

merits. Accordingly, the February 4th Filing should be rejected, and PJM should be required to implement the existing tariff language. If the February 4th Filing is, nevertheless, not rejected, PJM's proposed Operating Agreement revisions should not be approved. PJM has not shown that the proposal is just and reasonable, and the Market Monitor does show that it is not just and reasonable.

To prevent the exercise of market power through the use of inflexible operating parameters, Section 6.6 of Schedule 1 to the OA requires that resources operate at least as flexibly as their PJM approved limited parameters under two conditions: failure of the three pivotal supplier test ("TPS test"); and under maximum emergency or hot/cold weather alert conditions.⁴ Rather than subject resources to the parameter limits, PJM requires some offers to include the parameter limits, but also allows for a market-based offer with unlimited parameters. PJM may, and does, deem the market-based offer to be the least cost offer and allows the resource to operate with unlimited parameters despite failing the TPS test or despite maximum emergency or hot/cold weather alert conditions. The February 4th Filing proposes to add a sentence to Section 6.6(a) permitting the existing practice for resources failing the TPS test: "Such cost-based offers ("parameter limited schedules") *shall be considered* in the commitment of a resource when the Market Seller does not pass the three pivotal supplier test..."⁵ The February 4th Filing also proposes to add a sentence to Section 6.6(b) permitting the existing practice for resources under maximum emergency or hot/cold weather alert conditions: "Such market-based parameter limited schedules *shall be considered* in the commitment of a resource..."⁶ The proposed language would only require PJM to evaluate parameter limits. It would not require resources to operate subject to

⁴ Limited parameters are flexible and least cost. Inflexible parameters are less flexible than units actual capability.

⁵ February 4th Filing at 5, emphasis added.

⁶ February 4th Filing at 5, emphasis added.

parameter limits. The revisions would allow PJM to continue to exempt resources from operating parameter mitigation on a regular basis, and should be rejected as contrary to the public interest.

The operating parameter mitigation rules play an important role in mitigating market power. PJM should be directed to implement its existing market rules.

I. PROTEST

A. PJM Should Be Ordered to Follow Its Tariff Rules.

The February 4th Filing should be rejected as unsupported. PJM misrepresents a substantial change to the OA market power mitigation rules as a clarification. PJM's proposed tariff changes would build into the market rules the flawed process that PJM has been implementing contrary to the existing tariff rules. Replacing the existing tariff rules would undermine market power mitigation in the PJM energy market. The fact that PJM has violated its market rules for over a decade does not justify its proposal to change the tariff to match noncompliant practices.

The February 4th Filing attempts to unwind the market power mitigation rules about operating parameters that the 2008 PLS Order approved.⁷ The 2008 PLS Order defined parameter limits that require flexible market dispatch and competitive compensation to prevent market power abuse resulting from inflexible parameters. Inflexible parameters like minimum run time, or maximum starts per day or week require PJM to run units based on generator preferences rather than physical operating requirements and result in increased payments to generators. The Market Monitor provides evidence in this protest explaining the historical background clearly showing that both the intent of the 2008 approved rules and the proposed and approved tariff language are unambiguous. The intent of PJM's 2008 parameter limits filing was to mitigate market power by requiring market dispatch and

⁷ 125 FERC ¶ 61,244.

settlement according to limited parameters under two circumstances: (i) when market sellers fail the test for local market power in PJM (the TPS test), and (ii) when PJM declares certain emergency conditions like maximum generation emergency alerts or more severe emergencies.

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B. The Market Power Mitigation Provisions in the Operating Agreement Are Consistent and Coherent.

The February 4th Filing implies the existence of a conflict between Section 6.4.1 of Schedule 1 to the OA, which describes the energy market offer capping process, and Section 6.6, which limits physical operating parameters.⁹ There is no inconsistency and there is no conflict between Sections 6.4.1 and 6.6. The conflict asserted by PJM was created by PJM's implementation of Section 6.6, in which PJM unnecessarily links physical operating parameters to market-based offers and cost-based offers.

