

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

PJM Interconnection, L.L.C.)))	Docket No. ER24-99-000
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**ANSWER AND MOTION FOR LEAVE TO 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, and moves for leave to answer, the answer to protests filed in this proceeding by PJM on December 21, 2023 (“PJM Answer”).

I. ANSWER

A. Summary

The PJM Answer fails to address substantive issues raised by the Market Monitor and others that identify significant deficiencies in PJM’s filing submitted October 13, 2023 (“October 13th Filing”).³ Where PJM does attempt to address issues, PJM’s response is inadequate and does not support the assertion that PJM’s proposed changes are just 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”).

³ See Protest of the Independent Market Monitor for PJM, Docket No. ER24-99-000 (November 9, 2023); Comments on Response to Deficiency Notice, Answer and Motion for Leave to Answer, of the Independent Market Monitor for PJM, Docket No. ER24-99-000 (December 21, 2023).

reasonable. An overall theme of the PJM Answer is that PJM continues to rely on vague assertions that PJM will address significant issues at an uncertain future date through changes to the manuals that are not subject to stakeholder or FERC review or approval.⁴ This approach does not and cannot show that a proposal is just and reasonable. This approach effectively requests that the Commission cede its regulatory authority to PJM. The level of uncertainty that would be created by accepting PJM's filings would be inconsistent with efficient and competitive markets both because key elements of the filings are not final and because the proposal would create significant and unnecessary levels of uncertainty for all market participants.

PJM (at 2) has failed to make the case that the proposal in Docket No. ER24-99 "will help to strengthen the capacity market's ability to send market signals that incentivize resource adequacy in PJM." Ensuring that market signals reflect the underlying supply and demand conditions in the markets is essential. But PJM's proposal is an effort to change the signals to PJM's desired results rather than to allow a well designed market to send the signals, although PJM apparently cannot decide exactly what signal it wants to send. PJM alternatively asserts that its proposals will reduce prices or increase prices, depending on the target audience.⁵

PJM continues to assert its unique ability to administratively define the value of assets three years prior to a delivery year, based on a black box method that is not founded on market principles and does not allow market forces, including actual, ongoing resource performance in response to market signals, to define asset values. That initial definition of

⁴ See for example, PJM's response to FERC's questions on Installed Capacity, Capacity Resource Testing to account for winter capability of Unlimited and Variable Resources, eligibility and accreditation of dual fuel units and enforcement details related to binding notice of intent to offer, PJM Answers to Question in Deficiency Notice, ER24-99-001 (December 1, 2023).

⁵ PJM characterized that increase in prices in their October 13 filing as modest. See October 13th Filing, Attachment D (Affidavit of Dr. Walter Graf) at 8. PJM also claimed that anticipated higher prices would lead to improved supplier revenue and encourage investments. See PJM Answer, Attachment A (Reply Affidavit of Patrick Bruno and Walter Graf) at 100.

asset values, based on class history, would be updated by PJM prior to the delivery year using the same black box method, putting resource owners at risk of unpredictable capacity shortfalls just prior to the delivery year.

PJM's ELCC approach is based on incorrect input data on the winter output of thermal resources that significantly affects the value of market assets including both thermal and renewable resources.

PJM's ex ante ELCC approach fails to determine the reliability of the actual portfolio of resources that clear in the auction, meaning that PJM's approach would not and cannot correctly define either the asset value of resources or the expected reliability for the delivery year. PJM promises more such volatility when they explain that the filed ELCC values are only preliminary (indicative) and will change again which further contributes to the existing climate of uncertainty. PJM does not check or verify the reliability characteristics of the portfolio of resources that actually clear in an auction, but bases its reliability conclusions on the entire portfolio of available resources identified prior to the auctions. PJM's ex ante administrative ELCCs will be wrong both as a result of the difference between the portfolio of total available resources and the cleared resources, and as a result of the interactive effects of changes in class ELCCs. As a result, PJM's administratively defined ELCC asset values will be incorrect and PJM's actual reliability position will not be what PJM assumes because the reliability assessment is based on incorrect, ex ante ELCC ratings.

The Commission should reject the filings in both Docket Nos. ER24-98 and ER24-99 because the proposed changes do not have a logical economic basis and will negatively affect the competitiveness of the capacity market and negatively affect reliability and therefore have not been shown to be just and reasonable.

