IN THE
UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

PJM Interconnection, L.L.C., Petitioner,	)	
v.	)	Case No. 22-1141
Federal Energy Regulatory Commission, Respondent.	)	

PETITION FOR REVIEW

Pursuant to section 313(b) of the Federal Power Act, 16 U.S.C. § 825*l*(b), and Rule 15(a) of the Federal Rules of Appellate Procedure and the Circuit Rules of the United States Court of Appeals for the District of Columbia Circuit, PJM Interconnection, L.L.C. petitions this Court for review of the following orders of the Federal Energy Regulatory Commission, copies of which are attached:

(1) *PJM Interconnection*, *L.L.C.*, Order Rejecting Filing and Instituting Section 206 Proceeding, Docket Nos. ER22-703-001 & EL22-32-000, 178 FERC ¶ 61,146 (Feb. 28, 2022); and

(2) *PJM Interconnection*, *L.L.C.*, Notice of Denial of Rehearing by Operation of Law and Providing for Further Consideration, Docket Nos. ER22-703-003 & EL22-32-001, 179 FERC ¶ 62,068 (May 2, 2022).

Respectfully submitted,

/s/ Paul M. Flynn
Paul M. Flynn
Ryan J. Collins
Elizabeth P. Trinkle
Wright & Talisman, P.C.
1200 G Street, N.W., Suite 600
Washington, D.C. 20005
(202) 393-1200 (phone)
(202) 393-1240 (fax)
flynn@wrightlaw.com
collins@wrightlaw.com
trinkle@wrightlaw.com

Attorneys for
PJM Interconnection, L.L.C.

Dated: June 29, 2022

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PJM Interconnection, L.L.C.,	)	
Petitioner,	)	
	)	
v.	)	Case No. 22-1141
	)	
Federal Energy Regulatory Commission,	)	
Respondent.	)	

CORPORATE DISCLOSURE STATEMENT OF
PJM INTERCONNECTION, L.L.C.

Pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure and Rules 15(c)(6) and 26.1 of the Circuit Rules of this Court, petitioner PJM Interconnection, L.L.C. ("PJM"), states that it is a limited liability company ("L.L.C.") organized and existing under the laws of the State of Delaware. PJM is a regional transmission organization ("RTO") for all or portions of Delaware, the District of Columbia, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia. PJM is authorized by Respondent Federal Energy Regulatory Commission ("FERC") to administer an Open Access Transmission Tariff ("Tariff"), provide transmission service under the Tariff on the electric transmission facilities under PJM's control, operate an energy and other markets, and otherwise conduct the day-to-day operations of the bulk power system of a multi-state electric control area. PJM was approved by FERC first as an independent system operator and then as an RTO. *See Pennsylvania-New Jersey-Maryland Interconnection*, 81 FERC ¶ 61,257 (1997), *reh'g denied*, 92 FERC ¶ 61,282 (2000), *modified sub nom. Atl. City Elec. Co. v. FERC*, 295 F.3d 1 (D.C. Cir. 2002); *PJM Interconnection, L.L.C.*, 101 FERC ¶ 61,345 (2002).

PJM has no parent companies. Under Delaware law, the members of an L.L.C. have an "interest" in the L.L.C. *See* Del. Code Ann. tit. 6, § 18-701 (2022). PJM members do not purchase their interests or otherwise provide capital to obtain their interests. Rather, the PJM members' interests are determined pursuant to a formula that considers various attributes of the member, and the interests are used only for the limited purposes of: (i) determining the amount of working capital contribution for which a member may be responsible in the event financing cannot be obtained;[1] and (ii) dividing assets in the event of liquidation. PJM is not operated to produce a profit, has never made any distributions to members, and does not intend to do so (absent dissolution). In addition, "interest" as defined above does not enter into governance of PJM and there are no individual entities that have a 10% or greater voting interest in the conduct of any PJM affairs.

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[1] Under the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C., the amount of capital contributions received from all PJM members combined is capped at $5,200,000. Because PJM has financed its working capital requirements, there have been no member contributions to date, and none are expected.

Respectfully submitted,

/s/ Paul M. Flynn

Paul M. Flynn
Ryan J. Collins
Elizabeth P. Trinkle
Wright & Talisman, P.C.
1200 G Street, N.W., Suite 600
Washington, D.C. 20005
(202) 393-1200 (phone)
(202) 393-1240 (fax)
flynn@wrightlaw.com
collins@wrightlaw.com
trinkle@wrightlaw.com

Attorneys for
PJM Interconnection, L.L.C.

Dated: June 29, 2022

178 FERC ¶ 61,146
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Richard Glick, Chairman;
James P. Danly, Allison Clements, and
Mark C. Christie.

PJM Interconnection, L.L.C. Docket No. ER22-703-001

PJM Interconnection, L.L.C. Docket No. EL22-32-000

ORDER REJECTING FILING AND INSTITUTING SECTION 206 PROCEEDING

(Issued February 28, 2022)

1. On December 21, 2021, as amended December 30, 2021, PJM Interconnection, L.L.C. (PJM), pursuant to section 205 of the Federal Power Act (FPA) and part 35 of the Commission's regulations,[1] filed proposed revisions to its Open Access Transmission Tariff (Tariff). PJM explains that the proposed revisions modify the calculation of the Financial Transmission Right (FTR) Credit Requirement,[2] which establishes the amount of collateral that FTR market participants are required to provide in order to participate in PJM's FTR market (FTR Credit Revisions). As discussed below, we reject PJM's proposed FTR Credit Revisions and institute a proceeding in Docket No. EL22-32-000 pursuant to FPA section 206 to examine the justness and reasonableness of PJM's existing FTR Credit Requirement.

[1] 16 U.S.C. § 824d and 18 C.F.R. part 35 (2021).

[2] "'FTR Credit Requirement' shall mean the amount of credit that a Participant must provide in order to support the FTR positions that it holds and/or for which it is bidding. The FTR Credit Requirement shall not include months for which the invoicing has already been completed, provided that PJM Settlement shall have up to two Business Days following the date of the invoice completion to make such adjustments in its credit systems. FTR Credit Requirements are calculated and applied separately for each separate customer account." *See* PJM, Intra-PJM Tariffs, OATT Definitions – E - F (31.0.0). (All Tariff Citations will be to the PJM, Intra-PJM Tariffs database which will not be repeated).

