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PJM Interconnection, L.L.C.	)	Docket Nos. ER22-2029-000
	)	EL22-32-000
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	)	(consolidated)
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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 October 3, 2022 ("October 3rd Filing"). The October 3rd Filing is submitted in response to the order issued August 2, 2022, accepting the revisions to PJM's credit rules filed June 3, 2022 ("June 3rd Filing"), establishing paper hearing procedures to further develop the record, and consolidating this proceeding with the section 206 proceeding initiated by the Commission in Docket No. EL22-32-000 ("August 2nd Order"). The core issue in the proceeding is whether PJM's proposed reliance on a 97 percent confidence interval as opposed the 99 percent industry standard is just and reasonable. Because PJM has failed to demonstrate that its proposed 97 percent confidence interval is just and reasonable, including in the October 3rd Filing, the June 3rd Filing should be rejected.

I. COMMENTS

PJM claims (at 4) that it's proposed use of an HSIM based on a 97 confidence interval instead of the industry standard 99 confidence interval is just and reasonable. PJM claims (at 14–18) that there are structural differences between the Commission regulated FTR market and CFTC regulated exchanges that justify an HSIM 97 percent confidence interval instead of the HSIM 99 percent confidence interval used in CFTC regulated exchanges. PJM claims (at 4, 20, 35, 37) that the incremental costs of using the 99 percent confidence interval exceed

the incremental benefits. PJM argues (at 37–39) that no party to this proceeding has shown there is an economic benefit associated with the use of a 99 percent confidence interval.

PJM provides no credible evidence to support these claims. To the contrary, PJM actually provides evidence that the 97 percent confidence interval is not just and reasonable and that the 99 percent confidence interval, or higher, is the only just and reasonable option.

PJM (at 14–18) provides no basis for the argument that there is a structural difference between FTRs and CFTC regulated markets and trading products that is material to deriving a different set of HSIM credit rules from those used in CFTC regulated markets.[1] PJM's own consultants filed an affidavit (Attachment D at 7) stating "FTR contracts and FTR markets, in our view, have many of the same market risks associated with them as regulated financial commodity derivatives." PJM's consultants (Attachment D at 7) concluded that "[t]hese similarities are an important reason why we rely on the risk management practices and policies governing the commodity derivative world." The Market Monitor agrees with these assertions. PJM should evaluate the risk to PJM market participants who are required under the PJM tariff to pay for any shortfalls, in the same way that private market participants evaluate their own risk when they are obligated to cover the risk from their private assets.

PJM's entire argument (at 4, 20, 35, 37) for an HSIM based on a 97 percent confidence interval instead of a 99 percent confidence interval is founded on PJM's deeply flawed and misleading cost/benefit analysis. Data from back testing results of HSIM on six auctions is not a sufficient basis to conclude anything about the potential benefits of using an HSIM with a 99 percent confidence interval relative to an HSIM of 97 percent going forward.

Back testing is used to test theories/methods based on a set of actual events. Stress testing is used to test methods based on a potential set of worst case events. Stress testing HSIM would involve taking a set of historical portfolios and looking at the worst possible set

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[1]   Nodal exchange uses a confidence interval of 99.7 percent (*https://www.nodalclear.com/services/risk-management/margin-methodology/*); ICE uses a confidence interval of 99 percent (*https://www.theice.com/clear-europe/risk-management*).

of prices that could have occurred and comparing the HSIM credit requirements against the results. Back testing and stress testing are tests of a theory or method. While useful as a way to test a method, neither back testing nor stress testing are, or should be, the basis of cost/benefit analysis.

Cost/benefit analysis is done on a going forward basis, examining the net expected benefit and net expected cost of alternatives options/methods, using internally consistent approaches to both the benefit and cost calculations. For the purposes here, the determination of expected benefits (reduced shortfalls) requires examining the distribution of possible events using the same distributions of prices and price spreads used to determine the HSIM requirements. The objective should be to study the benefits under the same theoretical framework used to derive the credit requirements. The difference in expected benefits is then compared to the differences in HSIM carrying costs under varying confidence intervals. The incremental change in possible benefits between 97 and 99 is reflected in the reduction in shortfalls between the two confidence intervals. This means that PJM should be comparing the net benefit to the net cost of reducing the tail event related collateral shortfalls by 2.0 percentage points.