These two OA sections are meant to coexist as written. When a generator owner fails the TPS test, PJM can determine the lower offer based solely on the financial parameters (e.g. incremental offer curve, no load cost and start cost) and require its use, and at the same

⁸ 125 FERC ¶ 61,244.

⁹ February 4th Filing at 3.

time and without conflict, PJM can require the use of the most flexible operating parameters, by selecting the more flexible of the unrestricted parameters submitted by the generator owner or the defined parameter limits for the unit.

C. The Flawed Implementation of Operating Parameter Mitigation Fails to Mitigate Market Power.

Currently PJM improperly allows many generators to operate with inflexible parameters, under the Section 6.6 conditions that require parameter limits to be enforced. This occurs when generators combine more costly offers (higher dollar incremental energy, start up, or no load values) with flexible operating parameters and less costly offers with more restrictive (less flexible) operating parameters. The OA does not contemplate or require the practice of combining the financial and physical parameters for purposes of Section 6.6. The full set of financial and physical offer parameters is called an offer schedule. Generators submit market-based, cost-based, and market-based parameter limited schedules. The assertion that PJM must choose between an offer schedule with the financial offer parameters inextricably bound to the physical offer parameters is not supported, but is the core implementation choice underlying PJM's noncompliance with Section 6.6.

In committing resources, PJM chooses among the multiple submitted schedules by evaluating the system production cost based on submitted offers in the day-ahead market and the offered commitment cost in the real-time market. The least cost evaluation should result in a lower cost to customers among the offered schedules for a given unit, but the evaluation is not an absolute. The least cost evaluation is vulnerable to varying offer markups in incremental offer curves and inflexible time based physical offer parameters, like minimum run time and minimum down time. Evaluating the financial offer terms independently from the physical operating parameters, as intended by Sections 6.4.1 and 6.6, would provide greater protection to customers. The Operating Agreement guarantees

customers this protection, but PJM's implementation of market power mitigation is not providing that protection.¹⁰

II. FACTS

A. Initial Parameter Limited Schedules Filing

In 2005, the Market Monitor identified that units were able to exercise market power by manipulating operating parameters (e.g. excessive minimum run time, minimum down time, etc.). The issue was addressed in the Reserve Market Working Group (RMWG). After two years (2005 through 2007), the RMWG developed a proposal for the endorsement of the MIC.

The proposed solution stated that: "During times of transmission constrained operations and/or maximum generation conditions, [the proposal will] limit operating parameters via unit schedules to be consistent with operating parameters based on the market data for actual PJM market offers by unit class, where relevant."¹¹

This proposal was endorsed by the MIC on June 6, 2007. This proposal was endorsed by the MC on November 15, 2007. An additional revision was presented at the June 26, 2018 MC.

In its 2008 filing, PJM argued:¹²

The current market power mitigation rules provide that when PJM determines that the owner of a unit has the potential to exercise market power, PJM caps the unit at its cost-based energy

¹⁰ See Monitoring Analytics, LLC, *2019 State of the Market Report for PJM: January through September*, Section 3: Energy Market for detailed recommendations and further explanation regarding offer capping and parameter limits.

¹¹ PLS Implementation Background Documents. June 2007 MIC RMWG Proposal Material (Presentation and Proposed Rules) pp. 27. <http://www.monitoringanalytics.com/reports/Presentations/2019/IMM_MIC_PLS_Implementation_Background_Documents_20191211.pdf>.

¹² PJM Interconnection, L.L.C., Revisions to Schedule 1 of the Amended and Restated Operating Agreement as well as the parallel provisions of the Appendix to Attachment K of the PJM Open Access Transmission Tariff, Docket No. ER08-1569 (September 25, 2008) at 5.

offer. The mitigation rules, however, do not provide for any limitation of the operating parameters that may be submitted as part of a unit's cost-based energy offer. During the deliberations of the Reserve Market Working Group, concern was expressed by the PJM Market Monitor that market power could be exerted through the submission of inflexible operating parameters for the sole purpose of increasing a unit's Operating Reserves credits.