PJM has not supported the claim that the proposed changes are just and reasonable and neither PJM's Answer nor PJM's responses to the Commission's deficiency notice change that conclusion. PJM has not explained the urgency of its appeals to the Commission for expedited action on its filings. PJM already has the authority to improve its testing, risk modeling, load forecasting and reserve margins without further Commission action.

The Commission should accept the Market Monitor’s Complaint in Docket No. EL24-12, which is designed to provide more time to everyone to more carefully consider the issues and define clear, market based, and implementable solutions that are well defined within the tariff and do not include vague definitions that can be filled in later by PJM at its discretion and without substantive review, via manual changes. The Market Monitor’s Complaint would also eliminate the possibility of dramatic financial consequences associated with 24 hours of cold weather by making capacity market penalties commensurate with the market defined value of capacity during the proposed period for further review.

B. Rules That Significantly Affect Prices, Terms and Conditions Must Be Included in the Tariff.

In response to arguments from multiple parties “that PJM’s marginal ELCC approach is a ‘black box’ and ‘fails to provide resources with sufficient detail to conduct such an evaluation,’” PJM claims that the Commission approved the level of tariff detail needed for its marginal ELCC approach when it previously accepted PJM’s average ELCC approach.⁶ PJM is incorrect. PJM cites the April 30, 2021, order in Docket No. ER21-278, et al.:

PJM’s proposed formulaic ELCC methodology [set forth in RAA, Schedule 9.1] appears to largely strike the appropriate balance between providing sufficient detail in its Tariff, while leaving PJM and stakeholders with sufficient discretion to improve various implementation details over time as they gain experience with the ELCC methodology.⁷

The cited passage does not find that ELCC rules do not need to be included in the tariff. The rule of reason requires that “all practices that significantly affect rates, terms and

⁶ PJM at 13, citing Protest and Comments of American Municipal Power, Inc., Docket No. ER24-99-000 (November 9, 2023) at 9; Protest and Motion to Intervene of Vistra Corp. and Dynegy Marketing and Trade, LLC, Docket No. ER24-99-000 (November 9, 2023) at 24–28; Comments of Ørsted Wind Power North America LLC, Docket No. ER24-99-000 (November 9, 2023) at 3–4.

⁷ PJM at 16, citing *PJM Interconnection, L.L.C.*, 175 FERC ¶ 61,084, at P 65 (2021).

conditions” must be included in the tariff.⁸ The cited passage leaves the rule of reason issue unresolved in the expectation that PJM would complete its method as it gained experience. Three years have provided adequate time for PJM to develop its ELCC method and file detailed rules, but it has not done so.

It cannot be reasonably argued that the proposed marginal ELCC approach does not “significantly affect” market prices,” and should therefore not be subject to Commission regulatory review.⁹ If the rules for marginal ELCC are not “realistically susceptible of

⁸ The rule of reason requires that “all practices that significantly affect rates, terms and conditions fall within the purview of section 205(c) of the FPA, and, therefore, must be included in a tariff filed with the Commission.” *See, e.g., Energy Storage Ass’n v. PJM Interconnection, L.L.C.*, 162 FERC ¶ 61,296, 62538 (2018) (“PJM’s December 2015 adjustments to the benefits factor curve, including PJM’s actions to implement through its manuals an entirely different curve that capped RegD participation in certain hours, illustrate how the methodology for establishing the benefits factor is not a mere implementation detail, but instead significantly impacts RegD resources’ participation in the Regulation market and, ultimately, Regulation market clearing. Although we find that PJM must include the methodology for calculating the benefits factor curve in its Tariff, we agree with PJM that it must retain the operational flexibility to effectively control ACE without unnecessary delay. Requiring PJM to maintain the benefits factor calculation methodology in its Tariff permits PJM to set forth implementation and operational details, which may vary over time and may not be reasonably susceptible to specification, in PJM manuals.”); *Cal. Indep. Sys. Operator Corp.*, 119 FERC ¶ 61,076, at P 656 (2007) (“Our policy is that all practices that significantly affect rates, terms and conditions fall within the purview of section 205(c) of the FPA, and, therefore, must be included in a tariff filed with the Commission. Further, we have found that our ‘rule of reason’ test requires a case-by-case analysis....”); *see also Prior Notice and Filing Requirements Under Part II of the Federal Power Act*, 64 FERC ¶ 61,139 (1993), citing *City of Cleveland v. FERC*, 773 F.2d 1368, 1376 (D.C. Cir. 1985) (“[There] is an infinitude of practices affecting rates and service. The statutory directive must reasonably be read to require the recitation of only those practices that affect rates and service significantly, that are realistically susceptible of specification, and that are not so generally understood in any contractual arrangement as to render recitation superfluous. It is obviously left to the Commission, within broad bounds of discretion, to give concrete application to this amorphous directive.”); *Public Service Commission of New York, et al. v. FERC*, 813 F.2d 448, 454 (D.C. Cir. 1987) (held that the Commission properly excused utilities from filing policies or practices that dealt only with matters of “practical insignificance” to serving customers).

