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**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

LS Power Development, LLC)	Docket No. EL24-91-000
)	
v.)	
)	
PJM Interconnection, L.L.C. and Monitoring)	
Analytics, LLC, as the Independent Market)	
Monitor for PJM)	
)	
)	

ANSWER OF THE INDEPENDENT MARKET MONITOR FOR PJM

Pursuant to Rules 212 and 213 of the Commission’s Rules and Regulations,¹ Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor (“Market Monitor”) for PJM Interconnection, L.L.C. (“PJM”),² submits this answer to the answer filed on May 6, 2024, by LS Power Development, LLC, (“LS Power”) (“Answer”).

This proceeding was initiated by a complaint filed by LS Power on March 20, 2024 (“Complaint”). The Complaint requests that the Commission “find that PJM and the IMM have violated provisions in the Operating Agreement relating to the determination of opportunity cost adders (“OCAs”) and have otherwise determined OCAs in an unjust and

¹ 18 CFR §§ 385.212 & 385.213 (2023).

² Capitalized terms used herein and not otherwise defined have the meaning used in the PJM Open Access Transmission Tariff (“OATT”), the PJM Operating Agreement (“OA”) or the PJM Reliability Assurance Agreement (“RAA”).

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unreasonable manner, and require, prospectively, that PJM and the IMM make necessary improvements in their procedures.”³

LS Power failed in its Complaint to demonstrate that OCAs have been calculated in an unjust and unreasonable manner, or that PJM or the Market Monitor have otherwise incorrectly applied the rules. All of the broad conclusions drawn by LS Power depend on a small set of misleading examples and ignore the fact that significant issues were a direct and documented result of inaccurate and incomplete emissions data provided by LS Power to the Market Monitor for use in the opportunity cost calculator (“OCC”). The Answer introduces inaccurate information into the record. LS Power continues to fail to identify an issue that would provide a basis for granting the relief requested. There is no need for the requested relief. The Complaint should be denied.

This Answer should be permitted because it helps to ensure a complete and accurate record, eliminate potential confusion, and thereby facilitate the Commission’s decision making process.

I. ANSWER

A. The Complaint Does Not Show that Any Action Taken by PJM or the Market Monitor Was Unjust and Unreasonable, and Does Not Support the Requested Relief.

The Complaint did not show that any action taken by the Market Monitor or PJM in implementing the OCA rules is unjust and unreasonable. At most, the Complaint correctly identifies two instances where errors were identified and quickly corrected, with no or *de minimis* impacts on the affected units or the markets. For the plants identified by LS Power, the most significant issues and impacts were the result of errors by LS Power in providing input data to the Market Monitor. The failure to meet the initial burden to meet the unjust

³ Complaint at 39.

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and unreasonable standard is fatal to any complaint and is cause to reject a complaint without any further consideration of its requests for relief. The Complaint should be rejected.

To the extent that the Complaint requests relief, it is unreasonable and unrelated to the issues raised in the Complaint, or it requests an unnecessary confirmation of existing practice.

LS Power argues (at 3) that neither PJM nor the Market Monitor have responded to the concern raised in the Complaint that “PJM and the IMM have ... given the IMM sole discretion to determine OCAs and therefore, permissible cost-based energy offers” in violation of the Commission’s regulations and orders.” The Complaint does not show that the Market Monitor has sole discretion over OCAs. LS Power continues to argue (at 3–7), without identifying a single supporting fact, that PJM has inadequately played its role as the final arbiter for implementing the OCA rules. PJM is not required to agree with LS Power. LS Power’s plant specific entreaties to PJM were based on incorrect and incomplete information.

LS Power disputes the Market Monitor’s opinion that LS Power’s experts “understand the logic and details of the standard OCC.”⁴ LS Power claims its experts remain confused about how the OCC operates. Yet the LS Power experts remain convinced that the OCC is wrong. LS Power does not provide specifics, claiming instead that the Market Monitor has not met the Commission’s requirement that “a rate must be transparent and replicable.”⁵ The Market Monitor does meet the Commission’s standards, has provided information sufficient to replicate its results, has gone through a lengthy stakeholder process, and has walked participants through the calculations. The cases relied upon by LS Power show that “replicable” means information necessary to “understand and evaluate the implementation

⁴ LS Power at 7–8, citing the IMM Answer at 9.