I. Background

2. PJM's Tariff establishes the FTR Credit Requirement for FTR market participants, which is currently determined on a portfolio basis considering five factors: (1) a financial exposure calculation for each FTR path based on its FTR Historical Value,[3] (2) the addition of an increment for portfolios considered to be undiversified ("undiversified adder"); (3) the application of a $0.10/MWh volumetric minimum charge; (4) the subtraction of Auction Revenue Rights (ARR) Credits in an FTR Participant's account; and (5) subtraction of the mark-to-auction value.[4]

II. Filing

3. PJM states that the FTR Credit Revisions are part of a two-year stakeholder process at the Financial Risk Mitigation Senior Task Force (Task Force), Risk Management Committee, Markets and Reliability Committee, and the Members Committee. PJM explains that the FTR Credit Revisions are part of its continuing efforts to enhance its FTR credit and collateral rules in response to an investigation by expert independent consultants into the GreenHat Energy, LLC (GreenHat) June 1, 2018 default.[5]

4. PJM states that the GreenHat Report provided an overall recommendation to "'Advance Credit/Collateral Best Practices into the Tariff' to address one of the complications identified in the report, i.e., that '[t]he PJM Credit Policy Failed to Address Critical Risks.'"[6] PJM explains that the GreenHat Report included specific recommendations on "both "Original Margin," i.e., collateral required to address the forward value risk of the transaction at the time of execution, and "Variation Margin," i.e., collateral changes to address periodic changes in the forward value of the open

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[3] "For each FTR for each month, "FTR Historical Value" shall mean the weighted average of historical values over three years for the FTR path using the following weightings: 50% - most recent year; 30% - second year; 20% - third year." *See* Tariff Definitions – E - F (31.0.0).

[4] PJM Transmittal at 3-4.

[5] *Id.* at 4. (citing *Report of the Independent Consultants on the GreenHat Default* (Mar. 26, 2019), https://www.pjm.com/-/media/library/reports-notices/special-reports/2019/report-of-the-independent-consultants-on-the-greenhat-default.pdf (GreenHat Report)).

[6] *Id.* (citing GreenHat Report, app. at P 1 (Recommendation A)).

transaction."[7] PJM states that it has implemented almost all of the specific recommendations in this area, and that the FTR Credit Revisions will address one of the remaining recommendations -- eliminating the undiversified adder.[8] PJM adds that the FTR Credit Revisions more broadly reflect "a major step forward in advancing the overall recommendation to move the Tariff's FTR credit policy toward credit and collateral best practices in the energy commodity and financial derivatives industry."[9]

5. PJM states that the proposed FTR Credit Revisions also address certain limitations of its current FTR Credit Requirement. PJM explains that the current requirement uses a FTR Historical Value method that is based on a weighted average of the past three years with 50% of the weight given to the most recent year. PJM states that this method is a confined look-back that is a narrow historical reference to use for possible future price moves, especially given infrequent extreme weather events. PJM also states that the weighting assumption in the FTR Historical Value method assumes the single most recent year substantially predicts future conditions, which constrains the conditions and scenarios that could occur in any year.[10] Further, PJM states that the FTR Historical Value method does not consider cumulative data points reflecting the historical development of the market because it only updates with new data and does not retain old data. PJM states that the current FTR Credit Requirement also uses simplifying assumptions on potential financial exposure through its undiversified adder, which applies to portfolios that are "deemed to present heightened risk from being undiversified." PJM explains that the GreenHat Report noted that the undiversified adder, in effect, embodies a simplifying assumption about the existence and degree of portfolio market risk from the fact that a portfolio is negatively valued in tentative auction results, but the independent consultants that prepared the GreenHat Report found the undiversified adder to be "uncorrelated to fluctuating market risk" and therefore recommended its removal.[11]

6. PJM explains that the proposed FTR Credit Revisions include five changes implementing some of the Task Force's recommendations with the broad goal to advance best practices. PJM states that these changes include: (1) replacing the current approach of calculating collateral based on FTR Historical Value with an initial margin calculation from a historical simulation (HSIM) model using a 97% confidence interval;

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[7] *Id.*

[8] *Id.* at 5.

[9] *Id.*

[10] *Id.* at 5-6.

[11] *Id.* at 6-7. (citing GreenHat Report at app., P 1).

(2) removing the undiversified adder;[12] (3) removing the component relating to the long-term FTR credit recalculation, because prices will be updated in "real time"[13] under the HSIM model;[14] (4) revising the $0.10/MWh volumetric minimum charge to apply after ARR credits or mark-to-auction value adjustments;[15] and (5) revising the Tariff to explicitly provide that, at time of settlement, gains result in a decrease to, and losses result in an increase to, the FTR Credit Requirement.[16]

7. As to PJM's proposed HSIM model, PJM explains that initial margin is a form of financial collateral deposited by a market participant and is intended to cover the forward-looking market risk of a market participant's portfolio with a high degree of confidence. PJM explains further that initial margin is the amount of collateral needed to cover the replacement cost of unwinding a market participant's portfolio in the case of default, and replacement costs are the costs incurred during the Margin Period of Risk, which is the liquidation period of the portfolio – the time between the last variation margin posting and complete portfolio closeout time.[17]

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[12] PJM explains that removing the undiversified adder removes a collateral requirement in response to advice that the adder was not correlated with risk and did not effectively protect against default. *Id.* at 12.

[13] The normal usage of "real-time" in describing market data implies that tick-by-tick intraday transactional data is being captured. The data captured by PJM would not include intraday prices ("PJM's HSIM model will use FTR auction data from 2008 to the most recent auction to determine the distribution of a participant's portfolio value over the Margin Period of Risk. The HSIM model will perform separate calculation adjustments for monthly, annual, and long-term FTR auctions."). *Id.* at 16.

[14] PJM further explains that provisions regarding the long-term FTR credit recalculation will be replaced by real time updates from the mark to auction adjustments in the HSIM model. *Id.* at 12.

[15] PJM also explains that adjusting the $0.10/MWh volumetric charge to apply after ARR credits or market-to-auction credits ensures that it operates as intended, i.e., avoids a *de minimis* or net zero FTR Credit Requirement. *Id.*

[16] PJM explains that the revisions to explicitly provide for an adjustment for gains and losses at settlement is an inherent aspect of the current approach, and therefore the changes ensure the adjustment is not inadvertently eliminated under the proposed FTR Credit Revisions. *Id.* at 13.

[17] *Id.* at 14.