⁹ *Id.*

specification,” then the rules are not ready for implementation and cannot be shown to be just and reasonable and have not been shown to be just and reasonable.^{10 11}

C. The Proposed Marginal ELCC Accreditation Approach Is Not Just and Reasonable.

1. PJM Fails to Recognize Higher Capacity Value of Thermal Resources in the Winter.

PJM failed to recognize and account for higher capacity of thermal resources during the winter season as a result of ambient conditions in the ELCC based accreditation analysis. This failure has broad implications for the accuracy of all the proposed ELCC values. As a direct result of this failure, the reliability requirement would be overstated and ELCC based values would be understated for thermal resources.

PJM’s response does not propose a remedy to this issue.¹² PJM argues that since PJM does not study the deliverability of thermal resources using the winter capability, the higher output during winter cannot be used in the ELCC/RRS study. In other words, PJM has been ignoring this issue and plans to continue to ignore this issue despite its critical importance for PJM’s winter ELCC values that are included in the average annual ELCC values. As a result, PJM has not shown its ELCC approach or results to be just and reasonable and not unduly discriminatory.

¹⁰ See PJM Filing Docket No. ER24-99, Attachment B, Proposed Revised OATT Article 1, Definitions of “Gas Combined Cycle Dual Fuel Class” and “Gas Combustion Turbine Dual Fuel Class;” OATT Attachment M–Appendix § II.C.3, Review of eFORD/Accredited UCAP Factor; and RAA Schedule 9.1 §§ H, I, Schedule 9.2 § H, definition of “winter deliverability.” PJM Filing Docket No. ER24-98, Attachment B, OATT Attachment DD § 10A(c), Review of “Performance Shortfall;” OATT Attachment DD § 6.8(a), Definition of “CPQR.”

¹¹ See OA Schedule 1 § 1.7.14 (“The Office of the Interconnection shall be responsible for maintaining, updating, and promulgating the PJM Manuals as they relate to the operation of the PJM Interchange Energy Market.”).

¹² PJM Answer, Attachment B (Reply Affidavit of Dr. Patricio Rocha-Garrido) at 12.

2. PJM's ELCC Approach Uses the Incorrect Resource Mix.

PJM's proposed ELCC approach calculates accreditation values that are based on an assumed resource mix based on the total installed and expected set of PJM resources. PJM's accreditation values are only accurate as long as the actual cleared resource mix remains the same as the total installed and expected set of resources. That will not happen. A significant share of the capacity resources with no must offer requirement (intermittent, storage and demand side resources) have not offered in prior auctions. A significant level of resources have not and will not clear in the auctions. A significant but unpredictable level of resources will retire. New entry will occur. Resources will improve their performance based on investments made after prior performance issues while PJM's performance adjustments could reflect performance from 10 years ago. New entrants will have different performance characteristics than existing resources based on improved technology and lessons learned. It is not reasonable to assume that the cleared resource mix will be identical to the assumed resource mix.

The ELCC accreditation values will not be accurate if the cleared resource mix is different from the assumed resource mix. PJM (at 9) wrongly claims that these objections of the Market Monitor are really an attack on the ex ante nature of the capacity market auctions.¹³ That is clearly not correct. The Market Monitor has long supported three year forward capacity market auctions. PJM attempts to distract from the real issue for which it has no reasonable response. The Market Monitor's objection is to the fundamental construct of the marginal ELCC based accreditation approach. The marginal accreditations are a point estimate contingent on the underlying resource mix. Under PJM's approach, the point estimate is based on one set of resources under specific historical conditions, but PJM uncritically applies that point estimate to a very different set of resources and conditions.