⁵ See LS Power at 17 n.84, citing the Complaint at 27 & 93.

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of the formula rate for either the correctness of inputs and calculations.”⁶ That is what the Market Monitor has done and continues to do. LS Power is responsible for the correctness of significant inputs to the calculations for its resources.⁷

The Market Monitor has engaged in a lengthy dialogue about the OCC rules and resultant OCAs with LS Power and others, and continues to engage in regular dialogue with market participants. The Market Monitor has also explained the operation of the OCC rules to market participants at stakeholder meetings, and will continue to explain the OCC in detail with the goal of ensuring wide understanding. The OCC was approved by the members and changes to the OCC have been reviewed and approved by the members. The Market Monitor commits to provide additional technical sessions where it will further confirm that its results can be replicated and to provide results based on illustrative examples provided by participants. It is in the interests of the Market Monitor and PJM and market participants that all understand the inputs, logic and results of the OCC. The Market Monitor will work directly with PJM to ensure that PJM has confidence that it understands the inputs, logic and

⁶ *Id.*, citing *Midwest Indep. Transmission Sys. Operator, Inc.*, 143 FERC ¶ 61,149 at P 83 (2013) (footnote omitted) (also stating that “formula rate protocols must ... provide interested parties with the information necessary to understand and evaluate the implementation of the formula rate for either the correctness of inputs and calculations, or the reasonableness of the costs to be recovered in the formula rate”), *reh’g denied*, 146 FERC ¶ 61,209 (2014).

⁷ LS Power continues to request (at 4, 9) that the Market Monitor be ordered to share its software code with PJM. LS Power claims (at 8) that the Market Monitor is required to share its code with PJM by Section 21 of the Market Monitoring Services Agreement. Section 21 provides “PJM and IMM shall have reciprocal licenses to use, without charge, each other’s intellectual property.” Section 21 does not entitle PJM and Market Monitor to each other’s code. The Commission rules obligate PJM as an RTO to have an independent market monitoring function, but it does not anywhere require that an RTO have access to code developed by that market monitoring function. 18 CFR § 35.28(g)(3). The Commission rules do state: “The [market monitoring] tariff provision must provide that any data created by the Market Monitoring Unit, including, but not limited to, reconfiguring of the Commission-approved independent system operator’s and regional transmission organization’s data, will be kept within the exclusive control of the Market Monitoring Unit.” 18 CFR § 25.28(g)(3)(i)(C).

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results of the OCC both in general and based on specific facts when participants raise issues related to OCAs in order to ensure the continued efficacy of PJM's review.

LS Power continues to argue (at 21) that the "the Operating Agreement be modified to expressly provide that market participants may request that PJM review and make the ultimate determination with respect to permissible OCAs." The Complaint concerns alleged deficient practices and has not attempted to demonstrate that any aspect of the current rules is unjust and unreasonable.

The Complaint fails to show that the implementation of the current OCA rules is unjust and unreasonable. The Complaint should be denied.

LS Power continues to fail to identify an issue that would provide a basis for granting the relief requested. There is no need for the requested relief. The Complaint should be denied.

B. The Treatment of Aurora, Rockford and Chambersburg Does Not Support the Complaint or the Requested Relief.

LS Power raises issues about the treatment of three stations: Aurora; Rockford; and Chambersburg. In the case of Aurora, the Market Monitor made an error that was in place for almost three months. However, LS Power made a very significant error in overreporting its emissions that covered this period and more and that resulted in an overstated OCA. LS Power's statement that Aurora opportunity cost adders "increased seven-fold" is misleading because it turned out that LS Power grossly overstated {BEGIN CUI//PRIV} REDACTED {END CUI//PRIV} emission rates at the time and did not correct them until October 2022.⁸ The Market Monitor has not estimated what the net impact of the errors was, but it cannot be concluded that the Market Monitor's error had a significant impact on Aurora.

In the case of Rockford, LS Power provided the pollutant to include in the calculations and overstated the emission rates, resulting in an overstated OCA based on the single

⁸ Attachment A.