8. PJM states that, on July 16, 2021, it presented to stakeholders its proposal to replace the current principal element of the FTR Credit Requirement calculation, i.e., a margin requirement for each FTR path based on FTR Historical Value, with an initial margin calculated from an HSIM model, and employing, initially, a 97% confidence interval. PJM explains that the confidence interval refers to the "statistical certainty that a given value (i.e., the Initial Margin) will exceed the range of possible outcomes (i.e., the losses in portfolio value over the Margin Period of Risk) produced by the HSIM Model."[18] PJM states that, later in the stakeholder process, the choice of confidence interval became "a major topic of discussion and dispute" among stakeholders, with some stakeholders advocating for a 95% confidence interval "while others, including PJM, advocated for [a] 99%" confidence interval.[19] PJM explains that during stakeholder processes in 2021, PJM also presented analyses on the impact of different confidence interval levels on aggregate FTR collateral collected and the frequency with which simulated losses could exceed collected collateral (i.e., a failure rate). PJM explains that the FTR Credit Revisions, including the 97% confidence interval, received supermajority stakeholder support in PJM's Markets Committee on October 20, 2021.[20]

9. PJM states that the HSIM model is a value-at-risk methodology that is widely accepted and used in other markets for calculating initial margin and other capital requirements. PJM explains that its HSIM model will incorporate FTR auction data from 2008 to the most recent auction to estimate the distribution of a participant's potential portfolio values based on historical price movements over a specific time period, i.e., the Margin Period of Risk. PJM further explains that the estimated distribution is used to calculate the maximum portfolio loss corresponding to the chosen confidence interval, and that the maximum loss value determines the initial margin.[21]

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[18] *Id.* at 10.

[19] *Id.*

[20] *Id.* (citing *Initial Margining of Financial Transmission Rights: Confidence Interval Discussion*, PJM Interconnection, L.L.C. (Sept. 10, 2021), https://www.pjm.com/-/media/committees-groups/task-forces/frmstf/2021/20210915/20210915-item-03c-confidence-interval-discussion-presentation.ashx).

[21] *Id.* at 16. (citing Eydeland Aff. at 4, 8 and Bloczynski Aff. at 12). PJM explains that the model will include separate calculation adjustments based on type of FTR auction (monthly, annual, long-term), and the model will use a Margin Period of Risk of two auction periods.

10. PJM argues that the HSIM model has several advantages over alternative methods for calculating initial margins. PJM explains that HSIM models have been widely used for years in financial markets regulated by the Commodity Futures Trading Commission (CFTC). PJM states that they are commonly used to analyze credit risk and calculate margin requirements by clearing parties in commodity exchanges and CFTC-regulated commodity markets.[22] PJM also explains that HSIM models are an easy-to-implement and transparent process with low probability of dispute. Finally, PJM explains that HSIM models are based on historical data to determine the joint distribution of underlying risk factors and requires fewer assumptions and constraints on choice of distribution.[23]

11. PJM's expert witness Eydeland explains that an HSIM model is particularly effective at managing risk because the model relies on real data and captures "unexpected 'tail' events and correlations."[24] Eydeland also states that an HSIM model can model "complex joint behavior of risk factors" that impact the value of FTR portfolios values, which means that HSIM models are effective at managing risk and will help PJM avoid under collateralization in its markets.[25] PJM's expert witnesses Wolkoff and Anderson state that an HSIM model provides results that are verifiable and can be understood as a fair, just, consistent and reasonable basis for an initial margin calculation.[26] Wolkoff and Anderson further state that the energy industry experience with historical simulation modeling has provided resources to support best practices to back-testing and approaches to incrementally improving the model over time so that the model can more accurately forecast risks of FTR portfolios.[27]

12. PJM explains that using a 97% confidence interval in the calculation produces an initial margin estimate such that in 97% of the outcomes derived by the HSIM model, the

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[22] *Id.* at 17-18. (citing Wolkoff /Anderson Aff. at 9), Christophe Pérignon, David Smith, *The Level and Quality of Value-at-Risk Disclosure By Commercial Banks*, Journal of Banking & Finance, Volume 34, Issue 2, 362-377 (2010); Meera Sharma, *The Historical Simulation Method for Value-at-Risk: A Research Based Evaluation of the Industry Favorite*, SSRN Electronic Journal, at 3 (April 19, 2012), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2042594.

[23] *Id.* at 18-19. (citing Eydeland Aff. at 6-7 and Wolkoff/Anderson Aff. at 15-16).

[24] *Id.* at 19. (citing Eydeland Aff. at 8).

[25] *Id.*

[26] *Id.* at 19. (citing Wolkoff/Anderson Aff. at 15-16).

[27] *Id.* (citing Wolkoff/Anderson Aff. at 15).

loss of portfolio value will be less than the value of the initial margin.[28] PJM notes two differences between PJM's proposed calculation and the CFTC's requirements for CFTC regulated financial markets: the CFTC requires (1) that initial margins must be calculated for coverage periods of one, two, five, or 10 days depending on the product; and (2) use of a 99% confidence interval for initial margin requirements.[29]

13. Regarding the first difference, PJM explains that its relatively infrequent auctions necessarily require use of a longer coverage period (liquidation period) in the calculation compared to the CFTC-regulated markets. Regarding the second difference, PJM explains that it proposes to rely on a 97% confidence interval rather than a 99% confidence interval due to the longer liquidation period for FTR auctions and margin costs to FTR market participants associated with covering risk for long time periods. Additionally, PJM explains that the choice of confidence interval reflects a desire to avoid potential market disruption caused by a sudden increase in margin levels. PJM argues that imposing a 99% confidence interval at this time instead of a 97% confidence interval as proposed might "force some market participants to unwind market positions or to decide not to continue participation in the FTR auctions and FTR markets entirely."[30] PJM's expert witnesses Wolkoff and Anderson conclude that HSIM model that was detailed in the KPMG model validation study is appropriate and reasonable, and they do not initially recommend changes to the HSIM model that PJM proposes.[31] PJM states that any movement to a different confidence interval will require consideration of additional data, experience from implementation of the proposed FTR Credit Revisions, stakeholder consultation, and a future FPA section 205 filing.[32]

14. PJM states that adopting the HSIM model with a high confidence interval to support the initial margin component used in the FTR Credit Revisions is important in addressing a gap observed in the GreenHat Report. PJM states that the CFTC has required counterparties in commodities markets in many instances to use an HSIM model with a high confidence interval. PJM cites as an example the CFTC's margin regulation of central counterparties that clear commodity derivatives transactions. PJM states that CFTC principles for derivative clearing organizations, or a central counterparty (here, PJM), outline initial margin based on a participant's transaction portfolio and a market

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[28] *Id.* at 20-21.