¹³ PJM Answer at 9.

The errors introduced by the ex ante ELCC approach lead to two problems. First, it will not be clear that PJM's capacity procurement meets the required reliability standard. PJM will have hypothetically met the reliability requirement under one set of marginal ELCC class ratings based on the inclusion of all resources, but after clearing the auction the correctly calculated ELCC class ratings will have changed. PJM has several responses but each is mistaken.

PJM (at 11) argues that the fact that PJM "re-accredits resources in updated versions of the annual ELCC/RRS analysis" would address this issue. In the reaccreditation process, PJM is using an updated total resource mix that would take into account updated information on retirements and new entry at the time of the third incremental auction. The reaccreditation process continues to include all resources and continues to ignore the cleared resource mix. As a result, PJM's reaccreditation does not solve the problem that results from the differences between the assumed resource mix and cleared resource mix.

In response to the Commission's deficiency notice question about this issue, PJM provided additional analysis. PJM's analysis reran the ELCC calculation with a small change to the resource portfolio and calculated the impact on the ELCC class values.¹⁴ PJM calculated the marginal accreditation values that resulted from the removal of 2,000 ICAP MW of Tracking Solar and 300 ICAP MW of Storage from the portfolio of assumed resources and compared the results to the prior accreditation values.¹⁵ The differences in the accreditation values were substantial. The errors produced by even PJM's limited analysis are significant,

¹⁴ See Attachment B (Rocha-Garrido Affidavit) at 5.

¹⁵ See Comments on Response to Deficiency Notice, Answer and Motion for Leave to Answer of the Independent Market Monitor for PJM, ER24-99-000 (December 22, 2023) at 25-28.

and rather than provide the Commission with a reason to dismiss the Market Monitor’s point, PJM’s simple example corroborates the Market Monitor’s point.¹⁶

The actual differences in the assumed and cleared resource mix show that PJM’s misunderstands the significance of the issue and the degree to which PJM’s ELCC approach produces incorrect and misleading results. The actual differences between the assumed resource mix and the cleared resource mix are an order of magnitude higher than the very limited example in the PJM analysis. Table 1 shows the actual magnitude of the difference between the assumed resource mix (installed capacity) and the actual cleared resource mix for the 2023/2024 Delivery Year, by technology type. The differences are substantial.

Table 1 Resource mix of the installed capacity and committed capacity¹⁷

Resource Type	Installed Capacity as of June 1, 2023		Cleared and FRR Committed Capacity for 2023/2024 Delivery Year		Difference	
	(Effective Nameplate MW or ICAP MW)	Percent	(Effective Nameplate MW or ICAP MW)	Percent	MW	Percent
Coal	39,903.2	20%	32,486.2	18%	7,417.0	1.9%
Gas	87,899.2	45%	87,914.5	50%	(15.3)	(5.0%)
Hydroelectric	2,769.7	1%	2,106.2	1%	663.5	0.2%
Nuclear	32,184.1	16%	32,293.9	18%	(109.8)	(1.9%)
Oil	4,194.0	2%	4,232.6	2%	(38.6)	(0.3%)
Solar	11,604.5	6%	5,854.8	3%	5,749.7	2.6%
Solid waste	254.5	0%	122.2	0%	132.3	0.1%
Wind	11,590.3	6%	6,827.7	4%	4,762.6	2.0%
Storage	5,905.1	3%	4,662.4	3%	1,242.7	0.4%
Total	196,304.6	100%	176,500.5	100%	19,804.1	0.0%

In PJM’s Answer, PJM (Reply Garrido Affidavit at 4) claims that the Market Monitor presented a misleading example to illustrate this issue. The Market Monitor asserted that, “Under their proposed approach PJM would clear a capacity market where a 1,000 MW ICAP

¹⁶ For example, the marginal ELCC value for solar tracking changed by three percentage points from 25 percent to 28 percent, which would result in a 12.5 percent increase in the accredited capacity for the solar tracking class (Attachment B (Rocha-Garrido Affidavit) at 5).

