UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PJM Interconnection, L.L.C.	)	Docket No. ER22-2029-000

ANSWER AND MOTION FOR LEAVE TO LEAVE TO ANSWER OF THE INDEPENDENT MARKET MONITOR FOR PJM

Pursuant to Rule 211 and Rule 213 of the Commission's Rules and Regulations, Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor ("Market Monitor") for PJM Interconnection, L.L.C. ("PJM"), submits this answer to the answer submitted by PJM on July 11, 2022 ("July 11th Answer") and moves for leave to answer. The July 11th Answer responds to the protests and comments filed in response to PJM's June 3, 2022 filing ("June 3rd Filing") initiating this proceeding.

In its order on February 28, 2022 ("February 28th Order"), the Commission rejected as unsupported the proposed use of a 97 percent confidence interval for determining the initial margin deposit for FTRs based on an historical simulation analysis model (HSIM).[1] The Commission set the matter for investigation, but indicated that PJM could make a new 205 filing with better support.[2] In the June 3rd Filing, PJM filed revisions to its FTR credit

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[1] *PJM Interconnection, L.L.C.*, 178 FERC ¶ 61,146 ("February 28th Order"), *reh'g denied*, 179 FERC ¶ 62,068 (2022). PJM initially proposed on December 21, 2021, in Docket No. ER22-703-000, revisions to the FTR credit rules changing how it determines the initial margin deposit for FTRs from a method based on historical averages to one based on an historical simulation analysis model (HSIM) ("December 21st Filing"). The Commission rejected the filing because it found that the use of a 97 percent confidence interval was not supported. *Id*. at P 32. The Commission set the matter for investigation, but also identified PJM's option to file a new proposal under Section 205. *Id*. at P 38.

[2] *Id*. at PP 37–38.

rules again including use of a confidence interval of 97 percent instead of the 99 percent industry standard. In it comments filed June 24, 2022, the Market Monitor explained how PJM continues to fail to support the proposed reliance on the weaker 97 percent confidence interval ("June 24th Comments").

In the July 11th Answer, PJM continues to argue that its proposed revisions to the FTR credit rules that would change how it determines the initial margin deposit (collateral) for FTRs, from a method based on historical averages to one based on an historical simulation analysis model (HSIM), are just and reasonable. PJM's credit rules cannot eliminate risk. PJM's credit rules can only assign risk. Compared to the use of a 99 percent confidence interval, use of a 97 percent confidence interval assigns risk to the PJM membership collectively and away from the FTR purchaser. The FTR purchaser should manage the risk associated with its FTR activity because it is in the best position to do so. PJM fails to support its proposed departure from the 99 confidence interval industry standard.[3] If costs are shifted from FTR buyers to other market participants, no cost-benefit analysis can show that the other market participants benefit in any way.

PJM has failed in its second attempt to support the use of a 97 percent confidence interval. The June 3rd Filing should be rejected with prejudice.

I. ANSWER

The February 22nd Order found (at PP 33 & n.60):

> PJM failed to demonstrate that its proposed FTR Credit Revisions are reasonably calibrated to ensure that market participants will be required to provide adequate collateral relative to the risks of their positions. The record establishes that PJM's proposed 97% confidence interval would result in a reduction in market participants' aggregate collateral commitments relative to the

[3] *See* PJM. Financial Risk Management Senior Task Force. PJM Risk Management: Updated Recommendations at 3 <*https://pjm.com/-/media/committees-groups/task-forces/frmstf/2021/20210804/20210804-pjm-risk-management-updated-recommendations.ashx*>.

> existing FTR Credit Requirement. Although a reduction in aggregate collateral requirements is not inherently problematic, PJM has not provided evidence or otherwise explained why its proposed FTR Credit Revisions will ensure adequate margin requirements for the riskiest market participants.

The June 30th Filing does not remedy the deficiencies identified in the February 28th Order. PJM does not alleviate the concerns about use of a confidence interval weaker than the industry standard. PJM again fails to support use of a 97 percent confidence interval as just and reasonable.

A. PJM Fails to Justify Departure from the Industry Standard.

As a rationale for why PJM should not adopt the industry standard confidence interval of 99 percent for HSIM, PJM (at 6) and Elliot Bay (at 11) argue that there are "structural differences" between those CFTC-regulated exchanges and the Commission-regulated FTR market that justify a weaker standard. The structural difference between the CFTC-regulated exchanges and PJM's FTR market, as cited by Elliot Bay (at 11–12), is that the CFTC-regulated commodity markets clear daily and the period of risk, the time between a collateral shortfall and the period in which the affected portfolio can be liquated is shorter. The conclusion that the shorter period of risk and the more liquid the market justifies the use of higher confidence intervals for the HSIM is nonsensical. No evidence is provided that shows that the structural differences cited by PJM and Elliot Bay support a weaker standard for collateral protection than that employed in CFTC-regulated exchanges. As PJM notes (Attachment C at 9): "The confidence interval reflects the statistical nature of confidence that the initial margin posted by an FTR Market Participant will 'cover' potential market losses that would result from such FTR Market Participant's default, over the time period during which it is expected that the Market Participant's portfolio can be liquidated." Where there is less liquidity and fewer interim opportunities to liquidate (one or two months instead of hours and days), there is greater, not lower risk exposure to the market than a collateral shortfall will result in a default before the portfolio can be

liquidated. The structural differences cited by PJM and Elliot Bay support PJM's adherence to the industry standard, not a weaker standard.