[29] *Id.* at 22. (citing Wolkoff/Anderson Aff. at 19, 21).

[30] *Id.* at 23. (citing Wolkoff/Anderson Aff. at 20).

[31] *Id.* at 23. (citing Wolkoff/Anderson Aff. at 27).

[32] *Id.* at 22-23.

model with high confidence interval along with other features that PJM is proposing in the FTR Credit Revisions.[33]

15. PJM states that it back-tested the HSIM model to analyze if an FTR market participant's initial margin for its portfolio under the FTR Credit Revisions would cover potential losses over its liquidation period, if that participant defaulted, and back-testing supports PJM's proposed model methodology. PJM states that its proposed HSIM model with a 97% confidence interval "is designed to converge at a 3% failure rate over time."[34] PJM explains that back testing results are satisfactory if the total failure rate agrees with the confidence interval used in the model. PJM states that it conducted back-testing for 10,724 zonal path prices and found 139 failures, providing a 1.3% failure rate, which is less than the 3% failure rate expected with a 97% confidence interval.[35] By comparison, PJM states that back-testing indicated that current FTR Credit Requirements have a potential 8% market failure rate. Therefore, PJM argues, the HSIM is a considerable improvement over the current FTR credit requirements.

16. PJM states that consulting firm KPMG reviewed PJM's model and assumptions, and PJM's back-testing results, including a limited testing of model implementation and sensitivity analysis. PJM states that KPMG verified that the model operated as intended.[36] PJM explains that KPMG validated the HSIM model at a 99% confidence interval, as opposed to the proposed 97% confidence interval, but states "that this does not change the validation test of whether the model operated as intended."[37] PJM witness Eydeland explains that the validation shows that "the model operated as intended and the results of the model were as expected."[38]

17. PJM states that the FTR Credit Revisions represent an improvement to PJM's current risk management process and prevent market participants from taking on a level of risk such that those participants cannot post adequate initial margin. PJM contends that the FTR Credit Revisions increase collateral for some FTR market participants when the new methodology calculates those positions represent unreasonable credit risk to PJM

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[33] *Id.* at 26.

[34] *Id.* at 33-34.

[35] *Id.* at 33. PJM explains that instances where initial margin is not sufficient to cover losses for a given FTR portfolio are considered failures.

[36] *Id.* at 34.

[37] *Id.*

[38] *Id.* (citing Eydeland Aff. at 12).

and its members. PJM asserts that it must be a market risk manager to protect PJM members from the risks of FTR defaults that potentially result in losses to PJM members that are not active participants in FTR markets.[39]

18. PJM requests an effective date of April 1, 2022 for the FTR Credit Revisions to provide time to test and implement the FTR Credit Revisions, but requests Commission action by February 28, 2022 to provide notice and certainty to FTR market participants. PJM states that it will run the HSIM model for several months in early 2022 to calculate new FTR credit requirements, which will allow FTR market participants to see their FTR credit requirements under the currently effective rules and according to the FTR Credit Revisions.[40] PJM explains that it will also provide training and allow members to access the HSIM model for planning purposes. PJM states that these actions will allow FTR market participants to better understand the new FTR credit requirements and related collateral requirements for the upcoming April 2022 auction, when the FTR Credit Revisions will be effective.[41]

III. Notice of the Filing and Responsive Pleadings

19. Notices of PJM's filing and amendment were published in the *Federal Register*, 86 Fed. Reg. 74,077 (Dec. 29, 2021), and *Federal Register*, 87 Fed. Reg. 956 (Jan. 7, 2022), respectively.

20. Timely interventions were filed by: Delaware Division of the Public Advocate; Maryland Public Service Commission; NRG Power Marketing LLC and Midwest Generation, LLC; DC Energy, LLC; Public Citizen, Inc.; Appian Way Energy Partners, LLC; LS Power Development, LLC; Elliot Bay Energy Trading, LLC; American Electric Power Service Corporation; Calpine Corporation; Exelon Corporation; Dominion Energy Services, Inc.; Rockland Electric Company; Vistra Corporation and Dynegy Marketing and Trade, LLC; Old Dominion Electric Cooperative; American Municipal Power, Inc.; Boston Energy Trading and Marketing LLC; Shell Energy North America (US), L.P.; Delaware Municipal Electric Corporation; North Carolina Electric Membership Corporation; Office of the People's Counsel for the District of Columbia; Duke Energy Corporation; Financial Markets Coalition; Sesco Enterprises, LLC; and PJM Power Providers Group.

21. Timely motions to intervene and comments were filed by Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor for PJM (Market

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[39] *Id*. at 34-35.

[40] PJM Amendment at 2.

[41] PJM Transmittal at 3, 36.

Monitor), Organization of PJM States, Inc. (OPSI), Joint Commenters,[42] and Joint Consumer Advocates.[43] An out of time motion to intervene was submitted by New Jersey Division of Rate Counsel. PJM filed an answer.

22. Joint Commenters and Joint Consumer Advocates filed comments in support of the proposed FTR Credit Revisions. Joint Commenters and Joint Consumer Advocates state that the proposed FTR Credit Revisions are a just and reasonable approach that is superior to PJM's current methodology, and state that the proposed FTR Credit Revisions increase the probability that individual market participants, rather than PJM members, will cover the losses in their portfolios.[44]

23. Joint Consumer Advocates state that the proposed FTR Credit Revisions will better protect ratepayers and bring PJM closer to standards used in commodities and futures markets and assert that the Commission should approve PJM's proposal. However, Joint Consumer Advocates also state that PJM and its stakeholders should move quickly to implement an HSIM model using a 99% confidence interval that would align PJM's practices with the CFTC and other important regulatory entities.[45] Joint Consumer Advocates state that potential significant defaults to PJM members would decrease dramatically when PJM moves from a 97% to 99% confidence interval; they note that PJM's witnesses Wolkoff and Anderson state PJM should "move with reasonable speed toward the highest confidence interval" used in commodity derivative markets.[46] Joint Consumer Advocates state that they recognize the importance to providing market participants time to adjust to the proposed HSIM model and while the

[42] Joint Commenters include: DC Energy, LLC; American Electric Power Service Corporation; Appian Way Energy Partners, LLC; Exelon Corporation; Exelon Generation Company, LLC; Old Dominion Electric Cooperative; and Shell Energy North America (US), L.P.