¹⁷ The table shows the magnitude of the difference between the assumed resource mix in the RRS study and the cleared capacity in the auction. The installed capacity as of June 1, 2023, is used as a proxy for the assumed resource mix in the RRS study. The table shows installed capacity (ICAP MW) for Unlimited Resources and effective nameplate MW for Variable Resources. The differences shown in the table also account for derates and uprates between the auction clearing and the first day of the delivery year as well as imports from and exports to neighboring regions.

Gas Combined Cycle with 84 percent marginal ELCC class rating unit is replaceable by a less expensive four 1,000 ICAP MW Tracking Solar capacity resources with 20 percent ELCC class rating.”¹⁸

PJM’s response entirely misses the fact that the actual hourly output and reliability characteristics of the combined cycle and solar resources are not comparable, yet in a capacity auction under PJM’s proposed ELCC approach to capacity accreditation, the combined cycle and the four solar resources are direct substitutes. On a cold winter day or at night, the output of the solar resource will be zero and the output of the combined cycle will be close to its ICAP rating. The fact that the output of the solar resource will exceed its ELCC class rating on a hot summer afternoon does not change those facts. The resources are not substitutes, the notion of a perfect resource equivalent is fiction and the ELCC values based on the two portfolios are quite different. It is especially important to recognize this dynamic given the fact that coal units are retiring and intermittent resources are entering. This is not a hypothetical problem.

PJM then adds a somewhat perplexing statement that nonetheless effectively supports the Market Monitor’s point. PJM asserts that, “[t]he only circumstance under which the replacement in the example is implausible is if the cleared resource mix were to wildly diverge from the resource mix assumed in the accreditation process.”¹⁹ PJM, to date, has not provided a complete analysis to support that assertion or defined the term “wildly.” The assertion is incorrect. The cleared resource mix will diverge from the assumed resource mix. It is not reasonable to assume that it will not, for all the reasons listed here. This is a real issue and not a hypothetical one. PJM would define the capacity value of actual resources based on extreme and counterfactual assumptions. For this reason the PJM proposed approach to

¹⁸ See Protest of the Independent Market Monitor for PJM, Docket No. ER24-98-000 (November 9, 2023) at 22.

¹⁹ See Attachment B (Rocha-Garrido Affidavit) at 5.

ELCC accreditation has not been supported as just and reasonable and not unduly discriminatory.

Finally, lacking a more substantive response, PJM asserts that the Market Monitor has “manufactured” a new standard. The Market Monitor has not introduced a new standard by stating an expectation that a just and reasonable method would require that these errors be “negligible.” It would have been hoped that this is PJM’s standard.

The entire premise of the ELCC based marginal accreditation approach is the validity of the assumption that the assumed resource mix is the same as the cleared resource mix. The reliability values of the variable and unlimited capacity resources vary with the resource mix. PJM does not object to or deny this fact. Requiring PJM to adhere to reasonable assumptions is not a new standard. No market design approach would be just and reasonable if the assumptions underlying that approach are not validated. This is not a new standard. PJM’s failure to identify the issue and propose its own standard is an additional reason that PJM’s proposal has not been shown to be just and reasonable.

The errors can and should be studied prior to approval by the Commission and PJM should modify their approach to address this issue, but PJM to date has not performed a comprehensive analysis of their proposed method or been willing to consider the required changes. Regardless, the issues identified are significant and not close to negligible.

An actual solution would be to propose an approach that does not rely solely on ex ante black box modeling. Better solutions will emerge if the Market Monitor’s Complaint is accepted and there is more time to create those better solutions.

The second issue is that PJM’s proposed approach introduces substantial year over year volatility in the ELCC class ratings. PJM will calculate the ELCC class ratings for a given delivery year several times, depending on the time between the initial base residual auction and the start of the delivery year. There would likely be significant year to year changes in the ELCC class ratings even without the errors introduced by the ex ante ELCC approach, and the presence of these errors will increase the uncertainty from one year to the next. PJM recently completed the final ELCC calculations for the 2024/2025 Delivery Year. Table 2

shows the ELCC class ratings used to establish the capacity values for the 2024/2025 BRA and two subsequent updates. The onshore wind ELCC increased from 16 percent to 21 percent from the BRA to the most recent update, a 31.3 percent increase for the onshore wind capacity that cleared in the 2024/2025 BRA. The ELCC of hydro intermittent decreased from 46 percent to 36 percent from the BRA to the most recent update, a 21.7 percent decrease for the hydro intermittent capacity that cleared in the 2024/2025 BRA. The ELCC of the solar fixed class increased 9 percentage points from the BRA to the first update, but then dropped 13 percentage points with the most recent update.

