UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

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

COMMENTS OF THE INDEPENDENT MARKET MONITOR FOR PJM

Pursuant to Rule 211 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 these comments responding to the filing submitted by PJM Interconnection, L.L.C. ("PJM") on June 3, 2022 ("June 3rd Filing"). In its February Order ("February Order") the Commission found (at 35-37) that PJM's existing credit requirements may be unjust and unreasonable and opened a show cause proceeding under FPA section 206. The Commission (at 37-38) also gave PJM the option to file a motion to hold the show cause proceeding in abeyance and to make a new 205 filing to address the issues that were identified with PJM's current FTR credit rules. PJM chose to file a motion for abeyance and to make a new 205 filing.

PJM's proposed revisions to its FTR credits rules presented in the June 3rd Filing are the same as those presented in PJM's December 2021 FPA section 205 filing that was rejected by the Commission. PJM is again proposing 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).[1] This proposal repeats PJM's initial proposal (December 21st Filing) to use a

[1] PJM initially proposed on December 21, 2021, in Docket No. ER21-703-000, revisions to the FTR credit rules changing how it determines the initial margin deposit for FTRs from a method based

confidence interval of 97 percent instead of the 99 percent industry standard. With the exception of the confidence interval, the Market Monitor continues to support the proposal. 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. There is no reason to depart from the 99 confidence interval industry standard.[2] 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.

The Market Monitor filed comments on the prior proposal.[3] Those comments continue to apply to the revisions proposed in this proceeding, and the Market Monitor incorporates those comments here by reference.

The Market Monitor's comments here address PJM's attempt in its June 3rd filing to meet its burden to support use of a 97 percent confidence interval, which the Commission determined was not met in the December 21st Filing. The February 28th Order rejecting PJM's prior December 21st proposal and initiating an investigation of PJM's FTR credit rules identifies (at P 48) the level of the confidence interval as the "principal disagreement among the parties" that requires resolution:

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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. *PJM Interconnection, L.L.C.*, 178 FERC ¶ 61,146 at P 32 (2022) ("February 28th Order"). 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 See PJM. Financial Risk Management Senior Task Force. PJM Risk Management: Updated Recommendations, page 3 <https://pjm.com/-/media/committees-groups/task-forces/frmstf/2021/20210804/20210804-pjm-risk-management-updated-recommendations.ashx>.

3 *See* Comments of the Independent Market Monitor for PJM, Docket No ER21-703-000 (January 18, 2022).

> [W]e are rejecting PJM's filing because it did not meet its burden of proof regarding this issue. We therefore encourage parties to address the appropriate confidence interval for use of an HSIM model in PJM when responding to this show cause order, including the arguments raised in this proceeding that the evidence submitted by PJM supports the use of a 99% confidence interval and that a 99% or higher confidence interval is the industry standard for financial markets that use central clearing counter parties.[footnote omitted] To that end, we also encourage filings that address whether or not a 97% confidence interval may or may not be found just and reasonable in light of arguments that suggest–particularly with regard to the 99% confidence interval– that: (i) the adoption of a 97% confidence interval causes the PJM market and its customers to subsidize collateral for FTR market participants who should alone absorb the risk as well as the benefit of those positions;[footnote omitted] and (ii) a 97% interval may expose the entire PJM membership to potential default costs.[footnote omitted]

PJM should use the stronger 99 percent confidence interval. PJM has not shown that a weaker 97 percent confidence interval is just and reasonable.

PJM has not shown that the 99 percent confidence interval would be disruptive. The purpose of PJM's adoption of the initial margin approach is to provide PJM, and the market, assurances that defaults will not disrupt the PJM FTR market. FTR defaults are disruptive. FTR defaults occur when market participants do not have sufficient collateral to cover their losses.

PJM's previously filed plan to propose to increase the collateral requirement to 99 percent at an uncertain date in the future has apparently been abandoned in the June 3rd Filing. While that proposal is inferior to setting a specific date now, PJM at least had previously recognized the goal of moving to 99 percent.

I. COMMENTS

PJM does not alleviate the concerns about use of a confidence interval weaker than the industry standard. PJM fails to support use of a 97 percent confidence interval as just and reasonable.

A. PJM Should Adopt the Industry Standard.

PJM states (at 44 and Attachment C at 6) that the selection of HSIM was influenced by the International Swaps Dealers Association ("ISDA") use of an "HSIM model as part of its methodology for computing initial margin in its industry-leading licensed Standard Initial Margin ("SIMM") methodology." While PJM has proposed to adopt HSIM because it is part of the SIMM methodology, it is not proposing to adopt the 99 confidence interval that is also part of the SIMM method.[4]

PJM claims (Attachment C at 21) that using the 97 percent confidence interval instead of the 99 percent confidence interval does not cause market participants to subsidize FTR market participant collateral. There is no basis for PJM's assertion and there is no reason for PJM not to adopt the full SIMM standard.