[43] Joint Consumer Advocates include the Office of the People's Counsel for the District of Columbia, Citizens Utility Board, and the Delaware Division of the Public Advocate.

[44] Joint Commenters at 2-5; Joint Consumer Advocates at 1-2.

[45] Joint Consumer Advocates at 2-4.

[46] Joint Consumer Advocates specify that PJM's witnesses Wolkoff and Anderson found that potential shortfall in uncovered loss scenarios were "three times greater in the 97% tail than in the 99% tail." Joint Consumer Advocates at 3-4. (citing Wolkoff/ Anderson Aff. PP 22-23).

HSIM model with a 97% confidence interval is prudent progress to avoid market disruption, it should be a "short stepping stone."

24. Joint Commenters argue that the proposed initial margin methodology in the proposed FTR Credit Revisions is a significant improvement because it is more responsive to risk and changes in risk relative to PJM's current FTR credit policies. Joint Commenters state that PJM's proposal combines monthly balance of planning period auctions with long-term auction rounds, which ensures both more accurate mark to auction based collateral requirements and measures of volatility. Joint Commenters state that in PJM's stakeholder process neither stakeholder proposals for a 95% or a 99% confidence interval received enough support, and stakeholders agreed to the 97% confidence interval.[47] Joint Commenters argue that any confidence interval (i.e., 95%, 97%, or 99%) can result in just and reasonable FTR credit requirements that are superior to PJM's current requirements, and that the proposed FTR Credit Revisions balances the cost of market participation and robust protection from market participant defaults.

25. Joint Commenters state that PJM's back-testing indicates the proposed FTR Credit Revisions will improve the failure rate to 1.3% from 8% under PJM's existing FTR credit policy without raising market barriers to entry. Joint Commenters argue that total collateral held by PJM fluctuates from $1.3 to $1.5 billion and should not change significantly, and that FTR portfolios that are at greater risk of default would post more collateral under the proposed FTR Credit Revisions.

26. Joint Commenters argue that the only question in this proceeding is whether the proposed FTR Credit Revisions are just and reasonable, and "[t]he Commission is not required to find that […] the proposed rate is the only or even the best solution available" but only that it is just and reasonable.[48] Joint Commenters state that since PJM submitted its proposal under FPA section 205, "the Commission 'may accept or reject the proposal' and may not impose changes to the proposal 'without the consent of the utility or Regional Transmission Organization that made the original proposal.'"[49] Joint Commenters note that OPSI filed comments advocating for a 99% confidence interval and cited PJM's supporting affidavits statements that suggest PJM consider a 99% confidence interval in the future. Joint Commenters argue that PJM's witnesses support implementing the proposed 97% confidence interval as a just and reasonable improvement to PJM FTR credit policy. Joint Commenters state that there could be

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[47] Joint Commenters at 2-3.

[48] *Id.* at 3. (citing *ISO-New England Inc.*, 173 FERC ¶ 61161, at P 37 (2020)).

[49] *Id.* at 4. (citing *NRG Power Mktg., LLC v. FERC*, 862 F.3d 108, 114 (D.C. Cir. 2017)).

"unintended consequences" for PJM's FTR markets due to significant differences in initial margin under a 99% confidence interval that may cause some participants to reduce participation in the FTR market or liquidate FTR positions.[50] Joint Commenters also state that if the Commission wants to order additional consideration and analysis of a 99% confidence interval it should accept the proposed FTR Credit Revisions as of the requested effective date and direct PJM to conduct this analysis prospectively.[51]

27. The Market Monitor states that it supports the proposal and that it should be accepted but asks that the Commission direct PJM to use a confidence interval of 99% in the HSIM Model instead of 97%, based on industry standards.[52] The Market Monitor argues that a 97% confidence interval would mean that market participants will be provided a subsidy of collateral-related costs and will not be required to cover a significant portion of their potential default risk at the expense of the entire PJM membership. The Market Monitor further argues that the risk of default should be borne by the FTR holders who benefit from their FTR positions and not by PJM members more generally who have nothing to do with other FTR holders' positions. The Market Monitor urges that any transition from a 97% to a 99% confidence interval be handled in this filing to provide certainty for market participants.[53] The Market Monitor notes that PJM provides no support for its claim that moving from the current method to an initial margin based on a 99% confidence interval would "shock the market system" and that PJM does not explain why market participants who cannot provide the collateral to cover the risks of their positions should remain in the market.[54]

28. OPSI asks the Commission to find PJM's filing deficient until certain information is provided.[55] OPSI argues that it is incumbent upon the Commission to protect Load Serving Entities from uncovered losses that are directly or indirectly passed along to electric ratepayers and requests that the Commission find PJM's filing deficient. OPSI states that the FTR Credit Revisions do not provide the Commission with pertinent information to reasonably determine the impact on the liquidity resources of FTR market participants at the 97% confidence interval compared to the 99% confidence interval. OPSI further asserts that PJM does not provide sufficient detail of the impacts on

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[50] *Id.* at 5. (citing PJM Transmittal, Wolkoff/Anderson Aff. at 28).

[51] *Id.* at 5.

[52] Market Monitor at 1-2.

[53] *Id.* at 3.

[54] *Id.* at 2-3.

[55] OPSI at 6.

protection of non-participants and, ultimately on electric rate payers, from the consequences of default risk exposure. OPSI states that reduced participation in the PJM FTR market as the result of increased collateral requirements would not be unexpected given that PJM market participants "may gravitate to other markets if they can no longer offload their risk to non-participants and, indirectly, to ratepayers."[56] OPSI states that there are examples of markets in ERCOT, Nodal Exchange and ICE, where PJM market participants can trade, that utilize models based on a 99% confidence interval or higher. OPSI also argues that PJM's management and independent experts have advocated for use of a 99% confidence interval and that PJM does not provide sufficient detail as to how PJM plans to move towards implementing this standard, or how long it would take it to do so.

IV. Discussion

A. Procedural Matters

29. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2021), the notices of intervention and timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

30. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2021), prohibits an answer to a protest unless otherwise ordered by the decisional authority. We accept PJM's answer because it has provided information that assisted us in our decision-making process.