Table 2 ELCC Class Ratings for 2024/2025^{20 21}

ELCC Class	December 2022		December 2023
	BRA	Update	Update
Onshore Wind	16%	18%	21%
Offshore Wind	37%	43%	47%
Solar Fixed	36%	45%	33%
Solar Tracking	54%	56%	50%
Landfill Intermittent	60%	63%	61%
Hydro Intermittent	46%	40%	36%
4-hr Storage	82%	82%	92%
6-hr Storage	97%	98%	100%
8-hr Storage	100%	100%	100%
10-hr Storage	100%	100%	100%
Solar Hybrid Closed Loop - Storage Component	NA	85%	68%
Solar Hybrid Open Loop - Storage Component	82%	85%	75%

3. PJM Fails to Address Issues with the Definitions of ELCC Classes.

Vistra’s pleadings in this proceeding also highlight the arbitrary and discriminatory nature of PJM’s ex ante definitions of ELCC classes and also highlight the broader issues with

²⁰ The BRA for 2024/2025 was held in mid December 2022.

²¹ The December 2022 and December 2023 updates are from Table 3 in *December 2023 Effective Load Carrying Capability (ELCC) Report*, PJM Interconnection LLC (January 1, 2024).

a class based definition of capacity value rather than a unit specific definition.²² Vistra correctly points out that PJM has no good reason for its failure to define an ELCC class for gas-fired generators with a firm supply of fuel and firm transportation. PJM's approach to ELCC classes does not correctly value the assets that Vistra identifies. The broader issue is that ex ante class based definitions of capacity value will always be wrong and will always fail to correctly represent unit specific capacity value based on the actual investments in resources and the actual behavior of resources when needed.

PJM's response was another in a long list of vague assertions that PJM would unilaterally fix the problem at some indeterminate point in the future through manual changes that are within the sole control of PJM. As PJM (at 17) succinctly stated: "Finally, the set of ELCC Classes PJM has proposed in this proceeding is not set in stone. PJM intends to continue evaluating the ELCC approach, the market as a whole, and how resources are being accredited."

For example, PJM provides no rationale or evidence for the assumption that the ability to offer on an alternate fuel for two 16 hour periods over two consecutive days creates a different reliability class while the acquisition of firm fuel and firm transportation do not. The answer is not to create more and more granular ex ante ELCC classes. The answer is to use unit specific values and to pay specific units during the delivery year based on actual unit performance and not assumed class based performance. PJM did not include a requirement for firm fuel as a basis to be a capacity resource because in reality it is not possible to precisely define the relative firmness of fuel supplies. The creation of ex ante classes again illustrates that PJM is administratively defining the asset value of resources rather than allowing actual

²² See Motion to Intervene and Protest of Vistra Corp. and Dynegy Marketing and Trade, LLC, ER24-99 (November 9, 2023); Motion for Leave to Answer and Answer of Vistra Corp. and Dynegy Marketing and Trade, LLC, Docket No. ER24-99-000 (December 1, 2023); Comments of Vistra Corp. and Dynegy Marketing and Trade, LLC, Docket No. ER24-99-000 (December 22, 2023); Motion for Leave to Answer and Answer of Vistra Corp. and Dynegy Marketing and Trade, LLC, Docket No. ER24-99-000 (January 8, 2024).

unit by unit performance to determine the payment for capacity. PJM again provides only preliminary (indicative) ELCC class ratings for dual fuel combined cycles (almost identical to single fuel CCs) and for dual fuel combustion turbines (very different from single fuel CTs). There is no explanation for the differences between the CC and CT results or for the differences within the CT class and no basis for the implied assertion that the differences are a result of dual fuel capability rather than other factors, including environmental regulations or unit efficiency.