B. PJM's Flawed Cost/Benefit Analysis Does Not Support Adoption of the Weaker 97 Percent Confidence Interval.

PJM continues to claim (at 5 and 8) "that relative to using HSIM with a 97% CI, the incremental costs of using a 99% CI (increased costs to carry extra collateral) exceed the incremental benefits (reduced default allocations)." Neither the June 3rd Filing nor the July 11th Answer provide a reasonable basis for this assertion.

PJM's own analysis shows that the 99 percent confidence interval will, like the 97 percent confidence interval, reduce, relative to the status quo, (i) how often FTR Portfolio Losses exceed the FTR Credit Requirement collateral, and (ii) the dollar amount by which those losses exceed that collateral.[4] The HSIM with a 99 percent confidence interval was found, through back-testing, to result in a failure rate of around 1 percent, compared to a failure rate of around 11 percent under the current rules.[5] Further, PJM states (at 12) that the HSIM at the 99 percent confidence interval requires less collateral, in aggregate, than the status quo margin requirements. In short, the HSIM with a 99 percent confidence interval costs less and reduces risk relative to the status quo. There is a strict benefit, and reduced costs, of moving from the status quo to the HSIM at the 99 percent confidence interval. In the context of how cost/benefit analysis should be done, the 99 percent confidence interval has benefits that exceeds its costs. PJM omits this observation when arguing that the 99 percent confidence interval requires higher collateral costs than the 97 percent confidence interval.

PJM (at 6-7) takes issue with the Market Monitor's statement (Market Monitor filing at 5) that "the most fundamental point is that if costs are shifted from FTR buyers to other

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4 *See* June 3rd Filing at 12.

5 *Id*. at 19 & Appendix H.

market participants, no cost-benefit analysis can show that the other market participants benefit in any way." The Market Monitor's statement remains valid. PJM states as much (at 7) when it notes that even a 99 percent confidence interval "does not assign to a market participant all risks of its market activity." That is exactly the point. Under the current default rules, the cost of default is socialized to all market participants, not just those participating in the FTR market. Even at 99 percent there is still uncovered risk to participants outside of the FTR market. There is, however, even more risk exposure at a 97 percent confidence interval. For this reason, the 99 percent confidence interval, the industry standard, is superior to the 97 percent confidence interval. The 99 percent confidence interval places more of the risk where it belongs, on the FTR market participant that is engaged in the risky behavior, than the 97 percent confidence interval. This design component supports internalizing as much of the risk to the FTR participants as possible, where it belongs. PJM's point about the tail risk could be more directly addressed either by using 100 percent or by ensuring that the tail risk be borne solely by those in the FTR market rather than all market participants.

PJM (at 9-10) takes issue with the Market Monitor's argument that any cost/benefit analysis involving HSIM should examine avoided collateral shortfalls, not avoided defaults. PJM (at 10) argues the cost of realized defaults should be used as a metric of benefits, not avoided shortfalls. PJM argues (at 10) that defaults, not shortfalls, should be the metric of benefit because "it is undeniable from objective experience that the proportion of collateral shortfalls that become defaults is quite low." Contrary to PJM's position, avoided defaults are not the basis of the HSIM calculations. HSIM calculations, as used by PJM, are based on shortfalls because a shortfall is a potential default. That is why HSIM confidence intervals refer to avoided shortfalls, not avoided defaults. PJM itself recognizes (at 9) this is the purpose of the HSIM back cast estimated calculations. As PJM notes elsewhere (at 5), the purpose and benefit of the HSIM approach is to reduce the failure rate relative to the current method. PJM states, "the HSIM model with a 97% CI establishes reasonably calibrated collateral levels for riskier portfolios, as evidenced by dramatic reductions in the

failure rate (i.e., how often in the back-testing market losses exceeded the required collateral) even while reducing aggregate collateral." PJM also cites (at 5) the same observation from Dr. Eydeland that the "HSIM provides considerable protection against the possibility that portfolio losses may exceed the HSIM model's calculated margin." PJM acknowledges that the relationship between portfolio structure, collateral shortfalls and defaults are uncertain.[6] Any shortfall is a potential default, and puts the clearing house and it members at risk. The objective of the general use of the HSIM approach is to protect the central clearinghouse, and its members, from potential exposure to a default from a portfolio in the risk period, by relying on collateral requirements. The objective of the industry standard HSIM approach is not for the clearinghouse and its members to bear the costs of that collateral for the benefit of the market participants.