B. Substantive Matters

31. As discussed below, we reject PJM's proposed FTR Credit Revisions as unsupported by the record in this proceeding. Further, based on that record, we are concerned that PJM's existing FTR Credit Requirement may no longer be just and reasonable. We, therefore, institute a proceeding in Docket No. EL22-32-000 pursuant to FPA section 206 to examine the justness and reasonableness of PJM's existing FTR Credit Requirement.

32. We agree with OPSI and the Market Monitor that the record fails to support PJM's proposed use of an HSIM model with a 97% confidence interval.[57] PJM states that "[t]he

[56] *Id*. at 5.

[57] The Commission recognizes that the Market Monitor supports acceptance of the filing with a modification to direct PJM to increase the confidence interval to 99%. Market Monitor at 1. Specifically, the Market Monitor "recommends that PJM use a 99% confidence level for setting its initial margin requirements rather than the

HSIM Model Has Been Validated by Independent Auditors," but PJM concedes that its independent auditors validated the HSIM model at a 99% confidence interval rather than the 97% confidence interval as proposed.[58] Validating the HSIM model under conditions different from how PJM proposes to use it, i.e., at a 99% confidence interval rather than a 97% confidence interval, does not demonstrate whether the HSIM model would operate as represented across extreme events or that the initial margin estimates would cover losses as expected. Furthermore, PJM has not provided sufficient information regarding how validation conducted at the 99% confidence interval would apply at the 97% confidence interval. For example, while the Eydeland affidavit provides a general description of the validation, the exhibits provided are not sufficient to understand the test periods used.[59]

33. In addition, we find that 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 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.[60] Given that the proposed FTR Credit Revisions would result in lower aggregate collateral levels than PJM's current collateral levels, we find that the lack of support regarding how the HSIM model used at a 97% confidence interval establishes reasonably calibrated collateral levels for riskier portfolios means that PJM has not met

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97% proposed by PJM." *Id.* at 2. The Market Monitor also argues that "[a]ny potential transition issues should be handled in this filing and the timing of the adoption of the 99% confidence interval should be included in the tariff to provide certainty for all participants." *Id.* at 3. OPSI argues that, given the record on 99% confidence interval and the open issues in PJM's filing, the Commission should find PJM's filing deficient until information is provided to the Commission which permits it to find the proposed interval is just and reasonable. OPSI at 6 and *passim*.

[58] PJM Transmittal at 34. ("The version of the model KPMG tested included a 99% confidence interval, but that does not change the validation test of whether the model operated as intended.").

[59] PJM Transmittal. (citing Eydeland Aff., Exhibits B and C).

[60] PJM's FTR market experienced the GreenHat default that resulted in a $180 million collateral default and is experiencing a recent default from Hill Energy that is an open liability.

its burden to show that the FTR Credit Revisions are just and reasonable, particularly in light of the significant recent defaults involving the FTR market, and we reject the revisions on that basis.

34. While we find a lack of record support for a 97% confidence interval at this time, we also acknowledge concerns about imposing a 99% confidence interval instead of a 97% confidence interval as proposed might "force some market participants to unwind market positions or to decide not to continue participation in the FTR auctions and FTR markets entirely."[61] At the same time, we acknowledge that the Market Monitor and OPSI aver that there is no evidence to support this argument.[62] We further acknowledge the Market Monitor's concern about an unspecified transition period from a 97% to a 99% confidence interval and potential lack of certainty for market participants.[63]

35. We also find that PJM's filing raises questions regarding whether PJM's current FTR Credit Requirements remain just and reasonable. We therefore institute a proceeding in Docket No. EL22-32-000 to investigate the lawfulness of PJM's FTR Credit Requirements and we will provide PJM the opportunity to show cause that its current FTR Credit Requirement remains just and reasonable, or alternatively to support changes to its Tariff it believes would remedy the identified concerns if the Commission were to ultimately determine that the Tariff has, in fact, become unjust and unreasonable.

36. The record here raises concerns that PJM's FTR Credit Requirements may be unjust and unreasonable for several reasons, many of which were identified by PJM in its filing. In its transmittal letter, PJM opens with a discussion entitled "Limitations of the Current Approach,"[64] which provides extensive background as to how some of the current Tariff's provisions may have contributed to the GreenHat default, and explains further how PJM's proposed FTR Credit Revisions arose directly out of the recommendations of the GreenHat Report. While PJM has implemented some of the

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[61] PJM Transmittal at 23, citing Wolkoff and Anderson Aff. at 20.

[62] *See, e.g.*, OPSI at 3 ("The PJM Filing does not demonstrate how the selected 97% [confidence interval] serves in addressing any potential impact on the liquidity resources of FTR Market participants compared with a 99% [confidence interval]."); *id.* at 4 ("Affiants Wolkoff and Anderson do not explain why an immediate adoption of 99% would cause market disruptions significantly different than with a leap to a 97% [confidence interval]."); Market Monitor at 3 ("PJM provides no support for this claim. PJM does not explain why market participants who cannot provide the collateral to cover the risks of their positions should remain in the market.").

[63] Market Monitor at 3.

[64] PJM Transmittal at 2-5.

recommendations of the GreenHat Report, it acknowledges that its current methodology still includes the risks associated with the undiversified adder.[65] In this regard, PJM speaks at length about how its filing "addresses several limitations in the current approach to determining the FTR Credit Requirement, particularly as to credit for FTR Obligations – which comprise the vast majority of FTR market activity and financial exposure."[66]

37. Accordingly, we find that PJM's existing FTR Credit Requirement appears to be unjust and unreasonable, and pursuant to FPA section 206, we direct PJM within 60 days of the date of this order to make an informational filing in Docket No. EL22-32-000 either: (1) to show cause as to why its FTR Credit Requirement remains just and reasonable and not unduly discriminatory or preferential; or (2) to explain what changes to its Tariff it believes would remedy the identified concerns if the Commission were to determine that the FTR Credit Requirement has, in fact, become unjust and unreasonable or unduly discriminatory or preferential and, therefore, proceeds to establish a replacement rate.

38. If PJM prefers to propose revisions to its Tariff on the FTR Credit Requirements, then it may do so pursuant to its applicable FPA section 205 filing rights. In such an event, PJM should make a statutory filing through eTariff and state explicitly that it is submitting its proposal under section 205. If PJM wishes to have the Commission hold this proceeding in abeyance pending the Commission's consideration of any such FPA section 205 filing, PJM should submit an appropriate motion in Docket No. EL22-32-000 explaining the basis for the abeyance.