PJM provides no answer to the point that PJM's proposed mechanism to enforce the proposed performance requirements is unworkable and effectively meaningless. PJM does not state its proposed approach in the tariff, does not state or define the process to evaluate the assertions made by generation owners, does not define a process or a metric to identify when generation owners are not meeting the requirement, and does not define the consequences for not meeting the requirement. The lack of factual support for this rule, the lack of clarity of this rule, the lack of tariff provisions and the lack of a formal review process make any enforcement action, which will likely be initiated by the Market Monitor and not PJM, unlikely to succeed. This is another example of unacceptably vague language in PJM's filing that affects a core element of the capacity market and another reason that the proposal is not just and reasonable.

4. Performance Adjustments

Contrary to PJM's claim (at 13), market participants would not have all the information to accurately reproduce the class accreditation values of their capacity resources. In addition, PJM's proposed ELCC approach applies a resource specific performance adjustment to the class ELCC value that is not based on the most recent performance of the resource. The proposed method, as confirmed by PJM (Reply Garrido Affidavit, at 8), bases the resource specific performance adjustment to the class accreditation on the simulated performance of the resource during a small subset of historical hours with nonzero loss of load probability. The performance adjustment adds to the uncertainty faced by market participants as a result of PJM's class based ELCC. The ELCC approach does not accurately

reflect the capacity value of individual resources and therefore has not been shown to be just and reasonable.

5. PJM Can Improve Risk Modeling Without This Filing.

PJM's proposal includes both risk modeling and accreditation. PJM's proposal is to implement the two components together. There is no reason that improvements to risk modeling must wait for a modified accreditation approach and improvements to risk modeling are not linked in any necessary way to the specifics of PJM's ELCC approach. The proposed improvements to the risk modeling including hourly granularity, correlated generator performance and substituting expected unserved energy (EUE) for loss of load expectation (LOLE) as the metric for the reliability threshold, could be implemented independent of the proposed implementation of marginal ELCC based resource accreditation. The fact that PJM may use the same simulation model for both risk modeling and resource accreditation does not mean that improvements to risk modeling cannot be done separately and immediately.

The Market Monitor and others challenged PJM's approach of asserting a necessary link between implementing improvements to risk modeling and ELCC based accreditation.²³ PJM disagreed without providing any reason for the disagreement. PJM also disagreed on PJM's authority to improve risk modeling without Commission's approval.²⁴ PJM cited updated inputs to Forecasted Pool Requirement and changes associated with the reliance on EFORd as reasons that PJM cannot make changes without Commission approval.²⁵ However,

²³ See Protest of the Independent Market Monitor for PJM, Docket No. ER24-98-000 (November 9, 2023) at 2; Protest and Motion to Intervene of Vistra Corp. and Dynegy Marketing and Trade, LLC, Docket No. ER24-99-000 (November 9, 2023) at 2, 16; Protest and Comments of American Municipal Power, Inc., Docket No. ER24-99-000 (November 9, 2023) at 5.

²⁴ See PJM Answer, at 28.

²⁵ *Id.* at 28.

PJM's citations are all associated with the marginal ELCC accreditation and not with the improvements to risk modeling.

D. PJM's New Simulations Related to Locational Differences Provide No Useful Information.

PJM (at 31) provided an additional simulation of 2024/2025 Base Residual Auction with locational constraints after the end of the PJM stakeholder process. These simulations do not provide any useful information about the expected impacts of PJM's proposed changes to the capacity market. For example, the impact of PJM's proposed changes to the MSOC are not included. These impacts will be very significant and have significant locational impacts. In the response filing (Bruno and Graf, Reply Affidavit, V., at 89), PJM also indicated that they have made other simplifying assumptions such as using CETO values for the 2025/2026 Delivery Year adjusted for the 2024/2025 Delivery Year. The simulations results do not accurately assess the impact of PJM's proposals on either customers or generators. PJM (at 31) does not dispute that.

In response to the Market Monitor's characterization of the impact on the PJM consumers based on simulation results presented in October 13 filing as not modest, PJM (Bruno and Graf Reply Affidavit, V.A., at 100) appears to agree but asserts that the higher cost for capacity is necessary for, among other reasons, to encourage "responsible consumption" and may even result in lower costs in the long run.