PJM's HSIM approach should follow the central party industry standard for HSIM using a 99 percent confidence interval.[5] The use of a 97 rather than a 99 percent confidence interval for determining initial margin requirements would mean that FTR market participants will not be required to pay a significant portion of the cost of their portfolio's potential default risk. Relative to an initial margin based on a 99 percent confidence interval, an initial margin based on a 97 percent confidence interval provides a subsidy of collateral related costs by the entire membership of PJM. PJM's own back testing shows this. PJM has stated (Attachment C at 12 and Exhibit F) that the observed collateral shortfalls in its back testing under its HSIM method are consistent with the 95, 97 and 99

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[4] See ISDA Final Document, SIMM Version 2.4 <https://www.isda.org/a/CeggE/ISDA-SIMM-v2.4-PUBLIC.pdf>

[5] See PJM. Financial Risk Management Senior Task Force. PJM Risk Management: Updated Recommendations, page 3 <https://pjm.com/-/media/committees-groups/task-forces/frmstf/2021/20210804/20210804-pjm-risk-management-updated-recommendations.ashx> and See ISDA Final Document, SIMM Version 2.4 <https://www.isda.org/a/CeggE/ISDA-SIMM-v2.4-PUBLIC.pdf>

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. Collateral costs that are not paid by the FTR market participant are imposed on the rest of the membership. Markets work most efficiently when risks are borne by those in the best position to manage them. In this case, the risk of default should be borne by the FTR holders who benefit from their FTR positions and not by PJM members who have nothing to do with other FTR holders' positions.

B. Cost and Benefits.

PJM argues (at 16) that the added costs of using a 99 percent confidence interval appear to exceed its added benefits. PJM provides no reasonable basis for this assertion. The most fundamental point is that 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's conclusion that the added costs of using a 99 percent confidence interval appear to exceed the added benefits relies on a flawed analysis. Comparing the potential shortfalls from a single event to the costs associated with HSIM designed to provide protection against 97 and 99 percent of possible events, based on historical data, is not a parallel or correct comparison of costs and benefits. A correct comparison would 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.

The HSIM approach is designed (Attachment C at 5–6, 8-9) to determine the amount of collateral needed to cover the costs of expected market losses, including the costs of unwinding a position, from a defaulted FTR portfolio. As PJM notes (Attachment C at 9), "[t]he 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." That is, with a confidence interval of 99 percent, there is a 99 percent probability that the collateral required by the HSIM approach (and the assumed weights) will be sufficient to cover any potential market losses that would result from any FTR market participant's default, over the time period during which it is expected a defaulting market participant's portfolios can be liquidated, without any of the default costs being socialized to the PJM membership.

PJM measures the cost of using a 99 percent rather than a 97 percent confidence interval for the HSIM by comparing the difference in the total capital carrying costs for credit across all participants needed to provide a HSIM based on a 99 rather than a 97 percent confidence for the margin period of risk. The margin period of risk covers two auctions, which is the period over which PJM believes that it would have the opportunity to liquidate the FTR portfolio.

PJM provides the HSIM initial margin capital requirement calculation (Attachment B) for both the 97 and 99 percent confidence intervals. PJM found that the 97 percent confidence interval would require $1,220.6 million in aggregate initial margin (Attachment B). This means that there is a 3 percent chance that $1,220.6 million in aggregate initial margin would not be sufficient collateral to hold the PJM market harmless from potential defaults by individual FTR market participants in the margin period of risk. PJM found (Attachment B) that the 99 percent confidence interval would require $1,805.9 million in aggregate initial margin. This means that there is a 1 percent chance that $1,805.9 million in aggregate initial margin would not be sufficient collateral to hold the PJM market harmless to potential defaults by individual FTR market participants in the margin period of risk.

PJM calculates carrying costs for the initial margin for the 97 percent confidence interval to range from $46.92 million to $97.60 million. PJM calculates carrying costs for the initial margin for the 99 percent confidence interval to range from $69.42 million to $144.40 million. PJM states (Appendix B) that the cost of the 99 percent rather than 97 percent confidence interval equals this difference in initial margin capital carrying costs, or $22.5 to $46.8 million.

To calculate the benefits of the 99 percent conference interval relative to the 97 percent confidence interval under the HSIM approach, PJM (at 22) compared the HSIM determined initial margin collateral requirements of the study period under both the 97 and 99 percent confidence interval to the actual FTR portfolio losses in the study period. When PJM compared the resulting shortfalls in excess of HSIM under the 97 and 99 percent confidence intervals in the study period, PJM found using the 97 percent confidence interval instead of the 99 percent confidence interval would have resulted in $27.5 million more in portfolio shortfalls in excess of HSIM.