In order to address these concerns, PJM is proposing that certain pre-determined limits ("parameter limited schedules") that are based on the physical parameters of the units should be applied when certain system conditions exist and a unit has the potential to exhibit market power.

These conditions could exist when

- (i) the unit owner fails the three pivotal supplier test, and
- (ii) PJM declares a Maximum Generation Emergency, issues an alert that a Maximum Generation Emergency may be declared ("Maximum Generation Emergency Alert")...

The Commission approved PJM's proposed Section 6.6 language, which stated:¹³

(a) Generation resources shall be subject to pre-determined limits on non-price offer parameters ("parameter limited schedules") under the following circumstances:

(i) The Operating Reserve markets fail the three pivotal test. When this subsection applies, the parameter limited schedule shall be the less limiting of the defined parameter limited schedules or the submitted offer parameters.

(ii) The Office of the Interconnection: (i) declares a Maximum Generation Emergency; (ii) issues an [Maximum Generation Emergency Alert]; or (iii) schedules units based on the anticipation of a Maximum Generation Emergency...

¹³ *Id.* at 30.

The goal was to prevent the use of inflexible parameters to exercise market power. The approved rules reflected that goal. If implemented correctly, the rules would have prevented the exercise of market power.

The 2008 PJM Balancing Operating Reserve Training states, consistent with the 2008 tariff revisions and the current tariff language, that:

Units will be committed on Parameter-Limited Schedules when:

- 1) The Three Pivotal Supplier (TPS) Test is failed or
- 2) PJM:
 - declares a Maximum Generation Emergency
 - issues a Maximum Generation Emergency Alert
 - schedules units based on the anticipation of a Maximum Generation Emergency or a Maximum Generation Emergency Alert for all or any part of such Operating Day.¹⁴

The PJM Manual 11 (Scheduling Operations) stated in 2009, consistent with the current tariff provisions, that:

Pre-determined limits on non-price offer parameters for all generation resources will define limits on generation resources' non-price offer parameters under the following circumstances:

If the three pivotal supplier test for the operating reserve market defined by transmission constraint(s) is failed, generation resources will be committed on their Parameter-Limited Schedule, as defined below.

The Parameter-Limited Schedule that is utilized shall be the less limiting of the defined Parameter-Limited Schedules or the submitted offer parameters.

¹⁴ PLS Implementation Background Documents. 2008 PJM Balancing Operating Reserve Training pp. 146-147. <http://www.monitoringanalytics.com/reports/Presentations/2019/IMM_MIC_PLS_Implementation_Background_Documents_20191211.pdf>.

In the event that the Office of the Interconnection: (i) declares a Maximum Generation Emergency; (ii) issues an alert that a Maximum Generation Emergency may be declared (Maximum Generation Emergency Alert); or (iii) schedules units based on the anticipation of a Maximum Generation Emergency or a Maximum Generation Emergency Alert for all or any part of such Operating Day, generation resources will be committed on their Parameter-Limited Schedule.¹⁵

Consistent with the plain tariff language, the manual, training, and Operating Agreement included no further conditions regarding the least cost offer evaluation. Consistent with the plain tariff language, the manual, training, and Operating Agreement did not state that parameter limits would merely be considered by PJM. The manual, training, and Operating Agreement referred directly to the commitment of resources using the parameter limits. Consistent with the plain tariff language, the manual, training, and Operating Agreement did not give PJM the option to not use the parameter limits under the defined conditions.

B. Implementation of Operating Parameter Mitigation

In PJM, energy offers are typically referred to as schedules. Schedules in PJM contain financial parameters (e.g. start cost, no load cost, incremental offer curve) and operating parameters (e.g. minimum run time, minimum down time, start times). These operating parameters are referred to in PJM's 2008 operating agreement revisions as "non-price offer parameters." PJM also referred to the set of flexible parameters in its 2008 filing as "parameter limited schedules."