PJM's opinions about customer behavior and the need for higher revenues are not relevant. PJM is not a policy maker. PJM's goal should be to design a competitive market in which prices reflect the underlying supply and demand and in which the required reliability targets are met at least cost. PJM's failure to meet that objective means that PJM has not provided support for the assertion that PJM's proposal is just and reasonable.

E. PJM's Requirements for Generator Operation Testing Are Not Just and Reasonable.

PJM argued (at 32) that the proposed testing requirements are "intended to mimic dispatch of committed capacity resources during an actual capacity shortage event." The

notion that test conditions can mimic a PAI is a fallacy. By design, the situations in which PJM faces an actual capacity shortage are very infrequent. The unusual combination of ambient conditions (e.g. extreme heat or cold) and other system stresses lead to unique operational issues that cannot be replicated by test conditions. PJM cannot support the assertion that generators will test under conditions even remotely like the conditions they will face during an actual capacity shortage. PJM's proposal to exempt intermittent resources from testing is not supported.

F. PJM Fails to Show that Its Proposed Stop-Loss Changes Are Just and Reasonable.

PJM continues to fail to respond to the basic math of the interaction between the proposed penalty rate and the proposed stop loss. The two elements of PJM's proposal are not consistent and therefore have not been shown to be just and reasonable. PJM's proposal to have a high penalty rate and a reduced stop loss fails PJM's own tests. PJM has failed to support its proposal to keep the high penalty rate. PJM asserts incorrectly and without support that the low stop loss addresses all the negative financial consequences exhibited during Winter Storm Elliott. PJM also asserts, incorrectly, that the incentive effect of the penalties is not affected by the fact that the penalties will stop entirely when the stop loss is reached.

PJM's filing would retain the high PAI penalties that led to near financial disaster as a result of Winter Storm Elliott while softening the blow by adding a stop loss mechanism based on total capacity market revenues for each unit. PJM ignores the fact that, if the stop loss mechanism binds, the incentive effect of high PAI penalties is entirely eliminated. The higher the penalty compared to the stop loss, the sooner the limit binds and the sooner the incentive effect is removed. If PJM's proposal had been in place during Winter Storm Elliott, the number of hours of penalties required to hit the stop loss would have been reduced by an average of 64 percent and ranged from a reduction of 42 percent to a reduction of 80 percent, based on the different LDA capacity prices. Under the existing stop loss, the number of hours of penalties required to hit the stop loss was about 55 hours for all LDAs.

PJM's repeated suggestion that energy market incentives will address the issue are correct but ironic given PJM's insistence that extreme PAI penalties are needed as an incentive and that energy market incentives are not adequate. Extreme PAI penalties are not needed and there is no evidence to support the assertion that they are needed. If the PAI approach continues, both PAI penalties and the stop loss should be based on the market defined value of capacity, the capacity clearing price.

PJM never explains why it does not take the logical approach and pair the level of the penalties with the level of the stop loss by basing both on the value of capacity as defined by the market. If PJM had done so, the number of hours of penalties required to hit the stop loss would have been remained at about 55 hours for all LDAs.

G. PJM Fails to Support Its Proposed Rules for Planned Generation Capacity Resources in the Calculation of LDA Reliability Requirements.

PJM's proposal to impose a must offer obligation on planned resources highlights PJM's failure to require a must offer obligation for all capacity resources, including intermittent and storage resources. PJM would, illogically, impose a stronger offer requirement on planned intermittent and storage resources than on existing intermittent and storage resources.

PJM fails to respond to the basic point that the capacity market includes a must offer requirement for all capacity resources in order to ensure reliability and in order to maintain the balance between the obligation of load to buy all needed capacity and the obligation of capacity resources to offer their capacity. PJM's approach is unduly discriminatory both because it imposes very different requirements on planned intermittent and storage resources than on existing intermittent and storage resources and because it imposes asymmetric obligations on load to buy but not on supply to sell.

PJM's proposal related to must offer obligations has not been shown to be just and reasonable and is unduly discriminatory.

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 answers or protests 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.²⁶ In this answer, the Market 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.

III. CONCLUSION

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

Respectfully submitted,



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²⁶ 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-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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Dated: January 12, 2024

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 12th day of January, 2024.



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