39. Interested parties may respond to PJM's show cause filing within 30 days of PJM's filing addressing either or both of: (1) whether PJM's existing Tariff remains just and reasonable and not unduly discriminatory or preferential; and (2) if not, what changes to PJM's Tariff should be implemented as a replacement rate.

40. With regard to the potential replacement rate, we note that there is a congruence of opinion in support of an HSIM model across commenters, among the other changes PJM proposed such as removing the undiversified adder and revising the $0.10/MWh volumetric minimum charge to apply after ARR credits or mark-to-auction value adjustments.[67] The principal disagreement among the parties is with regard to the

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[65] *Id.* at 6.

[66] *Id.* at 5.

[67] Our finding is not intended to limit the responses to this show cause to only the HSIM model. We will consider other proposals such as potential changes to the existing approach.

appropriate confidence interval for the HSIM model. As discussed above, we 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.[68] 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;[69]and (ii) a 97% interval may expose the entire PJM membership to potential default costs.[70]

41. We further encourage arguments about a potential transition from a 97% confidence interval to a 99% confidence interval to avoid what some argue may cause potentially significant reduced participation in FTR markets,[71] and whether any such transition period should be specified in the Tariff.

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[68] PJM Transmittal at 22; Wolkoff and Anderson Aff. at 19-20; Market Monitor at 2; OPSI at 2.

[69] *See, e.g.*, Market Monitor at 3 ("'Relative to an initial margin based on a 99% confidence interval, an initial margin based on a 97% confidence interval provides a subsidy of collateral related costs for FTR market participation at the expense of potential default costs imposed on the entire membership. . . . [T]he risk of default should be borne by the FTR holders who benefit from their FTR positions and not by PJM members more generally who have nothing to do with other FTR holders' positions.'"); OPSI at 5 ("'Even while the market proceeds without any defaults, the PJM markets as a whole and members of PJM (including non-participants in the FTR market) are effectively providing credit support to FTR market participants by agreeing to backstop losses resulting from a failure in FTR market margin policy.'") (quoting Wolkoff and Anderson Aff. at 22-23).

[70] *See, e.g.*, Market Monitor at 3; OPSI at 4 ("'By design, a 97% [confidence interval] in the FTR Credit Requirements will allow for potentially more inadequate margin scenarios which may result in more uncovered losses to the PJM markets as a whole and to the PJM members, including those that do not actively participate in the FTR markets. . . .'") (quoting Wolkoff and Anderson Aff. at 22-23).

[71] *See, e.g.*, *supra* at P 34.

42. In cases where, as here, the Commission institutes a section 206 investigation on its own motion, section 206(b) of the FPA requires that the Commission establish a refund effective date that is no earlier than the date of publication by the Commission of notice of its intention to initiate such proceeding nor later than five months after the publication date. In such cases, in order to give maximum protection to customers, and consistent with our precedent, we have historically tended to establish the section 206 refund effective date at the earliest date allowed by section 206**,** and we do so here as well.[72] That date is the date of publication of notice of initiation of the section 206 proceeding in Docket No. EL22-32-000 in the Federal Register**.**

43. Section 206(b) of the FPA also requires that, if no final decision is rendered by the conclusion of the180-day period commencing upon initiation of the section 206 proceeding, the Commission shall state the reason why it has failed to render such a decision and state its best estimate as to when it reasonably expects to make such a decision. As we are setting the section 206 proceeding in Docket No. EL22-32-000 for hearing, we expect that we would be able to render a decision within six months of the date of filing of responses to PJM's show cause filing.

The Commission orders:

(A) The Commission rejects PJM's filing in Docket No. ER22-703-001 for the reasons discussed in the body of this order.

(B) Pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Energy Regulatory Commission by section 402(a) of the Department of Energy Organization Act and the FPA, particularly section 206 thereof, and pursuant to the Commission's Rules of Practice and Procedure and the regulations under the FPA (18 C.F.R. Chapter I), the Commission hereby institutes a proceeding in Docket No. EL22-32-000, concerning the justness and reasonableness of the FTR Credit Requirement, as discussed in the body of this order.

(C) Any interested person desiring to be heard in Docket No. EL22-32-000 must file a notice of intervention or motion to intervene, as appropriate, in accordance with Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2021), within 21 days of the date of issuance of this order. The Commission encourages electronic submission of interventions in lieu of paper using the "eFiling" link at http://www.ferc.gov. Persons unable to file electronically may file by U.S. mail addressed to Federal Energy Regulatory Commission, Secretary of the Commission,

[72] *See, e.g., Idaho Power Co.*, 145 FERC ¶ 61,122 (2013); *Canal Electric Co.*, 46 FERC ¶ 61,153, *order on reh'g*, 47 FERC ¶ 61,275 (1989).

888 First Street, N.E., Washington, DC 20426, or by hand (including courier) delivery to Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, MD 20852.

(D) Pursuant to FPA section 206, we direct PJM within 60 days of the date of this order to make an informational filing in Docket No. EL22-32-000 either: (1) to show cause as to why its FTR Credit Requirement remains just and reasonable and not unduly discriminatory or preferential; or (2) to explain what changes to its Tariff it believes would remedy the identified concerns if the Commission were to determine that the FTR Credit Requirement has in fact become unjust and unreasonable or unduly discriminatory or preferential and, therefore, proceeds to establish a replacement Tariff.

(E) Interested entities may respond within 30 days of PJM's filing addressing either or both of: (1) whether PJM's existing Tariff remains just and reasonable and not unduly discriminatory or preferential; and (2) if not, what changes to PJM's Tariff should be implemented as a replacement rate.

(F) The Secretary shall promptly publish in the Federal Register a notice of the Commission's initiation of the proceeding under section 206 of the FPA in Docket No. EL22-32-000.

(G) The refund effective date in Docket No. EL22-32-000 established pursuant to section 206 of the FPA shall be the date of publication in the Federal Register of the notice discussed in Ordering Paragraph (F) above.

By the Commission. Commissioner Phillips is not participating.

(S E A L)

Kimberly D. Bose,
Secretary.

179 FERC ¶ 62,068
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

PJM Interconnection, L.L.C.	Docket Nos. ER22-703-002
PJM Interconnection, L.L.C.	EL22-32-001

NOTICE OF DENIAL OF REHEARING BY OPERATION OF LAW AND PROVIDING FOR FURTHER CONSIDERATION

(May 2, 2022)

Rehearing has been timely requested of the Commission's order issued on February 28, 2022, in this proceeding. *PJM Interconnection*, *L.L.C.*, 178 FERC ¶ 61,146 (2022). In the absence of Commission action on a request for rehearing within 30 days from the date it is filed, the request for rehearing may be deemed to have been denied. 16 U.S.C. § 825*l*(a); 18 C.F.R. § 385.713 (2021); *Allegheny Def. Project v. FERC*, 964 F.3d 1 (D.C. Cir. 2020) (en banc).