Prior to the implementation of hourly offers, PJM allowed up to 99 schedules. Schedules 1 through 90 were cost-based schedules and schedules 91 through 99 were price-

¹⁵ PLS Implementation Background Documents. PJM Manual 11:Scheduling Operations. Version 42, June 31, 2009. P 235. <http://www.monitoringanalytics.com/reports/Presentations/2019/IMM_MIC_PLS_Implementation_Background_Documents_20191211.pdf>.

based (also called market-based) schedules. With the implementation of PLS, PJM designated schedules 70 through 79 as price-based parameter limited schedules.

PJM made two errors in the implementation of operating parameter mitigation: PJM did not limit the parameters associated with price-based offers during emergency conditions; and PJM did not apply limited (flexible) parameters to the price-based offer when generators failed the TPS test. Worse, PJM does not even consider the price-based offer with limited parameters when the TPS test is failed.

Instead, PJM implemented limits on operating parameters by using the then existing structure of schedules. A schedule included offers for start, no load and incremental energy (financial parameters) and the unit's operating parameters (or nonprice parameters) such as minimum run time and minimum down time. PJM allowed cost-based schedules to use only the defined set of limited operating parameters (schedule IDs 1–69, and 80–90). PJM continued to allow certain market-based schedules to use operating parameters without any limits (schedule IDs 90–99). PJM also designated certain market-based schedules to use only the defined set of limited operating parameters (schedule IDs 70–79, referred to as “price PLS”).

To correctly implement the rules in Section 6.6 of Schedule 1 of the OA, PJM would have ensured that when generators fail the TPS test as specified in subsection (a)(i), or when PJM declares emergencies specified in subsection (a) (ii), units are committed using the most flexible operating parameters, and never using the market-based schedules without limits on operating parameters.

Instead of limiting the operating parameter values in market-based schedules directly when generators fail the TPS test or during emergency conditions, PJM created, outside of and in conflict with the filed market rules, a new subset of market-based offers, essentially creating two sets of market-based offers. Under this flawed approach, PJM makes a decision to select either an offer with limits on its operating parameters or a market-based offer without limits on its operating parameters. The tariff does not require

that such a decision be made. Instead, the tariff requires PJM to commit and dispatch resources imposing limits on their operating parameters.

PJM implemented the limits on market-based offers without updating the mitigation of units failing the TPS test as the Section 6.6 required. Section 6.6 required that when an owner fails the TPS test, the committed or dispatched resources must be subject to limits on their operating parameters. When PJM evaluates which schedule to use for commitment or dispatch after a TPS test failure, PJM considers only the cost-based offer and the market-based offer without operating parameter limits. PJM does not even consider the market-based offer with limited parameters when the TPS test is failed. PJM does not simply apply the most flexible parameters. Therefore, in many circumstances, units that fail the TPS test are committed and dispatched without limits on their operating parameters.

Until June 1, 2016, PJM never committed generators using the price-based parameter limited offers if a unit also offered a price-based offer without limited parameters, even when PJM declared the emergency conditions specified in Subsection 6.6(a)(ii), such as during the 2014 Polar Vortex. Under certain conditions, when a market seller failed the TPS test, PJM committed units on their cost-based offer, which included operating parameter limits, but this was not always the case either. There were instances when PJM committed units on their market-based offer without parameter limits even when the market seller failed the TPS test. Even after the capacity performance rule changes were implemented on June 1, 2016, PJM did not change its implementation to ensure that units were committed with limited operating parameters during the two conditions specified in Subsection 6.6(a). PJM instead used the offer capping process based on Section 6.4.1 to determine both the least cost financial offer and the operating parameter limits for unit commitments. This means that PJM currently commits many resources on their price-based offers without parameter limits, even when the market seller fails the TPS test or when PJM declares a hot/cold weather alert or a more severe emergency.

III. CONCLUSION

The Market Monitor respectfully requests that the Commission afford due consideration to this protest and reject the February 4th Filing, and require PJM to implement the existing tariff language. If the February 4th Filing is, nevertheless, not rejected, PJM's proposed Operating Agreement revisions should not be approved. PJM has not shown that the proposal is just and reasonable, and the Market Monitor does show that PJM's proposal is not just and reasonable.

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Dated: February 25, 2020

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Eagleville, Pennsylvania,
this 25th day of February, 2020.



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