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pollutant. When LS Power revealed this to the Market Monitor after the Market Monitor raised questions with LS Power, the recalculated OCA results were lower. LS Power reacted by deciding that they had identified the incorrect pollutant. When informed of the error and the new LS Power control pollutant, the Market Monitor modified the calculations to incorporate that pollutant. The recalculated OCAs, based on the corrected LS Power data, were higher. The errors in the case of Rockford were entirely LS Power errors and those errors reduced the OCAs significantly. The Market Monitor's incorporation of the corrected data increased the OCAs.

In the case of Chambersburg, the Market Monitor made an error in the calculation of the impact of VOM. However, the primary reason for LS Power's disagreement with the results for Chambersburg was that PJM was dispatching Chambersburg for local constraint control, and that increased the run hours and increased the OCA in an unpredictable manner. The Market Monitor correctly incorporated the run hours and emissions as they occurred. LS Power's commentary on the Chambersburg issue is at times contradictory with the relief requested. On one hand LS Power wants the Market Monitor's OC calculator documented in explicit detail in PJM Manual 15. On the other hand, LS Power complains (at 14) that the Market Monitor did not unilaterally adjust the model to account for an apparent mismatch between historical congestion and congestion patterns affecting the Chambersburg unit in 2023. The forward LMP calculation are provided in explicit detail in Sections 12.5 and 12.7 in PJM Manual 15.

LS Power's statement (at 5) that the "IMM has had to repeatedly modify the IMM Calculator in the past to correct errors" is misleading and incorrect. As previously noted, the Market Monitor identified a flaw in the shadow price determination in June 2022 and immediately updated the OC calculator.⁹ In June 2023, LS Power and PJM identified a double counting error that overstated the VOM cost submitted as a \$ per hour variable. This error

⁹ *Answer of the Independent Market Monitor of PJM* at 21, Docket No. EL24-91-000 (April 19, 2024).

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was also promptly addressed by the Market Monitor shortly after the error was identified. It is misleading to characterize two revisions as “repeatedly” modifying the OC calculator. A common component in all three cases referenced by LS Power is the incorrect emission data provided by LS Power to the Market Monitor for use in the OCC. The emission rates initially submitted for the Aurora and Rockford units were significantly overstated. The Chambersburg emission rates were also updated in 2023 but to a much lesser degree.

The relevant relief sought by LS Power could be attained through the normal PJM stakeholder process. The Market Monitor will expand the details provided in Manual 15 and has done so on three separate occasions, each time proceeding through the PJM stakeholder process.¹⁰ The Market Monitor does not agree that intermediate data produced by the OC calculator such as forward LMPs and forward dispatch should be made widely available. The forward LMPs are commercially available data that the Market Monitor is contractually prevented from providing and that are also available to LS Power.

In support of the relief sought, LS Power presents an incorrect version of events that have occurred over the last two years. It is pure fiction that through months of hard work LS Power exposed flaws in the OCC. The Market Monitor did find an error in the OC calculator in June 2022. The error was promptly addressed and the Market Monitor’s analysis shows that the impacts were minimal because the units (Aurora) were rarely cost capped.¹¹ Discussion of the accuracy of the OC calculator and its impact on the Aurora units is moot because the {BEGIN CUI//PRIV} REDACTED {END CUI//PRIV} emission rates submitted by LS Power were significantly overstated and inflated the OCA. The Market Monitor was notified by LS Power via email on September 27, 2022, that the {BEGIN CUI//PRIV} REDACTED {END CUI//PRIV} emission rates were being updated and the updates would

¹⁰ See revisions 31, 35 and 44 to *PJM Manual 15: Cost Development Guidelines, Revision 44*, PJM Interconnection L.L.C. (August 1, 2023).

¹¹ *Answer of the Independent Market Monitor of PJM* at 4-5, Docket No. EL24-91-000 (April 19, 2024).