As provided in 16 U.S.C. § 825*l*(a), the request for rehearing of the above-cited order filed in this proceeding will be addressed in a future order to be issued consistent with the requirements of such section. As also provided in 16 U.S.C. § 825*l*(a), the Commission may modify or set aside its above-cited order, in whole or in part, in such manner as it shall deem proper.

Kimberly D. Bose,
Secretary.

IN THE
UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

PJM Interconnection, L.L.C.,	)	
Petitioner,	)	
	)	
v.	)	No. _________
	)	
Federal Energy Regulatory Commission,	)	
Respondent.	)	

CERTIFICATE OF SERVICE

Pursuant to Rules 15(c) and 25 of the Federal Rules of Appellate Procedure and Rules 15(a) and 25 of the Circuit Rules of the United States Court of Appeals for the District of Columbia Circuit, I hereby certify that I have this 29th day of June 2022, served by email or first-class mail, the foregoing Petition for Review of PJM Interconnection, L.L.C. on the Office of the Solicitor of the Federal Energy Regulatory Commission ("Commission"), the Secretary of the Commission, and on all parties on the Commission's service list in the underlying proceeding in Docket Nos. ER22-703-000, et al., attached hereto.

Ms. Kimberly D. Bose
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Robert Solomon, Solicitor
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Respectfully submitted,

/s/ Paul M. Flynn
Paul M. Flynn
Ryan J. Collins
Elizabeth P. Trinkle
Wright & Talisman, P.C.
1200 G Street, N.W., Suite 600
Washington, D.C. 20005
(202) 393-1200 (phone)
(202) 393-1240 (fax)
flynn@wrightlaw.com
collins@wrightlaw.com
trinkle@wrightlaw.com

Attorneys for
PJM Interconnection, L.L.C.

Dated: June 29, 2022

Parties to the Agency Proceedings Served with the Petition

American Electric Power Service Corporation
slburbure@aep.com
tlaios@aep.com
lturner@aep.com
jacano@aep.com

American Municipal Power, Inc.
lmcalister@amppartners.org
ghull@amppartners.org
cnorton@amppartners.org

Appian Way Energy Partners
aklein@appianwayenergy.com

Boston Energy Trading and Marketing LLC
m.blasik@dgc-us.com
michael.henry@betm.com

Calpine Corporation
snovosel@calpine.com
david.scarpignato@calpine.com

Constellation Energy Generation, LLC
FERCe-filings1@Constellation.com
jason.barker@constellation.com
carrie.allen@constellation.com

DC Energy, LLC
cockrell@dc-energy.com
ogg@dc-energy.com
tate@dc-energy.com

Delaware Division of the Public Advocate
regina.iorii@delaware.gov
andrew.slater@delaware.gov
ruth.price@delaware.gov
andrea.maucher@delaware.gov

Delaware Municipal Electric Corporation
tlr@dwgp.com
kschlichting@demecinc.net
bkm@dwgp.com
lmk@dwgp.com
elh@dwgp.com

Dominion Energy Services, Inc.
wesley.walker@dominionenergy.com
james.g.davis@dominionenergy.com

Duke Energy Corporation
molly.suda@duke-energy.com

Dynegy Marketing and Trade, LLC
arnie.quinn@vistraenergy.com
becky.robinson@vistraenergy.com

Electric Power Supply Association
NancyB@epsa.org

Elliott Bay Energy Trading, LLC
katherine.okonski@troutman.com
mhurwich@elliottbayenergy.com
antonia.douglas@troutman.com

Energy Trading Institute
ckhan@sidley.com
noha@tpcenergyfund.com
cpolito@sidley.com

Financial Marketers Coalition
maeve.tibbetts@klgates.com
ruta.skucas@klgates.com

FirstEnergy Utilities
aparker@firstenergycorp.com
thartzell@firstenergycorp.com

Kentucky Public Service Commission
Justin.McNeil@ky.gov
jeb.pinney@ky.gov

LS Power Development, LLC
nlevy@mwe.com
mphilips@lspower.com
thoatson@lspower.com

Maryland Office of People's Counsel
william.fields@maryland.gov
philip.sussler@maryland.gov

Maryland Public Service Commission
miles.mitchell@maryland.gov

Monitoring Analytics, LLC
jeffrey.mayes@monitoringanalytics.com
Joseph.Bowring@monitoringanalytics.com
Suzette.Krausen@monitoringanalytics.com

New Jersey Division of Rate Counsel
dwand@rpa.nj.gov
blipman@rpa.nj.gov
rglover@rpa.nj.gov
dlayugan@rpa.nj.gov

North Carolina Electric Membership Corporation
pvashisht@mccarter.com
charlie.bayless@ncemcs.com
dgoulet@mccarter.com
sbeeny@mccarter.com
brenda.lynam@ncemcs.com

NRG Power Marketing LLC and Midwest Generation, LLC
cortney.slager@nrg.com
neal.fitch@nrg.com
jennifer.hsia@nrg.com

Office of the People's Counsel for the District of Columbia
fheinle@opc-dc.gov
apatel@opc-dc.gov

Old Dominion Electric Cooperative
aclair@thompsoncoburn.com
jwilliams@thompsoncoburn.com

Organization of PJM States, Inc.
greg@opsi.us

PERAST FUND LP
dave.hicks@perastcapital.com

PJM Interconnection, L.L.C.
colleen.hicks@pjm.com
jessica.troiano@pjm.com
craig.glazer@pjm.com

PJM Power Providers Group
gthomas@gtpowergroup.com
dslifer@gtpowergroup.com
laurac@chappelleconsulting.net

PUBLIC CITIZEN, INC
tslocum@citizen.org

Rockland Electric Company
savagep@coned.com
islaml@coned.com
seiregb@coned.com
lazarusd@coned.com
dornera@coned.com

SESCO Enterprises, LLC
jkuzma@stroock.com
mschubiger@sescollc.com

Shell Energy North America (US), L.P.
Matthew.Picardi@shell.com
sean.chang@shell.com

Vistra Corp.
arnie.quinn@vistraenergy.com
becky.robinson@vistraenergy.com