PJM (at 10) argues that the Market Monitor's proposal "to examine the estimated benefit (reduction in potentially socialized costs of portfolio shortfalls in excess of collateral as defaults) across all possible events, based on historical data, from using HSIM based on a confidence interval of 99 percent instead of 97 percent" would "set the dollar value from the GreenHat default as the benefit gained from higher collateral, and use that to conclude that the benefits exceed the cost of a 99% CI." There is no basis for this assertion. PJM's analysis and conclusion are based on confusing a single possible event (the actual, historically realized FTR portfolio losses) with the range of possible events (the possible realized FTR portfolio losses that could have occurred in the period based on the data used in the HSIM approach). This is not a parallel or correct comparison of costs and benefits. A correct comparison would examine the estimated benefit at the 97 and 99 percent confidence intervals to the HSIM collateral costs for confidence intervals of 97 and 99 percent. Under the HSIM approach the participant's portfolio is subjected to historical FTR price movements to generate a distribution of FTR portfolio value changes which are used to

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6 *See* June 3rd Filing at 23.

calculate the maximum loss corresponding to a fixed confidence level. The maximum loss is used to determine the HSIM for a fixed confidence interval. PJM used the difference in the capital carrying costs between the 99 and 97 confidence interval to calculate the incremental cost of using the 99 instead of the 97 percent confidence interval. PJM did not conduct a parallel analysis for incremental benefits of using the 99 instead of the 97 percent confidence interval. A parallel analysis would subject a participant's FTR portfolio to historical FTR price movements to generate a distribution of potential shortfalls to calculate the maximum potential shortfall corresponding to each fixed confidence interval. The difference between maximum potential shortfall using the 99 instead of the 97 percent confidence interval would be the incremental benefit of using the 99 instead of the 97 percent confidence interval. Instead of using a parallel method, PJM has picked a method that, based on a single set of events (actual market results, not the range of possible market results based on historical variation), seems to support their conclusion. PJM's approach is akin to determining that one does not need car insurance because they made it to work today without having an accident. Based on the historical data used in the HSIM model, the realized shortfalls in excess of collateral could have been much higher than what was realized historically in the period.

C. Other Sources of Collateral Requirements Do Not Justify Under Collateralizing HSIM.

PJM argues (at 11) that "the margin requirement does not stand alone, but is just one important tool, among many, to manage credit risks." PJM asserts (at 11) that "[r]equiring the margin requirement to solve all problems, which is essentially the hurdle set by the Market Monitor's suggested cost/benefit comparison, would deprive the PJM Region of the clear benefits that a reasonable Revised FTR Credit Requirement can provide." PJM's argument has no merit and raises serious concerns about PJM's credit design philosophy. Having other tools and credit requirements does not justify purposely under collateralizing initial margin requirements. Initial margining requirements are supposed to cover a specific set of risks presented by a portfolio. Other tools and credit requirement should not be

expected to cover for under collateralization of the initial margins related risks. Every identified set of risks and potential exposure should be identified and covered with clear rules and requirements. Any other approach is inefficient and not just and reasonable.

D. Burden on Load.

PJM continues to argue (at 11-12) that the increased collateral required by a using a 99 percent confidence interval falls disproportionately on FTR participants that serve load. Despite PJM's arguments to the contrary (at 11-14), there continues to be no basis for this assertion.

PJM maintains (11-14) that the HSIM method for determining initial margin behaves as expected under 95, 97 and 99 percent confidence intervals, meaning that there were 5 percent shortfalls under the 95 percent approach, 3 percent shortfalls under the 97 percent approach and 1 percent shortfalls under the 99 percent approach. The HSIM model produces credit requirements consistent with portfolio specific risk exposures and the cost of unwinding defaulting positions consistent with 95, 97 and 99 percent confidence intervals. The HSIM required under PJM's proposed rules for a specific portfolio does not change if the associated participant is a load serving entity, a generator or a purely financial participant.

For PJM (at 11) to suggest that the initial margin credit requirements generated by HSIM are disproportionate for a class of participants would indicate a systematic problem that would cause a disproportionate credit requirement (credit requirements not in line with expected risk) for every confidence interval, not just the 99 percent confidence interval. There is no basis to support this assertion, and if true, would contradict PJM's statements (December 21st Filing at 25) that "[u]nder the Revised FTR Credit Requirement, all FTR Market Participants are on a level playing field based on their risk profile to the PJM Markets and their risk tolerance for posting initial margin to increase their FTR portfolio."

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.[7] 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.

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[7] 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).

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: July 22, 2022

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 22nd day of July, 2022.

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