Instead of using a parallel method of analysis and comparing the difference in tail event collateral exposure, PJM 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) that appears designed to support their conclusion.

Interpreted correctly, the evidence provided by PJM strongly suggests that the benefits of using the 99 percent confidence interval instead of the 97 percent confidence interval will exceed the costs. PJM notes (at 34–35) that the HSIM collateral requirement is directly linked to the shortfall risk of the affected portfolio. PJM does note (at 35) that the collateral requirements increase in a nonlinear way with an increase in confidence intervals. This is direct evidence, not surprisingly, that the tail risk of the FTR portfolios is nonlinear. The non-linear relationship actually supports using a 99 instead of a 97 percent confidence interval because risk exposure is similarly nonlinear. That is why the collateral requirements increase nonlinearly. This is corroborated by PJM's consultant's observations (June 3rd Filing,

Attachment D at 22–23) that the tail risk exposure caused by using a confidence interval of 97 instead of 99 creates very large risk exposure to other market participants.

PJM's consultants (June 3rd Filing Attachment D at 22–23) concluded that the reduction in risk (the benefit) from going from a 97 to a 99 percent confidence interval was well worth the increase in the collateral costs. The affidavit states (at 22):

> Though at first glance, 97% vs 99% may seem trivial in difference, in fact there are significant gains to margin effectiveness for market risk management at 99%. PJM's analysis [fn deleted] has estimated that (using 1Q 2021 data as an example) a 99% confidence interval calls for about 50% more collateral to be posted by FTR market participants in aggregate than a 97% CI. Yet, based on that information, we find the higher CI reduced by 36% the incidence of scenarios with uncovered liquidation losses. Further, the analysis showed that when such uncovered liquidation losses occurred, the potential shortfall dollar amounts in the uncovered loss scenarios (with the shortfall dollar amounts being those which are socialized to all PJM members, whether or not they are active participants in the FTR markets) were three times greater in the 97% tail than in the 99% tail. Because these material uncovered losses are shared among all PJM members, and PJM is concerned that many integrated utilities and LSEs among PJM members must, either directly or indirectly, pass their share of such uncovered market losses on to electric ratepayers, the "practical impact" of using the lower Confidence level (reducing FTR market participants' margin cost requirements) is to increase the potential for inadequate margin coverage and uncovered liquidation losses -- reducing market risk management effectiveness and increasing the potential that PJM members, and their customers, will be forced to absorb possibly significant, market losses.

The consultant affidavit indicates (June 3rd Filing, Attachment D at 22–23) that due to outsized tail risks associated with a 97 percent confidence interval relative to a 99 percent confidence interval, they viewed PJM's proposed 97 percent confidence interval at PJM as "a stepping stone to avoid market disruption with the clear understanding that PJM intends to move to a 99% Confidence Interval within a reasonable amount of time." Even PJM's previously filed, and inadequate, plan to propose to increase the collateral requirement to the appropriate 99 percent at an uncertain date in the future was apparently abandoned in the June 3rd Filing.

PJM's data supports using an HSIM based on a confidence interval of 99 percent or higher as just and reasonable. PJM's data and arguments do not support a finding that using an HSIM based on a confidence interval of 97 percent is just and reasonable.

PJM's proposal would impose the risk resulting from the market activity of FTR traders on PJM members as a whole. This is inconsistent with a fundamental principle of markets which is to require investors and direct market participants to pay for the risk which they are in the best position to manage.

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,
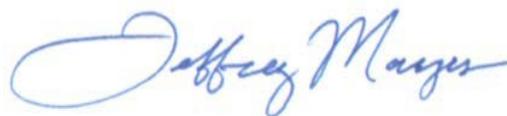
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Dated: October 31, 2022

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 31st day of October, 2022.

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