tariff it believes would remedy the identified concerns if the Commission were to determine that the Tariff has in fact become unjust and unreasonable or unduly discriminatory or preferential and, therefore, proceeds to establish a replacement rate.[36]

19. In addressing the two concerns described above, PJM should include in its response answers to the following. PJM contends that outside of an emergency condition a seller's extension of the notification time due to a failure to staff a resource may not be an indication of withholding.[37] In light of the language in section 6.6 of Schedule 1 of the Operating Agreement that the provisions of that section, including those pertaining to

[33] We note the Tariff already provides that, notwithstanding the minimum generator operating parameter rules in section 6.6 of Schedule 1 of the Operating Agreement, a generation owner is obligated "under NERC Reliability Standards to notify [PJM] of its actual or expected actual physical operating conditions during the Operating Day." Operating Agreement, Sched. 1, § 6.6(j) (8.0.0).

[34] 16 U.S.C. § 824e.

[35] 18 C.F.R. § 385.209(a).

[36] To the extent that PJM proposes tariff provisions as part of its explanation, it must include any such provisions as non-actionable *pro forma* tariff provisions.

[37] PJM Real Time Values Filing, PJM Answer, Docket No. ER21-1591-000 at 5 (PJM also proposed different reporting criteria for changes in real-time values between situations in which PJM has declared a Hot or Cold Weather Alert or a Maximum Generation Emergency and other non-emergency situations).

notification time, apply to offers into both the day-ahead and real-time energy markets,[38] PJM should include a clarification and explanation of its position on this issue. That is, in its response PJM should include whether—and, if so, why—a supplier, including one that fails the TPS test in day-ahead or in real-time, should be permitted to submit real-time revisions to parameter limits absent approval through an exception process akin to that in section 6.6(i) of Schedule 1 of the Operating Agreement.[39] This explanation should address situations in which a resource does or does not clear the day-ahead market.

20. If PJM prefers to propose revisions to its Tariff on the subject of this order, then it may do so pursuant to its applicable FPA section 205 filing rights. In such a filing, PJM should make its filing through eTariff using a statutory filing and state explicitly that it is submitting its proposal under section 205. If PJM wishes to have the Commission hold this proceeding in abeyance pending the Commission's consideration of any such FPA section 205 filing, PJM should submit an appropriate motion in this docket explaining the basis for the abeyance.

21. Interested entities may respond within 30 days of PJM's filing, addressing either or both of: (1) whether PJM's existing Tariff remains just and reasonable and not unduly discriminatory or preferential; and (2) if not, what changes to PJM's Tariff should be implemented as a replacement rate.

22. In cases where, as here, the Commission institutes a proceeding on its own motion under section 206 of the FPA, section 206(b) requires that the Commission establish a refund effective date that is no earlier than the date of the publication by the Commission of notice of its intention to initiate such proceeding nor later than five months after the publication date. Section 206(b) permits the Commission to order refunds for a 15-month period following the refund effective date. Consistent with our general policy of providing maximum protection to customers,[40] we will set the refund effective date at

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[38] Operating Agreement, Sched. 1, § 6.6(j) (8.0.0) ("[T]he provisions of this section 6.6 shall only pertain to the Offer Data a Market Seller must submit to the Office of the Interconnection for its offers into the Day-ahead Energy Market, rebidding period that occurs after the clearing of the Day-ahead Energy Market *and Real-time Energy Market*[.]" (emphasis added)).

[39] Operating Agreement, Sched. 1, § 6.6(i) (8.0.0).

[40] *See, e.g.*, *Seminole Elec. Coop., Inc. v. Fla. Power & Light Co.*, 65 FERC ¶ 61,413, at 63,139 (1993); *Canal Elec. Co.*, 46 FERC ¶ 61,153, at 61,539, *reh'g denied*, 47 FERC ¶ 61,275 (1989).

the earliest date possible in this docket, i.e., the date of publication by the Commission of notice of its intention to initiate such a proceeding in the *Federal Register*.

23. Section 206(b) also requires that, if no final decision is rendered by the conclusion of the 180-day period commencing upon initiation of a proceeding pursuant to section 206, the Commission shall state the reasons why it has failed to do so and shall state its best estimate as to when it reasonably expects to make such decision. Assuming that PJM files Tariff revisions, we estimate that we would be able to issue our decision within approximately three months of the filing of Tariff revisions.

The Commission orders:

(A) Pursuant to the authority contained in and subject to the jurisdiction conferred upon the Commission by section 402(a) of the Department of Energy Organization Act and by the FPA, particularly section 206 thereof, and pursuant to the Commission's Rules of Practice and Procedure and the regulations under the FPA (18 C.F.R. Chapter I), the Commission hereby institutes a proceeding in Docket No. EL21-78-000, as discussed in the body of this order.

(B) PJM is hereby directed to submit a filing, within 90 days of the date of the order, to either: (1) show cause as to why its Tariff remains just and reasonable; or (2) to explain what changes to its Tariff it believes would remedy the identified concerns if the Commission were to determine that the Tariff has in fact become unjust and unreasonable or unduly discriminatory or preferential and, therefore, proceeds to establish a replacement rate.

(C) Any interested person desiring to be heard in Docket No. EL21-78-000 must file a notice of intervention or motion to intervene, as appropriate, with the Federal Energy Regulatory Commission, 888 First Street, NE, Washington, DC 20426, in accordance with Rule 214 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.214 (2020)) within 21 days of the date of this order.

(D) Interested entities may respond within 30 days of PJM's filing, addressing either or both of: (1) whether PJM's existing Tariff remains just and reasonable and not unduly discriminatory or preferential; and (2) if not, what changes to PJM's Tariff should be implemented as a replacement rate.

(E) The Secretary shall promptly publish in the *Federal Register* a notice of the Commission's initiation of the proceeding ordered in Ordering Paragraph (A) above, under section 206 of the FPA.

(F) The refund effective date established in Docket No. EL21-78-000 pursuant to section 206(b) of the FPA will be the date of publication in the *Federal Register* of the notice discussed in Ordering Paragraph (E) above.

By the Commission.

(S E A L)

Debbie-Anne A. Reese,
Deputy Secretary.