PJM then claims (at 23) that $27.5 million in avoided shortfalls in the study period is the maximum expected benefit of using the 99 percent confidence interval rather than the 97 percent confidence interval under the HSIM approach. PJM then asserts (at 23–24) that the actual benefit of using the 99 percent confidence interval rather than the 97 percent confidence interval should only be based on an expected portion of $27.5 million in FTR portfolio shortfalls that would result in a default that would be charged to the PJM membership. PJM argues (at 22-23) that very few shortfalls in excess of collateral actually result in a default. Based on this argument, PJM determines that to reflect (at 24) this "generally low incidence of and extent of payment defaults" to FTR shortfalls in excess of collateral by assuming that only 5 or 10 percent of the $27.5 million in shortfalls in excess of collateral would result in a default that would result in the socialization of costs to PJM members. Based on this, PJM (at 22-23) concludes that the benefit of 99 percent confidence interval over a 97 percent confidence interval is only $1.4 to $2.7 million, compared to an increased cost of capital carrying costs of $22.5 to $46.8. Based on these calculations, PJM concludes from this evidence that the costs of going from a 97 to 99 percent confidence interval outweigh the benefits.

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 results in the period based on the data used in the HSIM approach) that could have occurred. Based on the historic numbers

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. 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.

PJM appears to misunderstand the purpose of the HSIM industry standard approach. No clearinghouse would design an initial margin collateral requirement based on the assumption that only 5 or 10 percent of portfolio shortfalls would result in a default. The HSIM industry standard is to have sufficient initial margin collateral to cover a portfolio shortfall for a designated confidence interval. Any shortfall is a potential default, and puts the clearing house and it members at risk. The objective 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.

C. Burden on Load Servers.

PJM argues (PJM at 25) that the increased collateral required by a using a 99 percent confidence interval falls disproportionately on FTR participants that serve load. There is no basis for this assertion.

PJM maintains, and KPMG validated (Exhibit F), 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 risk exposures and the cost of unwinding defaulting positions consistent with 95, 97 and 99 percent confidence intervals.

For PJM 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."

D. Reduced Collateral Requirements.

PJM argues (at 27) that a 97 percent confidence interval will greatly reduce, relative to the current initial margin requirement, (i) how often FTR Portfolio Losses exceed the FTR Credit Requirement collateral, and (ii) the dollar amount by which those losses exceed that collateral.

PJM asserts (at 12) that the 97 percent confidence interval will greatly 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. The same arguments support the adoption of the 99 percent confidence interval. PJM states (at 12) that both the 97 and 99 percent confidence intervals "would reduce overall collateral, relative to the status quo" and (at 19) reducing both the frequency and magnitude of the failure rate when "losses in an FTR participant's FTR portfolio exceed the collateral collected by the FTR Credit Requirement." Moreover, the validity of the HSIM model at the 95, 97 and 99 percent confidence intervals were all confirmed by independent auditors (Exhibit F).

E. HSIM Validated by Independent Auditors.

PJM argues (PJM at 34) that independent auditors validated the HSIM model that includes use of a 97 percent confidence interval. The independent auditors (Exhibit F) also validated the HSIM model for the 95 percent confidence interval and the 99 percent

confidence intervals. The independent auditors finding does not support using the 97 percent confidence interval instead of the 99 percent confidence interval.

II. CONCLUSION

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

Respectfully submitted,

Joseph E. Bowring
Independent Market Monitor for PJM
President
Monitoring Analytics, LLC
2621 Van Buren Avenue, Suite 160
Eagleville, Pennsylvania 19403
(610) 271-8051
joseph.bowring@monitoringanalytics.com

Jeffrey W. Mayes

General Counsel
Monitoring Analytics, LLC
2621 Van Buren Avenue, Suite 160
Eagleville, Pennsylvania 19403
(610) 271-8053
jeffrey.mayes@monitoringanalytics.com

Howard J. Haas
Chief Economist
Monitoring Analytics, LLC
2621 Van Buren Avenue, Suite 160
Eagleville, Pennsylvania 19403
(610) 271-8054
howard.haas@monitoringanalytics.com

Dated: June 24, 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 24th day of June, 2022.

Jeffrey W. Mayes
General Counsel
Monitoring Analytics, LLC
2621 Van Buren Avenue, Suite 160
Eagleville, Pennsylvania 19403
(610)271-8053
jeffrey.mayes@monitoringanalytics.com