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be “retroactive to 10/1/2021 affecting 12 month running totals.”¹² {BEGIN CUI//PRIV} REDACTED. {END CUI//PRIV}

Similar errors were found in the {BEGIN CUI//PRIV} REDACTED {END CUI//PRIV} emission rates submitted by LS Power for the Rockford units in July 2022. {BEGIN CUI//PRIV} REDACTED {END CUI//PRIV} LS Power’s narrative regarding the Rockford units is particularly confounding. All mistakes and misjudgments with respect to the Rockford units are entirely the fault of LS Power. LS Power submitted erroneous {BEGIN CUI//PRIV} REDACTED {END CUI//PRIV} emission rates to the Market Monitor. LS Power chose not to ask the Market Monitor to model {BEGIN CUI//PRIV} REDACTED {END CUI//PRIV} in the OCC calculator. LS Power argues (at 15) that they “had no way of knowing that the accurate but limited emissions information ... was driving spurious simulation results and OCAs.” First, the emissions data was not accurate and second, it is apparent that the LS Power analysis that identified {BEGIN CUI//PRIV} REDACTED {END CUI//PRIV} as the binding emission was incomplete. The emission rates, the rolling 12 month total emissions and the limiting value are all that is needed for this analysis. A very simple calculation, $[(\text{Limit less total emissions to date}) / (1 \text{ hour of emissions at maximum output})]$, provides a quick and easy estimate of the hours the unit can run before hitting the limit. {BEGIN CUI//PRIV} REDACTED {END CUI//PRIV} This calculation ignores the impacts of starts which generally have high {BEGIN CUI//PRIV} REDACTED {END CUI//PRIV} emissions relative to the other pollutants. LS Power’s insistence that they needed the hourly dispatch from the OCC, or needed to go to PJM, to make a determination as to whether or not the {BEGIN CUI//PRIV} REDACTED {END CUI//PRIV} constraint was in play is simply not accurate. This simple calculation clearly shows that the {BEGIN CUI//PRIV} REDACTED {END CUI//PRIV} constraint could be the more severe of the two constraints and that LS Power should have requested that the Market Monitor model the {BEGIN CUI//PRIV}

¹² See Attachment A.

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REDACTED {END CUI//PRIV} constraint when LS Power first requested an OCA for the plant. Instead of a spelunking expedition, LS Power should have done the indicated simple calculation from the outset.

LS Power repeats their complaints (at 16) regarding the Market Monitor's response to their request to model additional emission constraints for the Rockford units. The LS Power claim that this was a months long ordeal is simply not true and the Market Monitor addressed this misrepresentation in its April answer.¹³ In short, LS Power made the request on July 22, 2022, the Market Monitor responded that day with a data request for needed details and the model updates were completed and in production approximately two weeks after receiving the additional data.

While asserting the irrelevance of the statistics previously provided by the Market Monitor demonstrating the very limited impact on plant revenue or reliability, LS Power (at 11) also noted that the Market Monitor did not provide comparable day-ahead statistics. The Market Monitor did not provide day-ahead results because generation units are infrequently marginal in the day-ahead market. In the day-ahead market, virtual transactions account for a large share of marginal resources. {BEGIN CUI//PRIV} REDACTED {END CUI//PRIV}

II. MOTION FOR LEAVE TO ANSWER

The Commission's Rules of Practice and Procedure, 18 CFR § 385.213(a)(2), do not permit answers to protests, answers, or requests for rehearing unless otherwise ordered by the decisional authority. The Commission has made exceptions, however, where an answer clarifies the issues or assists in creating a complete record.¹⁴ In this answer, the Market

¹³ See *Answer of the Independent Market Monitor for PJM* at 21, Docket No. EL24-91-000 (April 19, 2024).

¹⁴ See, e.g., *PJM Interconnection, L.L.C.*, 119 FERC ¶61,318 at P 36 (2007) (accepted answer to answer that "provided information that assisted ... decision-making process"); *California Independent System Operator Corporation*, 110 FERC ¶ 61,007 (2005) (answer to answer permitted to assist Commission in decision-making process); *New Power Company v. PJM Interconnection, L.L.C.*, 98 FERC ¶ 61,208 (2002) (answer accepted to provide new factual and legal material to assist the Commission in decision-

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Monitor provides the Commission with information useful to the Commission's decision making process and which provides a more complete record. Accordingly, the Market Monitor respectfully requests that this answer be permitted.

making process); *N.Y. Independent System Operator, Inc.*, 121 FERC ¶61,112 at P 4 (2007) (answer to protest accepted because it provided information that assisted the Commission in its decision-making process).

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III. CONCLUSION

The Market Monitor respectfully requests that the Commission afford due consideration to this answer as the Commission resolves the issues raised in this proceeding.

Respectfully submitted,



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Dated: May 21, 2024

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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 21st day of May, 2024.



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Attachment A

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